Botley West Solar Farm

Environmental Statement

Volume 1

Chapter 17: Agricultural Land Use and Public Rights of Way

November 2024

PINS Ref: EN010147
Document Ref: EN010147/APP/6.3
Revision P0
APFP Regulation 5(2)(a); Planning Act 2008; and Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations

Approval for issue

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Glossary

Term	Meaning
Agricultural Land Classification	Agricultural Land Classification (ALC) is a system used in England and Wales to grade the quality of land for agricultural use. The land is classified into five grades, with 1 being the best and 5 being the worst. The classification is based on the extent of limitations on agricultural use for food production, including climate, gradient, soil depth, wetness, droughtiness, and stoniness.
Best and most versatile	According to the ALC system, best and most versatile land is defined as Grade 1 (excellent quality), Grade 2 (very good quality) or Grade 3a (good quality) agricultural land. This is the land which is most flexible, productive and efficient in response to inputs, and which can best deliver future crops for food and non-food uses such as biomass, fibres and pharmaceuticals.
Countryside and Rights of Way (CRoW) Act 2000 – Section 4 Conclusive Open Country	Land mapped as Conclusive Open Country under the Countryside and Rights of Way Act 2000.
Cumulative Effects	The combined effect of the Botley West solar farm in combination with the effects from other proposed developments, on the same receptor or resource.
Desire line	Desire lines, also known as desire paths, are informal trails created by repeated foot traffic, often representing the shortest or most convenient route between two points. Desire lines can sometimes become formalised if they are used consistently over a long period.
Environmental Impact Assessment	The process of identifying and assessing the significant effects likely to arise from a project. This requires consideration of the likely changes to the environment, where these arise as a consequence of a project, through comparison with the existing and projected future baseline conditions.
Environmental Statement	The document presenting the results of the Environmental Impact Assessment process.
Farm holding	Land and buildings used for horticulture, livestock, grazing and various other uses, which are commercial in nature.
Inter-related Effects	Inter-related effects arise where an impact acts on a receptor repeatedly over time to produce a potential additive effect or where a number of separate impacts, such as noise and habitat loss, affect a single receptor.
Local Authority	A body empowered by law to exercise various statutory functions for a particular area of the United Kingdom. This includes County Councils, District Councils and County Borough Councils.
Long Distance Footpath	These are promoted public footpaths typically measuring 20 miles or more in length.
National Cycle Route	These are routes listed on the National Cycle Network, which comprises a UK-wide network of signed paths and routes for walking, wheeling, cycling, and exploring outdoors.

Term	Meaning
Preliminary Environmental Information Report	A report that provides preliminary environmental information in accordance with Regulation 12 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. This is information that enables consultees to understand the likely significant environmental effects of the project and which helps to inform consultation responses.
Public Open Space	A collective term used for any land laid out as a public garden, or used for the purposes of public recreation, or land being a disused burial ground.
Public Rights of Way	A right by which the public can pass along linear routes over land at all times, including footpaths, bridleways, restricted byways, and byways.
Scoping Opinion	Sets out the Planning Inspectorate's response (on behalf of the Secretary of State) to the Scoping Report prepared by the Applicants. The Scoping Opinion contains the range of issues that the Planning Inspectorate, in consultation with statutory stakeholders, has identified should be considered within the Environmental Impact Assessment process.
Study area	This is an area which is defined for each environmental topic which includes the Order Limits as well as potential spatial and temporal considerations of the impacts on relevant receptors. The Study Area for each topic is intended to cover the area within which an impact can be reasonably expected.
The Project	The Botley West Solar Farm.
The Site or Order Limits	The area of land encompassing the Project development and shown on the Site Location and Order Limits plan (Volume 2, Figure 1.1 of the ES).

Abbreviations

Abbreviation	Meaning
ALC	Agricultural Land Classification
BMV	Best and Most Versatile
CEA	Cumulative Effects Assessment
CoCP	Code of Construction Practice
DCO	Development Consent Order
Defra	Department for Environmental, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges
EIA	Environmental Impact Assessment
ES	Environmental Statement
HDD	Horizontal Directional Drilling
IEMA	Institute of Environmental Management and Assessment
LPA	Local Planning Authority

Abbreviation	Meaning
MAFF	Ministry of Agriculture, Fisheries and Food
MDS	Maximum Design Scenario
NCR	National Cycle Routes
NE	Natural England
NGET	National Grid Electricity Transmission
NPPF	National Planning Policy Framework
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
PPG	Planning Practice Guidance
PRoW	Public Rights of Way
PVDP	Photovolt Development Partners GmbH
SOM	Soil Organic Matter
SPV	special purpose vehicle
SSSI	Site of Special Scientific Interest

Units

Unit	Description
%	Percentage
MW	Megawatt
MWe	Megawatt electrical
m	Metre
km	Kilometre
ha	Hectare
mm	Millimetre

17 Agricultural Land Use and Public Rights of Way

17.1 Introduction

Overview

17.1.1 This chapter of the ES sets out the approach to the assessment of likely significant effects, of the Project, upon receptors. The application for development consent is being made to the Planning Inspectorate (PINS) under the Planning Act 2008. The proposal is to install and operate approximately 840MWe of solar generation in parts of West Oxfordshire, Cherwell and Vale of White Horse Districts, within the county of Oxfordshire (the Project).

17.1.2 This chapter of the Environmental Statement (ES) has been prepared by RPS for Photovolt Development Partners GmbH (PVDP) on behalf of SolarFive Ltd (the Applicant).

17.1.3 SolarFive is the 'special purpose vehicle' (SPV) for the Project and has been awarded a generation licence by Ofgem and offered a grid connection by National Grid Electricity Transmission (NGET) from October 2027. SolarFive is a licence holder under the Electricity Act 1989 and is also a company registered in England and Wales (company no. 12602740).

17.1.4 This ES is in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, as amended (the EIA Regulations), and other required documents including a statement on pre-application consultation.

17.1.5 This ES Chapter has been prepared in accordance with the approach set out in the Scoping Report and the subsequent Preliminary Environmental Information Report (PEIR).

17.1.6 The assessment presented is informed by the following technical chapters of the ES:

- Chapter 7: Historic Environment **[EN010147/APP/6.3]**;
- Chapter 8: Landscape and Visual Impact Assessment **[EN010147/APP/6.3]**;
- Chapter 13: Noise and Vibration **[EN010147/APP/6.3]**;
- Chapter 15: Socio Economics **[EN010147/APP/6.3]**; and
- Chapter 16: Human Health **[EN010147/APP/6.3]**.

17.1.7 This chapter also draws upon information contained within the following technical appendices:

- Appendix 17.1: Agricultural land classification and soil survey report **[EN010147/APP/6.5]**;

17.2 Legislative and Policy Context

Legislation

17.2.1 There is no legislation that specifically relates to the assessment of agricultural land use and Public Rights of Way (PRoW). However, national and local planning policies relevant to the assessment of agricultural land use and PRoW have been identified and explained in **section 17.2** below.

Planning policy context

National Policy Statements

17.2.2 There are currently six designated energy National Policy Statements (NPSs), EN-1, EN-2, EN-3, EN-4, EN-5 and EN-6. The 2023 revised NPSs (EN-1 to EN-5) came into force on 17 January 2024. The 2011 version of the NPS for Nuclear Power Generation (EN-6) remains in force.

17.2.3 **Table 17.1** sets out a summary of the policies within these NPSs, relevant to agricultural land use and PRoW.

Table 17.1: Summary of designated NPS document requirements relevant to this chapter

Summary of NPS Requirement	How and where considered in the ES
NPS EN-1	
An energy infrastructure project will have a direct effect on the existing use of the proposed site and may have indirect effects on the use, or planned use, of land in the vicinity for other types of development. Given the likely locations of energy infrastructure projects there may be particular effects on open space including green and blue infrastructure [paragraph 5.11.1 of NPS EN-1].	Existing and proposed land uses within or near the Project site, including public open space are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on agricultural land use and PRoW are provided in **section 17.8** of this chapter of the ES.
Development of land will affect soil resources, including physical loss of and damage to soil resources, through land contamination and structural damage. Indirect impacts may also arise from changes in the local water regime, organic matter content, soil biodiversity and soil process [paragraph 5.11.4 of NPS EN-1].	The potential impacts of the Project with respect to agricultural land, including best and most versatile soils are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a Soil Management Plan in general accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]**, which has been submitted with the Development Consent Order (DCO) application. The measures to be implemented as part of the Soil Management Plan seek to minimise impacts on soil health and protect and maintain soil quality during construction of the Project.
The government's policy is to ensure there is adequate provision of high quality open space and sports and recreation facilities to meet the needs of local communities. Connecting people with open	Existing and proposed land uses within or near the Project site are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate

Summary of NPS Requirement	How and where considered in the ES
spaces, sports and recreational facilities all help to underpin people's quality of life and have a vital role to play in promoting healthy living [paragraph 5.11.6 of NPS EN-1].	potential impacts on agricultural land use and PRoW are provided in **section 17.8** of this chapter of the ES.
The ES should identify existing and proposed land uses near the project, any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing. Applicants should also assess any effects of precluding a new development or use proposed in the development plan. The assessment should be proportionate to the scale of the preferred scheme and its likely impacts on such receptors. For developments on previously developed land, the applicant should ensure that they have considered the risk posed by land contamination and how it is proposed to address this [paragraph 5.11.8 of NPS EN-1].	With respect to contaminated land, this is considered in Volume 1, Chapter 11: Ground Conditions of the ES **[EN010147/APP/6.3]** and supporting documentation. As such, contaminated land has not been considered further in this Chapter of the ES.
During any pre-application discussions with the applicant the LPA should identify any concerns it has about the impacts of the application on land use, having regard to the development plan and relevant applications and including, where relevant, whether it agrees with any independent assessment that the land is surplus to requirements [paragraph 5.11.11 of NPS EN-1].	Consultation has taken place between the Applicant and relevant Local Planning Authorities (LPAs) at several stages prior to submission of the DCO application for the Project. Consultation undertaken to date which is of relevance to the assessment land use and PRoW for the Project is set out in **section 17.3** of this chapter of the ES.
Applicants should seek to minimise impacts on the best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification) and preferably use land in areas of poorer quality (grades 3b, 4 and 5) [paragraph 5.11.12 of NPS EN-1].	The potential impacts of the Project with respect to agricultural land, including best and most versatile soils are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a Soil Management Plan in general accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]**, which has been submitted with the DCO (DCO) application. The measures to be implemented as part of the Soil Management Plan seek to minimise impacts on soil health and protect and maintain soil quality during construction of the Project.
Applicants should also identify any effects and seek to minimise impacts on soil health and protect and maintain soil quality taking into account any mitigation measures proposed [paragraph 5.11.13 of NPS EN-1].	
Applicants are encouraged to develop and implement a Soil Management Plan which could help minimise potential land contamination. The sustainable reuse of soils needs to be carefully considered in line with good practice guidance where large quantities of soils are surplus to requirements or are affected by contamination [paragraph 5.11.14 of NPS EN-1].	The potential impacts of the Project with respect to agricultural land, including best and most versatile soils are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a Soil Management Plan in general accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]**, which has been submitted with the DCO (DCO) application. The measures to be implemented as part of the Soil Management Plan seek to minimise impacts on soil
Developments should contribute to and enhance the natural and local environment by preventing new and existing developments from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or	

Summary of NPS Requirement	How and where considered in the ES
noise pollution or land instability [paragraph 5.11.15 of NPS EN-1].	health and protect and maintain soil quality during construction of the Project.
Applicants should safeguard any mineral resources on the proposed site as far as possible, taking into account the long-term potential of the land use after any future decommissioning has taken place [paragraph 5.11.19 of NPS EN-1].	The potential effects of the Project with respect to the safeguarding of mineral resources Volume 1, Chapter 11: Ground Conditions of the ES. As such, this NPS provision has not been considered further in this Chapter of the ES.
Although in the case of most energy infrastructure there may be little that can be done to mitigate the direct effects of an energy project on the existing use of the proposed site (assuming that some of that use can still be retained post project construction) applicants should nevertheless seek to minimise these effects and the effects on existing or planned uses near the site by the application of good design principles, including the layout of the project and the protection of soils during construction [paragraph 5.11.23 of NPS EN-1].	Justification for the location of the Project, including a description of the design and/or environmental constraints considered as part of the iterative design process, is set out in Volume 1, Chapter 5: Alternatives Considered of the ES. The potential impacts of the Project with respect to agricultural land, including best and most versatile soils are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a Soil Management Plan in general accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]**, which has been submitted with the DCO (DCO) application. The measures to be implemented as part of the Soil Management Plan seek to minimise impacts on soil health and protect and maintain soil quality during construction of the Project.
Where green infrastructure is affected, the Secretary of State should consider imposing requirements to ensure the functionality and connectivity of the green infrastructure network is maintained in the vicinity of the development and that any necessary works are undertaken, where possible, to mitigate any adverse impact and, where appropriate, to improve that network and other areas of open space including appropriate access to National Trails and other public rights of way and new coastal access routes [paragraph 5.11.24 of NPS EN-1].	The potential impacts of the Project with respect to Public Rights of Way (PRoW), National Trails and other rights of access to land are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. With respect to coastal access, there are no coastal access routes within or near the Project site. Measures adopted as part of the Project to mitigate potential impacts on agricultural land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a PRoW Management Strategy in general accordance with the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. National Cycle Routes (NCRs), Long Distance Footpaths) during construction of the Project.
Public Rights of way, National Trails, and other rights of access to land are important recreational facilities for example for walkers, cyclists and horse riders. The Secretary of State should expect applicants to take appropriate mitigation measures to address adverse effects on coastal access, National Trails, other rights of way and open access land and, where	PRoW, National Trails and other rights of access to land within or near the Project site are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. With respect to coastal access, there are no coastal access routes within or near the Project site.

Summary of NPS Requirement	How and where considered in the ES
appropriate, to consider what opportunities there may be to improve or create new access. In considering revisions to an existing right of way, consideration should be given to the use, character, attractiveness, and convenience of the right of way [paragraph 5.11.30 of NPS EN-1].	Measures adopted as part of the Project to mitigate potential impacts on agricultural land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a PRoW Management Strategy in general accordance with the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. NCRs, Long Distance Footpaths) during construction and operation of the Project.
The Secretary of State should ensure that applicants do not site their scheme on the best and most versatile agricultural land without justification. Where schemes are to be sited on best and most versatile agricultural land the Secretary of State should take into account the economic and other benefits of that land. Where development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality [paragraph 5.11.34 of NPS EN-1].	Justification for the location of the Project, including a description of the design and/or environmental constraints considered as part of the iterative design process, is set out in Volume 1, Chapter 5 Alternatives Considered of the ES. The potential impacts of the Project with respect to agricultural land, including best and most versatile soils are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES.
NPS EN-3	
The Powering Up Britain: Energy Security Plan states that government seeks large scale ground-mount solar deployment across the UK, looking for development mainly on brownfield, industrial and low and medium grade agricultural land. It sets out that solar and farming can be complementary, supporting each other financially, environmentally and through shared use of land, and encourages deployment of solar technology that delivers environmental benefits, with consideration for ongoing food production or environmental improvement [paragraph 2.10.11 of NPS EN-3].	The potential impacts of the Project with respect to agricultural land are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a Soil Management Plan in general accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]**, which has been submitted with the DCO (DCO) application. The measures to be implemented as part of the Soil Management Plan seek to minimise impacts on soil health and protect and maintain soil quality during construction of the Project.
Where sited on agricultural land, consideration may be given as to whether the proposal allows for continued agricultural use and/or can be co-located with other functions (for example, onshore wind generation, storage, hydrogen electrolysers) to maximise the efficiency of land use [paragraph 2.10.32 of NPS EN-3].	The potential impacts of the Project with respect to agricultural land, including the temporary and permanent loss of best and most versatile land and disruption to farm holdings are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. In addition, as explained in Volume 1, Chapter 6: Project Description of the ES, there will be continued use of agricultural land within the Project site in the form of conversation grazing by sheep or cattle.

Summary of NPS Requirement	How and where considered in the ES
While land type should not be a predominating factor in determining the suitability of the site location applicants should, where possible, utilise suitable previously developed land, brownfield land, contaminated land and industrial land. Where the proposed use of any agricultural land has been shown to be necessary, poorer quality land should be preferred to higher quality land avoiding the use of “Best and Most Versatile” agricultural land where possible. ‘Best and Most Versatile agricultural land is defined as land in grades 1, 2 and 3a of the Agricultural Land Classification [paragraph 2.10.29 of NPS EN-3].	Justification for the location of the Project, including a description of the design and/or environmental constraints considered as part of the iterative design process, is set out in Volume 1, Chapter 5: Alternatives Considered of the ES. The potential impacts of the Project with respect to agricultural land, including best and most versatile soils are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a Soil Management Plan in general accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]**, which has been submitted with the DCO (DCO) application. The measures to be implemented as part of the Soil Management Plan seek to minimise impacts on soil health and protect and maintain soil quality during construction of the Project.
Whilst the development of ground mounted solar arrays is not prohibited on Best and Most Versatile agricultural land, or sites designated for their natural beauty, or recognised for ecological or archaeological importance, the impacts of such are expected to be considered [paragraph 2.10.30 of NPS EN-3].	
It is recognised that at this scale, it is likely that applicants’ developments will use some agricultural land. Applicants should explain their choice of site, noting the preference for development to be on suitable brownfield, industrial and low and medium grade agricultural land [paragraph 2.10.31 of NPS EN-3].	
Where sited on agricultural land, consideration may be given as to whether the proposal allows for continued agricultural use and/or can be co-located with other functions (for example, onshore wind generation, storage, hydrogen electrolysers) to maximise the efficiency of land use [paragraph 2.10.32 of NPS EN-3].	The potential impacts of the Project with respect to agricultural land, including the temporary and permanent loss of best and most versatile land and disruption to farm holdings are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. In addition, as explained in Volume 1, Chapter 6: Project Description of the ES, there will be continued use of agricultural land within the Project site in the form of conversation grazing by sheep or cattle.
The Agricultural Land Classification (ALC) is the only approved system for grading agricultural quality in England and Wales and, if necessary, field surveys should be used to establish the ALC grades in accordance with the current, or any successor to it, grading criteria86 and identify the soil types to inform soil management at the construction, operation, and decommissioning phases in line with the Defra Construction Code [paragraph 2.10.33 of NPS EN-3].	The assessment of agricultural land use and PRoW has been informed using a combination a published ALC and soils data and site specific surveys (hand auger boring) undertaken in accordance with 1988 ALC criteria to confirm the quality of agricultural land within the Project site. Site specific surveys undertaken to inform the assessment of agricultural land use and PRoW are summarised in **section 17.6** if this chapter of the ES**.** Further detailed information with regard to the methodology, scope and results of the soil surveys is provided in Volume 3, Appendix 17.1: Agricultural land classification and soil survey report of the ES.

Summary of NPS Requirement	How and where considered in the ES
	Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a Soil Management Plan in general accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]**, which has been submitted with the DCO (DCO) application. The measures to be implemented as part of the Soil Management Plan seek to minimise impacts on soil health and protect and maintain soil quality during construction of the Project. The Outline Soil Management Plan **[EN010147/APP/7.6.1]** has been informed using a combination a published ALC and soils data and site specific surveys (hand auger boring) undertaken in accordance with 1988 ALC criteria to confirm the quality of agricultural land within the Project site. The measures proposed within the Outline Soil Management Plan **[EN010147/APP/7.6.1]** are in accordance with the Department for Environmental, Food and Rural Affairs (Defra) Construction Code of Practice for Sustainable Use of Soils on Construction Sites (Defra, 2009).
Applicants are encouraged to develop and implement a Soil Resources and Management Plan which could help to use and manage soils sustainably and minimise adverse impacts on soil health and potential land contamination. This should be in line with the ambition set out in the Environmental Improvement Plan to bring at least 40% of England's agricultural soils into sustainable management by 2028 and increase this up to 60% by 2030 [paragraph 2.10.34 of NPS EN-3].	The potential impacts of the Project with respect to agricultural land, including best and most versatile soils are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a Soil Management Plan in general accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]**, which has been submitted with the DCO (DCO) application. The measures to be implemented as part of the Soil Management Plan seek to minimise impacts on soil health and protect and maintain soil quality during construction of the Project.
Public rights of way may need to be temporarily closed or diverted to enable construction, however, applicants should keep, as far as is practicable and safe, all public rights of way that cross the proposed development site open during construction and protect users where a public right of way borders or crosses the site [paragraph 2.10.41 of NPS EN-3].	The potential impacts of the Project with respect to PRoW are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a PRoW Management Strategy in general accordance with the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. NCRs, Long Distance Footpaths) during construction and operation of the Project.
Applicants are encouraged to design the layout and appearance of the site to ensure continued recreational use of public rights of way where possible during construction, and in particular during operation of the site [paragraph 2.10.42 of NPS EN-3].	
Applicants should consider and maximise opportunities to facilitate enhancements to the public rights of way and the inclusion, through site layout and design of access, of new opportunities for the	

Summary of NPS Requirement	How and where considered in the ES
public to access and cross proposed solar development sites (whether via the adoption of new public rights of way or the creation of permissive paths), taking into account, where appropriate, the views of landowners [paragraph 2.10.44 of NPS EN-3].	
Applicants should set out detail on how public rights of way would be managed to ensure they are safe to use in an outline Public Rights of Way Management Plan [paragraph 2.10.45 of NPS EN-3].	The potential impacts of the Project with respect to PRoW are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a PRoW Management Strategy in general accordance with the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. NCRs, Long Distance Footpaths) during construction and operation of the Project.
The Defra Construction code of practice for the sustainable use of soils on construction sites provides guidance on ensuring that damage to soil during construction is mitigated and minimised. Mitigation measures focus on minimising damage to soil that remains in place, and minimising damage to soil being excavated and stockpiled. The measures aim to preserve soil health and soil structure to minimise soil carbon loss and maintain water infiltration and soil biodiversity. Mitigation measures for agricultural soils include use of green cover, multispecies cover crops - especially during the winter, minimising compaction and adding soil organic matter [paragraph 2.10.127 of NPS EN-3].	The potential impacts of the Project with respect to agricultural land, including the temporary and permanent loss of best and most versatile land and disruption to farm holdings are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a Soil Management Plan in general accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]**, which has been submitted with the DCO (DCO) application. The measures to be implemented as part of the Soil Management Plan seek to minimise impacts on soil health and protect and maintain soil quality during construction of the Project.
The Secretary of State should take into account the economic and other benefits of the best and most versatile agricultural land. The Secretary of State should ensure that the applicant has put forward appropriate mitigation measures to minimise impacts on soils or soil resources [paragraph 2.10.145 of NPS EN-3].	The Outline Soil Management Plan **[EN010147/APP/7.6.1]** has been informed using a combination a published ALC and soils data and site specific surveys (hand auger boring) undertaken in accordance with 1988 ALC criteria to confirm the quality of agricultural land within the Project site. The measures proposed within the Outline Soil Management Plan **[EN010147/APP/7.6.1]** are in accordance with the Department for Environmental, Food and Rural Affairs (Defra) Construction Code of Practice for Sustainable Use of Soils on Construction Sites (Defra, 2009).
NPS EN-5	

Summary of NPS Requirement	How and where considered in the ES
Depending on the location of the proposed development, statutory duties under Section 85 of the Countryside and Rights of Way Act 2000, Section 11A of the National Parks and Access to the Countryside Act 1949 (as amended by Section 62 of the Environment Act 1995), and Section 17A of the Norfolk and Suffolk Broads Act 1988 may be relevant. Applicants should note amendments to each of these provisions contained in Section 245 of the Levelling Up and Regeneration Act 2023 [paragraph 2.2.11 of NPS EN-5].	Legislation relevant to the assessment of land use and PRoW, including the CRoW Act 2000 are set out in **section 17.2** of this chapter of the ES. The Project site does not coincide with any National Parks or Areas of Outstanding National Beauty. As such, provisions set out in the National Parks and Access to the Countryside Act 1949 (as amended by Section 62 of the Environment Act 1995) have not been considered further in this chapter of the ES.
In brief, the Horlock Rules state that applicants should: … consider the land use effects of the proposal when planning the siting of substations or extensions… [paragraph 2.9.19 of NPS EN-5].	Justification for the location of the Project, including a description of the design and/or environmental constraints considered as part of the iterative design process, is set out in Volume 1, Chapter 5: Alternatives Considered of the ES.
In brief, the Horlock Rules state that applicants should: … use space effectively to limit the area required for development consistent with appropriate mitigation measures and to minimise the adverse effects on existing land use and rights of way, whilst also having regard to future extension of the substation… [paragraph 2.9.19 of NPS EN-5].	Justification for the location of the Project, including a description of the design and/or environmental constraints considered as part of the iterative design process, is set out in Volume 1, Chapter 5: Alternatives Considered of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES.
The secretary of state should consider the applicant's commitment, as set out in their ES, to mitigate the potential detrimental effects of undergrounding works on any relevant agricultural land and soils (including peat soils), particularly regarding Best and Most Versatile land, including development and implementation of a Soil Resources and Management Plan. Such a commitment must guarantee appropriate handling of soil, backfilling, and return of the land to the baseline Agricultural Land Classification (ALC), thus ensuring no loss or degradation of agricultural land. Such a commitment should be based on soil and ALC surveys in line with the 1988 ALC criteria and due consideration of the Defra Construction Code of Practice for Sustainable Use of Soils on Construction Sites [paragraph 2.9.25 of NPS EN-5].	The potential impacts of the Project with respect to agricultural land, including best and most versatile soils are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoWare provided in **section 17.8** of this chapter of the ES. This includes the preparation of a Soil Management Plan in general accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]**, which has been submitted with the DCO (DCO) application. The measures to be implemented as part of the Soil Management Plan seek to minimise impacts on soil health and protect and maintain soil quality during construction of the Project. The Outline Soil Management Plan **[EN010147/APP/7.6.1]** has been informed using a combination a published ALC and soils data and site specific surveys (hand auger boring) undertaken in accordance with 1988 ALC criteria to confirm the quality of agricultural land within the Project site. The measures proposed within the Outline Soil Management Plan **[EN010147/APP/7.6.1]** are in accordance with the Department for Environmental, Food and Rural Affairs (Defra) Construction Code of Practice for Sustainable Use of Soils on Construction Sites (Defra, 2009).

The National Planning Policy Framework

17.2.4 The National Planning Policy Framework (NPPF) was published in 2012 and updated in 2018, 2019, 2021 and twice in 2023 (Department for Levelling Up, Housing and Communities, 2023). The NPPF sets out the Government's planning policies for England.

17.2.5 **Table 17.2** sets out a summary of the NPPF policies relevant to this chapter of the ES.

Table 17.2: Summary of NPPF requirements relevant to this chapter

Policy	Key Provisions	How and where considered in the ES
8. Promoting healthy and safe communities	To provide the social, recreational and cultural facilities and services the community needs, planning policies and decisions should: … plan positively for the provision and use of shared spaces, community facilities (such as local shops, meeting places, sports venues, open space, cultural buildings, public houses and places of worship) and other local services to enhance the sustainability of communities and residential environments…[paragraph 97 of the NPPF].	The potential impacts of the Project with respect to PRoW are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES.
	Existing open space, sports and recreational buildings and land, including playing fields, should not be built on unless: (a) an assessment has been undertaken which has clearly shown the open space, buildings or land to be surplus to requirements; or (b) the loss resulting from the proposed development would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location; or (c) the development is for alternative sports and recreational provision, the benefits of which clearly outweigh the loss of the current or former use [paragraph 103 of the NPPF].	
	Planning policies and decisions should protect and enhance public rights of way and access, including taking opportunities to provide better facilities for users, for example by adding links to existing rights of way networks including National Trails [paragraph 104 of the NPPF].	The potential impacts of the Project with respect to existing PRoW and National Trails are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a PRoW Management Strategy in general accordance with the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of
9. Promoting sustainable transport	Within this context, applications for development should give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas [paragraph 116 of the NPPF].	

Policy	Key Provisions	How and where considered in the ES
		the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. NCRs, Long Distance Footpaths) during construction and operation of the Project.
15. Conserving and enhancing the natural environment	Planning policies and decisions should contribute to and enhance the natural and local environment by: …recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland…[paragraph 180 of the NPPF].	The potential impacts of the Project with respect to agricultural land, including best and most versatile soils are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES.
	Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality. The availability of agricultural land used for food production should be considered, alongside the other policies in this Framework, when deciding what sites are most appropriate for development [footnote 62 of the NPPF].	Justification for the location of the Project, including a description of the design and/or environmental constraints considered as part of the iterative design process, is set out in Volume 1, Chapter 5: Alternatives Considered of the ES. The potential impacts of the Project with respect to agricultural land, including the temporary and permanent loss of best and most versatile land and disruption to farm holdings are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES.

17.2.6 The Planning Practice Guidance (PPG) (Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities and Local Government, 2023) supports the NPPF and provides guidance across a range of topic areas.

17.2.7 The PPG provides guidance with respect to open space, sports and recreation facilities, PRoWs and the Local Green Space designation, and reiterates the importance of these features to maintaining the health and wellbeing of people living and/or working nearby. In addition, the PPG states that PRoWs form an important component of sustainable transport links and should be protected or enhanced.

17.2.8 The PPG also provides guidance regarding agricultural land, including the ways in which the planning process can take account of the quality of agricultural land and safeguarding of soils.

Local planning policy

17.2.9 The relevant local planning policies applicable to agricultural land use and PRoW based on the extent of the Study Areas for this assessment are summarised in **Table 17.3**.

Table 17.3: Summary of local planning policy relevant to this chapter

Policy	Key Provisions	How and where considered in the ES
West Oxfordshire Local Plan 2031 (West Oxfordshire Council, 2018)		
Policy EH6: Decentralised and renewable or low carbon energy development.	Renewable or low-carbon energy development should be located and designed to minimise any adverse impacts. Any proposals for a solar farm involving best and most versatile agricultural land would need to be justified by the most compelling evidence which demonstrates why poorer quality land has not been used in preference to best and most versatile agricultural land.	Justification for the location of the Project, including a description of the design and/or environmental constraints considered as part of the iterative design process, is set out in Volume 1, Chapter 5: Alternatives Considered of the ES. The potential impacts of the Project with respect to agricultural land, including the temporary and permanent loss of best and most versatile land and disruption to farm holdings are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES.
Policy EH4: Public Real and green infrastructure	Includes requirements for the protection and enhancement of existing of green infrastructure, including PRoW.	The potential impacts of the Project with respect to recreational resources, including existing PRoW and National Trails are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a PRoW Management Strategy in general accordance with the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. NCRs, Long Distance Footpaths) during construction and operation of the Project.
Vale of White Horse Local Plan 2031 Parts 1 and 2 (Vale of White Horse District Council, 2016)		
Core Policy 43: Natural Resources	Effective use of natural resources including, the avoidance of development of the best and most versatile agricultural land, unless it is demonstrated to be the most sustainable choice from reasonable alternatives, by first using areas of poorer quality land in preference to that of a higher quality.	Justification for the location of the Project, including a description of the design and/or environmental constraints considered as part of the iterative design process, is set out in Volume 1, Chapter 5: Alternatives Considered of the ES. The potential impacts of the Project with respect to agricultural land, including the temporary and permanent loss of best and most versatile land and disruption to farm holdings are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES.
Core Policy 41: Renewable Energy	Includes requirements for applications for renewable and low carbon energy generation not to cause significant adverse effects	The potential impacts of the Project with respect to recreational resources, including existing PRoW and National Trails are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate

Policy	Key Provisions	How and where considered in the ES
	on the safe movement of traffic and pedestrians.	potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a PRoW Management Strategy in general accordance with the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. NCRs, Long Distance Footpaths) during construction and operation of the Project.
Core Policy 35: Promoting Public Transport, Cycling and Walking	Includes objectives to promote more sustainable modes of transport (e.g. public transport, walking and cycling) and safeguard accessibility.	Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a PRoW Management Strategy in general accordance with the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. NCRs, Long Distance Footpaths) during construction and operation of the Project.
The Cherwell Local Plan 2011 - 2031 Part 1 (Cherwell District Council, 2015)		
Policy ESD 5: Renewable Energy	The effects of large solar Photovoltaic (PV) arrays on the BMV agricultural land.	The potential impacts of the Project with respect to agricultural land, including the temporary and permanent loss of best and most versatile land and disruption to farm holdings are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES.
Policy ESD: 17: Green Infrastructure	Includes requirements for maintaining and enhancing existing of green infrastructure, including PRoW.	The potential impacts of the Project with respect to recreational resources, including existing PRoW and National Trails are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a PRoW Management Strategy in general accordance with the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. NCRs, Long Distance Footpaths) during construction and operation of the Project.

17.3 Consultation and Engagement

17.3.1 On 15 June 2023, the Applicants submitted a Scoping Report to the Planning Inspectorate, which described the scope and methodology for the technical studies being undertaken to provide an assessment of any likely significant

effects for the construction, operation and maintenance and decommissioning phases. It also described those topics or sub-topics which are proposed to be scoped out of the EIA process and provided justification as to why the Project would not have the potential to give rise to significant environmental effects in these areas.

17.3.2 Following consultation with the appropriate statutory bodies, the Planning Inspectorate (on behalf of the Secretary of State) provided a Scoping Opinion on 24 July 2023. Key issues raised during the scoping process specific to agricultural land use and PRoW are listed in **Table 17.4**, together with details of how these issues have been addressed within the ES.

Table 17.4: Summary of scoping responses

Comment	How and where considered in the ES
Planning Inspectorate	
The Scoping Report proposes to scope decommissioning effects out on the basis that effects from the decommissioning phase will be similar to, or of a lower magnitude than, the construction phase. No evidence has been provided to support this and the extent of impacts during construction are currently unknown. Due to the lack of information provided, the Inspectorate does not agree to scope this matter out. The Inspectorate would expect to see a Decommissioning Plan, agreed with the Local Authority, secured through the inclusion of an Outline Decommissioning Plan or similar with the Application. This should include consideration of how the land will be reinstated and to what standard and how/where infrastructure will be removed. The ES should clearly set out if and how impacts to agricultural land are to be assessed for the decommissioning phase [ID 3.11.1 of the Scoping Opinion for Botley West Solar Farm].	The potential effects arising from decommissioning of the Project, including the temporary and permanent loss of best and most versatile land, are assessed in **section 17.8.8** of this chapter of the ES. In addition, a Decommissioning Plan will be prepared in general accordance with the Outline Decommissioning Plan [EN010147/APP/7.6.4] which has been submitted with the DCO application for the Project.
The Applicant has stated that they will conduct a 'semi-detailed' ALC survey at the site based on 1 auger boring every 2ha and the excavation of soil pits. The Applicant should ensure that any approach is justified, aligns with relevant guidance and/or standards (e.g., Natural England Technical Information Note TIN049, 2012), and/or is agreed with the relevant consultees [ID 3.11.2 of the Scoping Opinion for Botley West Solar Farm].	The survey work undertaken to inform the assessment is summarised in **section 17.6** this chapter of the ES. This includes soil surveys (hand auger boring) undertaken in accordance with relevant guidance, including 1988 ALC criteria to confirm the quality of agricultural land within the Project site. Site specific surveys undertaken to inform the assessment of agricultural land use and PRoW are summarised in **section 17.6** if this chapter of the ES**.** Further detailed information with regard to the methodology, scope and results of the soil surveys is provided in Volume 3, Appendix 17.1: Agricultural land classification and soil survey report of the ES.
The Scoping Report states that an outline Soil Management Strategy (SMS) will be produced, detailing measures to reduce or avoid damage to soils. For clarity, this should be provided with the application and detail how this is secured through the DCO (ID 3.11.3 of the Scoping Opinion for Botley West Solar Farm).	Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a Soil Management Plan in general accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]**, which has been submitted with the DCO (DCO) application. The measures to be implemented as part of the Soil

Comment	How and where considered in the ES
	Management Plan seek to minimise impacts on soil health and protect and maintain soil quality during construction of the Project. The Outline Soil Management Plan **[EN010147/APP/7.6.1]** has been informed using a combination a published ALC and soils data and site specific surveys (hand auger boring) undertaken in accordance with 1988 ALC criteria to confirm the quality of agricultural land within the Project site. The measures proposed within the Outline Soil Management Plan **[EN010147/APP/7.6.1]** are in accordance with the Department for Environmental, Food and Rural Affairs (Defra) Construction Code of Practice for Sustainable Use of Soils on Construction Sites (Defra, 2009).
The ES should provide a regional assessment of the loss of BMV land and assess any significant effects where they are likely to occur (ID 3.11.3 of the Scoping Opinion for Botley West Solar Farm).	The potential impacts of the Project with respect to agricultural land, including the temporary and permanent loss of best and most versatile land and disruption to farm holdings are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. The assessment considered the potential impacts in the context of best and most versatile land availability across the Project site and at the local and regional level. As such, the requirement for a separate regional assessment of the loss of best and most versatile land is not considered necessary to inform this Chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES.
Natural England	
We consider the retention and safeguarding of Best and Most Versatile Agricultural Land to be an important consideration for this Project. It is recognised that due to the nature of the development a good proportion of the agricultural land affected by the development will not be permanently lost. However, the large development area and 42 year development lifetime give rise to additional concern with regard to agricultural productivity.	The potential impacts of the Project with respect to agricultural land, including the temporary and permanent loss of best and most versatile land and disruption to farm holdings are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a Soil Management Plan in general accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]**, which has been submitted with the DCO (DCO) application. The measures to be implemented as part of the Soil Management Plan seek to minimise impacts on soil health and protect and maintain soil quality during construction of the Project.
The ES should consider potential impacts on access land, common land and public rights of way where appropriate. It should assess the scope to mitigate for any adverse impacts. Rights of Way Improvement Plans (ROWIP) can be used to identify public rights of way within or adjacent to the	The potential impacts of the Project with respect to existing PRoW are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a PRoW Management Strategy in general accordance with

Comment	How and where considered in the ES
proposed site that should be maintained or enhanced.	the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. NCRs, Long Distance Footpaths) during construction and operation of the Project.
The following issues should be considered and, where appropriate, included as part of the Environmental Statement (ES): • The degree to which soils would be disturbed or damaged as part of the development. • The extent to which agricultural land would be disturbed or lost as part of this development, including whether any best and most versatile (BMV) agricultural land would be impacted. • This may require a detailed Agricultural Land Classification (ALC) survey if one is not already available. • Where an ALC and soil survey of the land is required, this should normally be at a detailed level, e.g. one auger boring per hectare, (or more detailed for a small site) supported by pits dug in each main soil type to confirm the physical characteristics of the full depth of the soil resource, i.e. 1.2 metres. The survey data can inform suitable soil handling methods and appropriate reuse of the soil resource where required (e.g. agricultural reinstatement, habitat creation, landscaping, allotments and public open space). • The ES should set out details of how any adverse impacts on BMV agricultural land can be minimised through site design/masterplan. • The ES should set out details of how any adverse impacts on soils can be avoided or minimised and demonstrate how soils will be sustainably used and managed, including consideration in site design and master planning, and areas for green infrastructure or biodiversity net gain. The aim will be to minimise soil handling and maximise the sustainable use and management of the available soil to achieve successful after-uses and minimise off-site impacts.	The potential impacts of the Project with respect to agricultural land, including the temporary and permanent loss of best and most versatile land and disruption to farm holdings are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a Soil Management Plan in general accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]**, which has been submitted with the DCO (DCO) application. The measures to be implemented as part of the Soil Management Plan seek to minimise impacts on soil health and protect and maintain soil quality during construction of the Project. The survey work undertaken to inform the assessment is summarised in **section 17.6** this chapter of the ES. This includes soil surveys (hand auger boring) undertaken in accordance with relevant guidance, including 1988 ALC criteria to confirm the quality of agricultural land within the Project site. Site specific surveys undertaken to inform the assessment of agricultural land use and PRoW are summarised in **section 17.6** if this chapter of the ES**.** Further detailed information with regard to the methodology, scope and results of the soil surveys is provided in Volume 3, Appendix 17.1: Agricultural land classification and soil survey report of the ES. The Outline Soil Management Plan **[EN010147/APP/7.6.1]** has been informed using a combination a published ALC and soils data and site specific surveys (hand auger boring) undertaken in accordance with 1988 ALC criteria to confirm the quality of agricultural land within the Project site. The measures proposed within the Outline Soil Management Plan **[EN010147/APP/7.6.1]** are in accordance with the Department for Environmental, Food and Rural Affairs (Defra) Construction Code of Practice for Sustainable Use of Soils on Construction Sites (Defra, 2009). Justification for the location of the Project, including a description of the design and/or environmental constraints considered as part of the iterative design process, is set out in Volume 1, Chapter 5: Alternatives Considered of the ES. In addition, as explained in Volume 1, Chapter 6: Project Description of the ES, there will be continued use of

Comment	How and where considered in the ES
	agricultural land within the Project site in the form of conversation grazing by sheep or cattle.

17.3.3 Following scoping, consultation and engagement with interested parties specific to agricultural land use and PRoW has continued. This includes a meeting with Natural England on the 16 October 2023 to discuss the assessment approach, soil survey work undertaken and mitigation measures to be incorporated into the Soil Management Plan, CoCP and PRoW Management Strategy.

17.3.4 The PEIR was issued to inform the statutory consultation carried out on the Project between 30 November 2023 and 8 February 2024. It presented the preliminary findings of the EIA process for the Project at that time.

17.3.5 Following PEIR consultation and additional assessment work undertaken in 2024 a further meeting was held with Natural England on 27 August 2024 to discuss further the ALC survey work, the assessment of soils and ALC and the approach to soil management.

17.3.6 In addition, a meeting was also held with PRoW officers in November 2024 from CDC, VWHDC and OCC to discuss the proposed management of affected PRoW located within the Project site. This included an overview of the outline management measures, with a focus on the proposed indicative temporary and permanent diversions of PRoW within the Project site. Further detail regarding these meetings is provided in **Table 17.5** below.

17.3.7 A summary of the key issues raised during consultation activities undertaken to date is presented in **Table 17.5**, together with how these issues have been considered in the production of this ES chapter.

Table 17.5: Summary of consultation relevant to this chapter

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
October 2023	First meeting with Natural England	This meeting was used as an opportunity to discuss the assessment approach, soil survey work undertaken and mitigation measures to be incorporated into the Soil Management Plan, CoCP and PRoW Management Strategy for the Project with Natural England.	The feedback received during this meeting with Natural England was subsequently used to inform relevant sections of this chapter of the ES, including the baseline assessment in **section 17.6**, assessment in **section 17.8.8** and measures adopted as part of the Project to mitigate potential impacts on land use and PRoW, which are provided in **section 17.8** of this chapter of the ES. In addition, feedback from Natural England will be used to inform relevant sections of the detailed Code of Construction Practice, PRoW Management Strategy and Soil Management Plan, which will be prepared in general accordance with the Outline Code of Construction Practice **[EN010147/APP/7.6.1]**, Outline PRoW Management Strategy **[EN010147/APP/7.6.1]** and Outline Soil Management Plan **[EN010147/APP/7.6.1]** submitted with the DCO application for the Project.
February 2024	Natural England - PEIR Response	The ALC survey should follow the Guide to assessment development proposals on agricultural land. It is unclear if the survey was carried out by a suitably qualified or accredited professional. Some areas are scoped out of the ALC survey without justification. This may be for reasons such as access restriction, but the ALC survey should be updated with further detail on this. A map of sample locations should be overlayed on the ALC map for improved legibility.	Soil surveys have been undertaken using a hand auger at suitable intervals across the Project site. These soil surveys were carried out in accordance with Ministry of Agriculture, Fisheries and Food (MAFF) revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988) to identify the quality of agricultural land within the Project site. The methodology and results of the soil surveys are reported in Volume 3, Appendix 17.1: Agricultural land classification and soil survey report of the ES.
February 2024	Natural England - PEIR Response	Ideally a full detailed ALC survey would have been carried out across the whole site in line with the 1988 MAFF Guidelines. If the applicant is to use predictive mapping, it is recommended in this instance, that an ALC survey is undertaken within the cable route, with flexibilities around density depending on land quality	Soil surveys have been undertaken using a hand auger at suitable intervals across the Project site. These soil surveys were carried out in accordance with Ministry of Agriculture, Fisheries and Food (MAFF) revised guidelines and criteria for grading the quality of agricultural land

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
		identified in the Predictive ALC Mapping report. A semi detailed survey is acceptable where the site is clearly expected to be non-BMV (1 auger per 2 ha plus representative pits), but where BMV has been identified, a detailed ALC survey would be expected (1 auger per ha plus representative pits).	(MAFF, 1988) to identify the quality of agricultural land within the Project site. The methodology and results of the soil surveys are reported in Volume 3, Appendix 17.1: Agricultural land classification and soil survey report of the ES.
February 2024	Natural England - PEIR Response	The Environmental Statement should clearly demonstrate how the master planning process has considered the ALC grades and avoided BMV where possible in line with paragraph 5.10.8 of the draft National Policy Statement (NPS) EN1.	The Applicant notes this comment and appreciates the importance of agricultural land, including best and most versatile soils. Justification for the location of the Project, including the design and environmental constraints considered is provided in Volume 1, Chapter 5: Need, National Planning Policy and Alternatives Considered of the ES.
February 2024	Natural England - PEIR Response	17.2.2.10 - In relation to soils, the Planning Practice Guidance for the Natural Environment describes how the planning system should take account of the natural capital value of soil resource and the ecosystem services it supports; and the use of the Defra Construction Code of Practice for the Sustainable use of Soil on Construction Sites. Therefore, the potential impact of the development needs to be considered in terms of potential damage to the soil resource and linking this to a Soil Resource Management Plan.	The Outline Soil Management Plan **[EN010147/APP/7.6.1]** has been informed using a combination a published ALC and soils data and site specific surveys (hand auger boring) undertaken in accordance with 1988 ALC criteria to confirm the quality of agricultural land within the Project site. The measures proposed within the Outline Soil Management Plan **[EN010147/APP/7.6.1]** are in accordance with the Department for Environmental, Food and Rural Affairs (Defra) Construction Code of Practice for Sustainable Use of Soils on Construction Sites (Defra, 2009).
February 2024	Natural England - PEIR Response	Natural England support the commitment (Table 17.4) to carry out detailed surveys to inform the ES. As mentioned above A semi detailed survey is acceptable where the site is clearly expected to be non-BMV (1 auger per 2 ha plus representative pits), but where BMV has been identified, a detailed ALC survey would be expected (1 auger per ha plus representative pits) to determine the full extent of BMV land. Natural England have agreed an approach with RPS. This type of survey requires an experienced ALC surveyor, in order to make the correct	Soil surveys have been undertaken using a hand auger at suitable intervals across the Project site. These soil surveys were carried out in accordance with Ministry of Agriculture, Fisheries and Food (MAFF) revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988) to identify the quality of agricultural land within the Project site. The methodology and results of the soil surveys are reported in Volume 3, Appendix 17.1: Soil survey auger boring and soil pit information of the ES.

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
		professional judgements, where to introduce flexibility. A semi detailed survey may not identify all of the BMV land.	
February 2024	Natural England - PEIR Response	Paragraph 17.5.1.13 relays a series of soil associations. Natural England advise the Study Area comprises the additional following soil associations; Elmton 3, Oxpasture, Sutton 1 and Thames. Provisional mapping should be used to indicate where more detailed survey sampling should take place. If non BMV is evident through during soil sampling then it would be acceptable to reduce sampling density. These judgements are to be made by an experienced ALC surveyor.	Provisional ALC mapping for the Project site is presented in Volume 2, Figures, Figure 17.1, which has been used to inform the locations for ALC surveys. Soil surveys have been undertaken using a hand auger at suitable intervals across the Project site. These soil surveys were carried out in accordance with Ministry of Agriculture, Fisheries and Food (MAFF) revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988) to identify the quality of agricultural land within the Project site. The methodology and results of the soil surveys are reported in Volume 3, Appendix 17.1: Soil survey auger boring and soil pit information of the ES.
February 2024	Natural England - PEIR Response	Natural England support the commitment to provide a Soil Management Plan (SMP) as a requirement of the DCO. A SMP may be expected to be prepared in line with the Defra Construction Code of Practice for the Sustainable Use of Soils on Construction Sites. The SMP should include the following: Page 5 of 7 i) An assessment of agricultural land and soil resource of the site will be undertaken before work commences (as per Natural England's Guide to assessing development proposals on agricultural land) which is considered to represent UK good practice. ii) Mitigation should include reference to the Defra Construction Code iii) The methods by which the applicant intends to restore appropriate affected areas to agricultural use after works including excavations and restoration has finished. iv) An aftercare programme which would enable a satisfactory standard of agricultural after-use to be reached, with regards to	Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a Soil Management Plan in general accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]**, which has been submitted with the DCO (DCO) application. The measures to be implemented as part of the Soil Management Plan seek to minimise impacts on soil health and protect and maintain soil quality during construction of the Project. The Outline Soil Management Plan **[EN010147/APP/7.6.1]** has been informed using a combination a published ALC and soils data and site specific surveys (hand auger boring) undertaken in accordance with 1988 ALC criteria to confirm the quality of agricultural land within the Project site. The measures proposed within the Outline Soil Management Plan **[EN010147/APP/7.6.1]** are in accordance with the Department for Environmental, Food and Rural Affairs

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
		cultivating, reseeding, draining or irrigating, applying fertiliser, or cutting and grazing the site.	(Defra) Construction Code of Practice for Sustainable Use of Soils on Construction Sites (Defra, 2009).
February 2024	Natural England - PEIR Response	Where topsoil is proposed to be stripped, typically for construction compounds; access tracks and laying cabling, the soil handling methodology (movement, storage & replacement) and soil protection proposals are reviewed to ensure that appropriate mitigation is in place to allow for the restoration of the land to the baseline ALC Grade.	The outline measures proposed for the management of soils during construction of the Project are set out in The Outline Soil Management Plan **[EN010147/APP/7.6.1]**. The measures proposed within the Outline Soil Management Plan **[EN010147/APP/7.6.1]** are in accordance with the Department for Environmental, Food and Rural Affairs (Defra) Construction Code of Practice for Sustainable Use of Soils on Construction Sites (Defra, 2009).
February 2024	Natural England - PEIR Response	When reading paragraph 17.8.5.2 it is not clear whether the non-surveyed areas will be subject to a detailed survey for submission in the ES and this requires clarification.	All non-surveyed areas have now been subject to ALC surveys. Soil surveys have been undertaken using a hand auger at suitable intervals across the Project site. These soil surveys were carried out in accordance with Ministry of Agriculture, Fisheries and Food (MAFF) revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988) to identify the quality of agricultural land within the Project site. The methodology and results of the soil surveys are reported in Volume 3, Appendix 17.1: Soil survey auger boring and soil pit information of the ES.
February 2024	Natural England - PEIR Response	The PEIR concludes that the loss of approximately 5.7ha of BMV is not considered significant. This follows the Development Management Procedure Order (DMPO) and not the assessment matrix presented elsewhere in the PEIR (Table 17:19) which would produce a conclusion of moderate or major significance.	The potential impacts of the Project with respect to agricultural land, including the temporary and permanent loss (in relation to the DMPO) of best and most versatile land and disruption to farm holdings are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES.
February 2024	Natural England -	We advise that where land is being returned to an agricultural use that the land is restored to a high standard and to its original capability (Agricultural Land Classification (ALC) grade) as far as is practicable. This requires the retention and replacement of	The outline measures proposed for the management of soils during construction of the Project are set out in The Outline Soil Management Plan **[EN010147/APP/7.6.1]**. This includes outline measures to ensure that soils would

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	PEIR Response	suitable topsoil and subsoil materials as well as the adoption of best practice techniques in soil handling. Where any BMV agricultural land is restored to a non-agricultural use (e.g. habitat, amenity use), it should be restored to its original physical capability.	be returned to their original capability, where disturbed by the Project. The measures proposed within the Outline Soil Management Plan **[EN010147/APP/7.6.1]** are in accordance with the Department for Environmental, Food and Rural Affairs (Defra) Construction Code of Practice for Sustainable Use of Soils on Construction Sites (Defra, 2009).
February 2024	Natural England - PEIR Response	The 'Decommissioning Phase' section (17.9.4.9) does not consider BMV. There should be more attention given to the latter stages of project lifecycles (i.e. decommissioning), ensuring that mechanisms for environmental mitigation, restoration and enhancement that are built in at the design stage are secured well into the future. The spatial distribution of ALC grades determined from a detailed ALC survey are necessary to inform the reinstatement criteria, which allows the area of each ALC Grade temporarily disturbed to be returned to the same quality as far as practicable to minimise potential loss.	The potential impacts of the Project with respect to agricultural land and disruption to farm holdings, including during the decommissioning phase, are identified and assessed in are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. In addition, a Decommissioning Plan will be prepared in general accordance with the Outline Decommissioning Plan [EN010147/APP/7.6], which has been submitted with the DCO application for the Project. Soil surveys have been undertaken using a hand auger at suitable intervals across the Project site. These soil surveys were carried out in accordance with Ministry of Agriculture, Fisheries and Food (MAFF) revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988) to identify the quality of agricultural land within the Project site. The methodology and results of the soil surveys are reported in Volume 3, Appendix 17.1: Soil survey auger boring and soil pit information of the ES.
February 2024	Bladon Parish Council; Eynsham Town Council; CPRE	Concerns regarding the effects of the Project on the network of PRoW affected.	The potential impacts of the Project with respect to the existing PRoW network are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
	Oxfordshire - PEIR Response		**section 17.8** of this chapter of the ES. This includes the preparation of a PRoW Management Strategy in general accordance with the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. NCRs, Long Distance Footpaths) during construction and operation of the Project.
February 2024	Witney Town Council -PEIR Response	The documents suggest that in areas where the panels are too low for grazing, undergrowth can be cut and collected for composting – there is no detail as to how or where this will be facilitated. A commitment is required to demonstrate how this will work and who is responsible for these ongoing works in the long term.	As explained in Volume 1, Chapter 6: Project description of the ES, the Applicant will retain an agricultural land use beneath the proposed solar arrays and between the power converter stations and substations, and on areas of the Site that will remain undeveloped in the form of conservation grazing, primarily by sheep. The Applicant also proposes to introduce some small scale horticultural production areas, for use by community food growing groups. These areas would be managed as part of the Landscape and Ecology Management Plan, which will be prepared in general accordance with the Outline Landscape and Ecology Management Plan [EN010147/APP/7.6.3], which has been submitted with DCO application for the Project.
February 2024	Kidlington Parish Council - PEIR Response	There is a food emergency as well as a climate emergency. Britain currently imports more than half of the food we eat. We should not use any productive farmland for solar farms when there are 250,000 hectares of unused, south-facing commercial roofs in the UK.	As explained in Volume 1, Chapter 6: Project description of the ES, the Applicant will retain an agricultural land use beneath the proposed solar arrays and between the power converter stations and substations, and on areas of the Site that will remain undeveloped in the form of conservation grazing, primarily by sheep. The Applicant also proposes to introduce some small scale horticultural production areas, for use by community food growing groups. These areas would be managed as part of the Landscape and Ecology Management Plan, which will be prepared in general accordance with the Outline Landscape and Ecology

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			Management Plan [EN010147/APP/7.6.3], which has been submitted with DCO application for the Project.
February 2024	Cassington Parish Counsil - PEIR Response	Loss of viable farms in the Parish of Cassington also detracts from the landscape as well as depriving the U.K. of productive farmland. This has been the cause of considerable stress to our farmers (as revealed by interventions of one of farmers at the Parish Council meeting of the 1st December 2022).	The potential impacts of the Project with respect to agricultural land, including the temporary and permanent loss of best and most versatile land and disruption to farm holdings are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use are provided in **section 17.8** of this chapter of the ES. As explained in Volume 1, Chapter 6: Project description of the ES, the Applicant will retain an agricultural land use beneath the proposed solar arrays and between the power converter stations and substations, and on areas of the Site that will remain undeveloped in the form of conservation grazing, primarily by sheep. The Applicant also proposes to introduce some small scale horticultural production areas, for use by community food growing groups. These areas would be managed as part of the Landscape and Ecology Management Plan, which will be prepared in general accordance with the Outline Landscape and Ecology Management Plan [EN010147/APP/7.6.3], which has been submitted with DCO application for the Project.
February 2024	CPRE Oxfordshire - PEIR Response	Nearly 40% of the land in question is identified by the PEIR as 'Best & Most Versatile'	Justification for the location of the Project, including a description of the design and/or environmental constraints considered as part of the iterative design process, is set out in Volume 1, Chapter 5: Alternatives Considered of the ES. The potential impacts of the Project with respect to agricultural land, including best and most versatile soils are identified in section 17.6 and assessed in section 17.9 of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in section 17.8 of this chapter of the ES. This includes the preparation of a Soil Management Plan in

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
			general accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]**, which has been submitted with the DCO (DCO) application. The measures to be implemented as part of the Soil Management Plan seek to minimise impacts on soil health and protect and maintain soil quality during construction of the Project.
February 2024	CPRE Oxfordshire - PEIR Response	(PEIR 17.5.2.2) ie Grades 1 – 3a, which Government policy seeks to protect from "significant, inappropriate or unsustainable development proposals"3. We note that the UK is already the world's third largest importer of food, behind only China and Japan4, relying on imports to provide almost half of our food5. The Climate Change Committee has not surprisingly found that climate change will 'make it harder for the government to ensure the resilience of the UK's food supply'6.	Justification for the location of the Project, including a description of the design and/or environmental constraints considered as part of the iterative design process, is set out in Volume 1, Chapter 5: Alternatives Considered of the ES. The potential impacts of the Project with respect to agricultural land, including best and most versatile soils are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a Soil Management Plan in general accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]**, which has been submitted with the DCO (DCO) application. The measures to be implemented as part of the Soil Management Plan seek to minimise impacts on soil health and protect and maintain soil quality during construction of the Project.
February 2024	CPRE Oxfordshire - PEIR Response	Although precise information on how this figure breaks down across the three site sections has not been provided, the maps (p5-7 Chap 17 Agricultural Land & PRoW figures) make it clear that the northern section and the western area of the central section have a particularly high concentration of BMV.	Justification for the location of the Project, including a description of the design and/or environmental constraints considered as part of the iterative design process, is set out in Volume 1, Chapter 5: Alternatives Considered of the ES. The potential impacts of the Project with respect to agricultural land, including best and most versatile soils are identified in **section 17.6** and assessed in **section 17.8.8** of this chapter of the ES. Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
			includes the preparation of a Soil Management Plan in general accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]**, which has been submitted with the DCO (DCO) application. The measures to be implemented as part of the Soil Management Plan seek to minimise impacts on soil health and protect and maintain soil quality during construction of the Project.
Feb 2024	Oxfordshire County Council	All fenced-in PRoW need to be stone surfaced to 3-4m width with 3-4m clear grass verges each side of this and then the graded landscaped edges between the path and the fencing. The full width of the PRoW needs to be dedicated as PRoW to ensure permanent protection.	Measures with respect to the design and amenity of PRoW, including surfacing, landscaping and planting within the Project site will be implemented as part of the Landscape and Ecology Management Plan, which will prepared in general accordance with the Outline Landscape and Ecology Management Plan [EN010147/APP/7.6.3], which has been submitted with DCO application for the Project.
Feb 2024	Oxfordshire County Council	Some PRoW on each of the sites need connecting up within the site where possible to provide a high qualify, coherent and connected network with high quality path provision, good signing and accessible infrastructure (gates, seating, water crossings etc)	Measures with respect to the design and amenity of PRoW, including surfacing, landscaping and planting within the Project site will be implemented as part of the Landscape and Ecology Management Plan, which will prepared in general accordance with the Outline Landscape and Ecology Management Plan [EN010147/APP/7.6.3], which has been submitted with DCO application for the Project. Measures with respect to the maintenance of existing routes will be implemented as part of the Outline PRoW Management Strategy, which will be prepared in general accordance with the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. NCRs, Long Distance Footpaths) during construction and operation of the Project. All measures proposed as part of PRoW

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			Management Strategy would be implemented prior to the commencement of construction works, where appropriate.
Feb 2024	Oxfordshire County Council	PRoW crossed by underground HV and other cables, ditches and ducts etc need to be disturbed as little as possible, if at all. Pipes and cables should be horizontally dug/bored so that the PRoW isn't disturbed. Where this isn't possible then disturbance need to be kept to a minimum and safety of users maximised. A way to achieve this could be by excavating each side of the PRoW and only excavating the PRoW just prior to duct work or the cable being laid. The ditch must not be left open/exposed and should be filled in, compacted/consolidated and path made good immediately after cables laid, in order to reduce disturbance to path and user.	Measures with respect to the maintenance of existing routes will be implemented as part of the Outline PRoW Management Strategy, which will be prepared in general accordance with the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. NCRs, Long Distance Footpaths) during construction and operation of the Project. All measures proposed as part of PRoW Management Strategy would be implemented prior to the commencement of construction works, where appropriate.
Feb 2024	Oxfordshire County Council	Phased and planned temporary closures/diversions of PRoW only when necessary i.e. if works cannot be undertaken with the PRoW open and access made safe by using banksman/fencing etc. Closures should be for a minimal duration to cover the essential works and in all cases an alternative route should be agreed by OCC Countryside Access and provided in advance and maintained for the duration of the temporary closure.	Measures with respect to the maintenance of existing routes will be implemented as part of the Outline PRoW Management Strategy, which will be prepared in general accordance with the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. NCRs, Long Distance Footpaths) during construction and operation of the Project. This includes requirements for banksman and suitable fencing in addition to indicative proposed routes for temporary and permanent diversions, where required All measures proposed as part of PRoW Management Strategy would be implemented prior to the commencement of construction works, where appropriate.

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Feb 2024	Oxfordshire County Counci	No use of PRoW other than if essential as a crossing point between fields. All vehicle crossing points to be monitored when active. Crossing point PRoW to be protected from HGV by weight spreading mats, appropriate stone reinforcement and making good within 24 hours	Measures with respect to the maintenance of existing routes will be implemented as part of the Outline PRoW Management Strategy, which will be prepared in general accordance with the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. NCRs, Long Distance Footpaths) during construction and operation of the Project. All measures proposed as part of PRoW Management Strategy would be implemented prior to the commencement of construction works, where appropriate.
Feb 2024	Oxfordshire County Council	Protection, Mitigation and Improvements of routes. Public rights of way through the site need to be integrated with the development and provided to a standard to meet the pressures caused by the development. Assessments of current condition need to be undertaken along with proposals for onsite mitigation and improvement measures. This may include upgrades to some footpaths to enable cycling or horse riding and better access for commuters or people with lower agility. The package of measures needs to be agreed in advance with OCC Countryside Access. All necessary PRoW mitigation and improvement measures onsite need to be undertaken prior to occupation to ensure public amenity is maintained.	Measures with respect to the design and amenity of PRoW, including surfacing, landscaping and planting within the Project site will be implemented as part of the Landscape and Ecology Management Plan, which will prepared in general accordance with the Outline Landscape and Ecology Management Plan [EN010147/APP/7.6.3], which has been submitted with DCO application for the Project. Measures with respect to the maintenance of existing routes will be implemented as part of the Outline PRoW Management Strategy, which will be prepared in general accordance with the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. NCRs, Long Distance Footpaths) during construction and operation of the Project. All measures proposed as part of PRoW Management Strategy would be implemented prior to the commencement of construction works, where appropriate.

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
Feb 2024	Oxfordshire County Council	Protection, Mitigation and Improvements of routes. Public rights of way through the site need to be integrated with the development and provided to a standard to meet the pressures caused by the development. Assessments of current condition need to be undertaken along with proposals for onsite mitigation and improvement measures. This may include upgrades to some footpaths to enable cycling or horse riding and better access for commuters or people with lower agility. The package of measures needs to be agreed in advance with OCC Countryside Access. All necessary PRoW mitigation and improvement measures onsite need to be undertaken prior to occupation to ensure public amenity is maintained.	Measures with respect to the design and amenity of PRoW, including surfacing, landscaping and planting within the Project site will be implemented as part of the Landscape and Ecology Management Plan, which will prepared in general accordance with the Outline Landscape and Ecology Management Plan [EN010147/APP/7.6.3], which has been submitted with DCO application for the Project. Measures with respect to the maintenance of existing routes will be implemented as part of the Outline PRoW Management Strategy, which will be prepared in general accordance with the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. NCRs, Long Distance Footpaths) during construction and operation of the Project. All measures proposed as part of PRoW Management Strategy would be implemented prior to the commencement of construction works, where appropriate.
Feb 2024		Protection of public rights of way and users. Routes must remain usable at all times during a development's construction lifecycle. This means temporary or permanent surfacing, fencing, structures, standoffs and signing need to be agreed with OCC Countryside Access and provided prior to the commencement of any construction and continue throughout. Access provision for walkers, cyclists and horseriders as vulnerable road users needs to be maintained. This means ensuring noise, dust, vehicle etc impacts are prevented.	Measures with respect to the maintenance of existing routes will be implemented as part of the Outline PRoW Management Strategy, which will be prepared in general accordance with the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. NCRs, Long Distance Footpaths) during construction and operation of the Project. All measures proposed as part of PRoW Management Strategy would be implemented prior to the commencement of construction works, where appropriate.

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
Feb 2024		Temporary obstructions and damage. No materials, plant, vehicles, temporary structures or excavations of any kind should be deposited / undertaken on or adjacent to the Public Right of Way that obstructs the public right of way whilst development takes place. Avoidable damage to PRoW must be prevented. Where this takes place repairs to original or better standard should be completed withing 24hrs unless a longer repair period is authorised by OCC Countryside.	Measures with respect to the maintenance of existing routes will be implemented as part of the Outline PRoW Management Strategy, which will be prepared in general accordance with the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**, which has been submitted with the DCO application. The measures to be implemented as part of the PRoW Management Strategy seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g. NCRs, Long Distance Footpaths) during construction and operation of the Project. All measures proposed as part of PRoW Management Strategy would be implemented prior to the commencement of construction works, where appropriate.
Feb 2024	Oxfordshire District Council	Enclosure: If the line of the right of way is to be enclosed by hedging or fencing, for example to provide security for solar PV arrays, then care is needed over fencing choice. Fencing should not have barbs, razor wire or palisade fencing within the line of the right of way and visual amenity should be maintained. The enclosed path and the hedge/fencing needs to be maintained to provide the full corridor width for the duration of the development.	Measures with respect to the design and amenity of PRoW, including surfacing, landscaping and planting within the Project site will be implemented as part of the Landscape and Ecology Management Plan, which will prepared in general accordance with the Outline Landscape and Ecology Management Plan [EN010147/APP/7.6.3], which has been submitted with DCO application for the Project.
Feb 2024	Cherwell District council	The provision of a Soil Management Plan to ensure that the quality of agricultural soils is preserved is welcomed and should include details of how the land will be reinstated to its former condition at the end of the use (also providing information about the 'reversibility' of the development, and how quickly, the land could be returned to food production (arable and grazing) once the solar farm has come to the end of its life).	Measures adopted as part of the Project to mitigate potential impacts on land use and PRoW are provided in **section 17.8** of this chapter of the ES. This includes the preparation of a Soil Management Plan in general accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]**, which has been submitted with the DCO (DCO) application. The measures to be implemented as part of the Soil Management Plan seek to minimise impacts on soil health and protect and maintain soil quality during construction of the Project. The Outline Soil Management Plan **[EN010147/APP/7.6.1]** has been informed using a combination a published ALC

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
			and soils data and site specific surveys (hand auger boring) undertaken in accordance with 1988 ALC criteria to confirm the quality of agricultural land within the Project site. The measures proposed within the Outline Soil Management Plan **[EN010147/APP/7.6.1]** are in accordance with the Department for Environmental, Food and Rural Affairs (Defra) Construction Code of Practice for Sustainable Use of Soils on Construction Sites (Defra, 2009).
August 2024	Second meeting with Natural England	This meeting was used as an opportunity to discuss the assessment approach, soil survey work undertaken and mitigation measures to be incorporated into the Soil Management Plan for the Project with Natural England.	The feedback received during this meeting with Natural England was subsequently used to inform relevant sections of this chapter of the ES, including the baseline assessment in **section 17.6**, assessment in **section 17.8.8** and measures adopted as part of the Project to mitigate potential impacts on land use and PRoW, which are provided in **section 17.8** of this chapter of the ES. In addition, feedback from Natural England will be used to inform relevant sections of the Soil Management Plan, which will be prepared in general accordance with the Outline Code of Construction Practice **[EN010147/APP/7.6.1]**, Outline PRoW Management Strategy **[EN010147/APP/7.6.1]** and Outline Soil Management Plan **[EN010147/APP/7.6.1]** submitted with the DCO application for the Project.
November 2024	Meeting with CDC, VWHDC and OCC	This meeting was used as an opportunity to present the outline management measures for affected PRoW within the Project site, including proposed indicative temporary and permanent diversions to PRoW officers from CDC, VWHDC and OCC. The key issue raised by the consultees was the importance of aligning the design of the Project with relevant strategic policy objectives. For example, ensuring the PRoW network remains accessible, provides connectivity with the wider area and places	Responses received during the meeting were subsequently used to inform relevant sections of this chapter of the ES and supporting documentation, where appropriate. Further discussions with PRoW officers from CDC, VWHDC and OCC are proposed post submission to discuss management requirements for PRoW within the Project site to ensure these align with relevant strategic policy objectives.

Date	Consultee and type of response	Issues Raised	How and where considered in the ES
		suitable emphasis of the cultural importance of PRoW to the local community and region as a whole. The consultees also raised concerns regarding the importance of PRoW in providing public access, given the relative lack of publicly accessible land in the area (when compared to other local authority areas in England). The consultees recommended that further discussions are held post application to discuss the approach to the management of PRoW within the Project site.	Reponses received during the meeting have been used to inform the measures to be implemented as part of the PRoW Management Plan, which will be prepared in general accordance the Outline PRoW Management Strategy **[EN010147/APP/7.6.1]** submitted with the DCO application. The measures to be implemented as part of the PRoW Management Plans seek to minimise impacts on public footpaths, bridleways and other promoted routes (e.g., NCRs, Long Distance Footpaths) during construction of the Transmission Assets.

17.4 Assessment Methodology

Relevant Guidance

17.4.1 The assessment of agricultural land use and PRoW has been undertaken in accordance with the methodology set out in Volume 1, Chapter 4: Approach to Environmental Assessment of the ES in addition to the following guidance, where appropriate:

- Design Manual for Roads and Bridges (DMRB) Volume 11, LA109: Geology and Soils (Highways England *et al.,* 2019);
- DMRB Volume 11, LA112: Population and Human Health (Highways England *et al.,* Revision 1 2020b);
- Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Defra, 2009);
- Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land. Ministry of Agriculture, Fisheries and Food (MAFF) (1988);
- Institute of Environmental Management and Assessment (IEMA) IEMA Guide: A New Perspective on Land and Soil in Environmental Impact Assessment (IEMA, 2022);
- Agricultural Land Classification: protecting the best and most versatile agricultural land (TIN049) (Natural England, 2012); and
- Guide to Assessing Development Proposals on Agricultural Land (Natural England, 2021).

Scope of the Assessment

17.4.2 The scope of this ES has been developed in consultation with relevant statutory and non-statutory consultees as detailed in **Table 17.4** and **Table 17.5**. Taking into account the scoping and consultation process, **Table 17.6** summarises the issues considered as part of this assessment.

Table 17.6: Issues considered within this assessment

Activity	Potential effects scoped into the assessment
Construction and decommissioning	
Temporary land take associated with construction and decommissioning the Project, including temporary construction compounds, temporary field compounds and HDD compounds.	The temporary loss of best and most versatile land
	The temporary disruption caused to the operation of farm holdings
	The temporary impact on the recreational use of PRoW
	The permanent loss of best and most versatile land

Activity	Potential effects scoped into the assessment
Permanent land take associated with construction and decommissioning the Project, including Solar PV Modules, Power Converter Stations, High Voltage Transformers, including switchgear, onsite cabling (33kV and 275kV), National Grid Electricity Transmission (NGET) 400kV substation, fencing, security cameras and lighting, new vehicular access and internal access tracks, new green infrastructure and new footpaths and cycleways.	The permanent disruption caused to the operation of farm holdings
	The permanent impact on the recreational use of PRoW

17.4.3 Effects which are not considered likely to be significant have been scoped out of the assessment. A summary of the effects scoped out is presented in **Table 17.7**.

Table 17.7: Issues scoped out of the assessment

Issue	Justification
The temporary and permanent loss of best and most versatile land during operation and maintenance of the Project.	There would be no works during the operation and maintenance phase of the Project that would result in the temporary or permanent loss of best and most versatile land. In addition, it is proposed that soils located below the solar panels will be retained and made available for grazing during operation of the Project. On this basis, the temporary and permanent loss of best and most versatile land during operation and maintenance of the Project is unlikely to result in likely significant effects and has been scoped out the assessment in this Chapter of the ES.

Study area

17.4.4 The agricultural land use and PRoW Study Area (hereafter referred to as 'the Study Area') comprises all land within the Project site. The following aspects of the environment have been considered within the Study Area:

- Soil types and patterns of soils, including relevant topographic and climatic data;
- The quality of agricultural land within the Study Area, in accordance with the Ministry of Agriculture, Fisheries and Food (MAFF) Agricultural Land Classification (ALC) of England and Wales Revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988), including 'best and most versatile' Grade 1, 2 and 3a ALC land;
- Farm holdings and/or enterprises;
- PRoW and other promoted routes (e.g., NCRs, Long Distance Footpaths); and
- Users of PRoW, including pedestrians, cyclists, equestrians and other forms of recreational users.

17.4.5 With regard to farm holdings and/or enterprises, the ownership boundaries of farms with land that falls within the Project site have been used to inform the assessment. This is because potential impacts to the entire land holding have been considered, which may extend beyond the Project site.

17.4.6 The location and geographic extent of the Study Area is shown in Volume 2, Figures, Figures 17.1 to 17.5 of this chapter of the ES. The study area was selected on the basis that it presents the maximum area within which potential impacts to agricultural land and PRoW were considered likely to occur during construction, operation and maintenance and decommissioning of the Project.

Methodology for Baseline Studies

Desk studies

17.4.7 A comprehensive desk-based review was undertaken to inform the baseline for agricultural land use and PRoW. The existing studies and datasets referred to as part of the desk-based review are summarised in **Table 17.8.**

17.4.8 Further detail regarding baseline data sources used to inform this chapter of the ES is provided in Volume 3, Annex 6.1: Published agricultural land classification and soils data technical report and Volume 3, Annex 6.3: Published recreational resources plan technical report of the ES.

Table 17.8: Summary of desk study sources used

Title	Source	Year	Author
Agricultural Land Classification Grades - Post 1988 (England).	Natural England	2017	Natural England
Agricultural Land Classification, Provisional Sheets 145 Banbury (1974) and 158 Oxford & Newbury (1971) 1:63,360	Ministry of Agriculture Fisheries and Food	1971 and 1974	Ministry of Agriculture Fisheries and Food
BGS Sheet 236 Witney 1:63:360	British Geological Survey	1972	British Geological Survey
British Geological Survey Geology Viewer	British Geological Survey	2023	British Geological Survey
British Geological Survey Sheet 218 Chipping Norton 1:63,360, published in 1968.	British Geological Survey	1968	British Geological Survey
Defra – Agricultural Annual Statistics on structure of the agricultural industry at 1 June 2021.	Defra	2022	Defra
Meteorological Office Climatological Data for ALC. Gridpoint datasets of climatic variables, at 5 kilometre (km) intervals for England and Wales.	The Meteorological Office	1989	The Meteorological Office Soil Survey and Land Research Centre

Title	Source	Year	Author
Multi-agency Geographic Information for the Countryside (MAGIC).	MAGIC	2024	Defra
National Soil Map of England and Wales, Sheet 6 (Eastern England), 1:250,000 and accompanying Regional Bulletin	Soil Survey of England and Wales	1984	Soil Survey of England and Wales
National Trails mapping data.	National Trails	2024	National Trails
NCR map data of signed paths and routes for walking, wheeling, cycling and exploring outdoors.	Sustrans	2024	Sustrans
Oxfordshire County Council Countryside Access Map for PRoW and other promoted routes	Oxfordshire County Council	2024	Oxfordshire County Council
Provisional ALC (England).	Natural England	2017	Natural England

Site-specific surveys

ALC and Soil Survey

17.4.9 An ALC and soil survey has been undertaken by Reading Agricultural Consultants Ltd across much of the agricultural land within the Project site. Areas where the survey has not been completed include areas where dry soil conditions have limited the ability to survey certain areas or crop conditions have prevented survey access. Areas of land subject to ALC and soil surveys within the Project site are shown on Volume 3, Figures, Figure 17.3 of the ES.

17.4.10 The survey has been undertaken in two phases. Initially a survey was undertaken in 2023 with samples taken with a dutch hand auger to a maximum depth of 1.2 m taken at 1 boring per 2 ha of land. In addition, soil pits were excavated by hand within identified soil units to determine soil characteristics relevant to the classification of the land.

17.4.11 Following this initial survey work, further survey was undertaken in 2024 to examine additional auger boring around locations of observations where the delineation of areas of ALC grades required further clarification. The results of this survey work is considered in this Chapter of the ES and presented in detail within Volume 3, Appendix 17.1: Agricultural land classification and soil survey report of the ES.

Public Rights of Way Survey

17.4.12 Recreational user surveys have also been undertaken between May and August 2024 at several locations on the PRoW network within the Study Area. The objectives of these user surveys have been to:

- Provide an understanding of the existing use of these routes to inform the baseline data for the assessment of the Project;
- Provide an understanding of the potential effects on users of the PRoW network because of the Project; and
- Inform the development of mitigation measures and/or enhancement proposals in relation to the provision of facilities for Non-Motorised Users (NMUs).

17.4.13 The findings of the PRoW user surveys undertaken in 2024 are presented in Appendix B of the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**.

17.5 Assessment Criteria and Assignment of Significance

Overview

17.5.1 The significance of an effect is determined based on the sensitivity of a receptor and the magnitude of an impact. This section describes the criteria applied in this chapter to characterise the sensitivity of receptors and magnitude of potential impacts. The terms used to define magnitude and sensitivity are based on and have been adapted from those used in the Design Manual for Roads and Bridges (DMRB) methodology (Highways England *et al.,* 2020).

17.5.2 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. This section describes the criteria applied in this chapter to assign values to the magnitude of potential impacts and the sensitivity of the receptors. The terms used to define magnitude and sensitivity are based on those which are described in further detail in Volume 1, Chapter 4: Approach to Environmental Assessment of the ES.

17.5.3 The criteria for defining magnitude in this chapter have been taken from DMRB LA 109 Geology and Soils (Highways England *et al*., 2020a) and DMRB LA 112 Population and Human Health (Highways England *et al.,* 2020b).

Receptor Value and Sensitivity

17.5.4 The criteria for defining sensitivity in this chapter are outlined in Table 17.9 below.

Table 17.9: Sensitivity criteria

Sensitivity	Sub-topic	Definition
Very High	Agricultural land use	**Soils:** • ALC Grade 1 (excellent quality) agricultural land; and • ALC Grade 2 (very good quality) agricultural land.
		Agricultural land holdings: • land in which the enterprise is wholly reliant on the spatial relationship of land to key agricultural infrastructure; and • access between land and key agricultural infrastructure is required on a frequent basis (daily).
	PRoW and other promoted routes	**Walkers, cyclists, and equestrians:** • National trails and other linear routes likely to be used for both commuting and recreation that record frequent (daily) use. Such routes connect communities with employment land uses and other services with a direct and convenient route. Little/no potential for substitution. • Routes regularly used by vulnerable travellers such as the elderly, school children and people with disabilities, who could be disproportionately affected by small changes in the baseline due to potentially different needs. • Rights of way crossing roads at grade with >16,000 vehicles per day.
High	Agricultural land use	**Soils:** • ALC Grade 3a (good quality) agricultural land.
		Agricultural land holdings: • land in which the enterprise is dependent on the spatial relationship of land to key agricultural infrastructure; and • access between land and key agricultural infrastructure is required on a frequent basis (weekly).
	PRoW and other promoted routes	**Walkers, cyclists, and equestrians:** • regional trails and routes likely to be used for recreation and to a lesser extent commuting, that record frequent (daily) use; • Limited potential for substitution; and • rights of way crossing roads at grade with >8,000 – 16,000 vehicles per day.
Medium	Agricultural land use	**Soils:** • ALC Grade 3b (moderate quality) agricultural land.
		Agricultural land holdings: • land in which the enterprise is partially dependent on the spatial relationship of land to key agricultural infrastructure; and • access between land and key agricultural infrastructure is required on a reasonably frequent basis (monthly).
	PRoW and other	**Walkers, cyclists, and equestrians:** • PRoW and other routes close to communities which are used for recreational purposes, but for which alternative routes can be taken;

Sensitivity	Sub-topic	Definition
	promoted routes	• these routes are likely to link to a wider network of routes to provide Options for longer recreational journeys; and • rights of way crossing roads at grade with >4,000 – 8,000 vehicles per day.
Low	Agricultural land use	**Soils:** • ALC Grade 4 (poor quality) agricultural land; and • ALC Grade 5 (very poor quality) agricultural land.
		Agricultural land holdings: • land in which the enterprise is not dependent on the spatial relationship of land to key agricultural infrastructure; and • access between land and key agricultural infrastructure is required on an infrequent basis (monthly or less).
	PRoW and other promoted routes	**Walkers, cyclists, and equestrians:** • routes which have fallen into disuse through past severance, or which are scarcely used because they do not currently offer a meaningful route for utility/recreational purposes; and • rights of way crossing roads at grade with <4,000 vehicles per day.
Negligible	Agricultural land use	**Soils:** • previously developed land with little potential to return to agriculture.
		Agricultural land holdings: • areas of land which are infrequently used on a non-commercial basis.
	PRoW and other promoted routes	**Walkers, cyclists, and equestrians:** • N/A.

Magnitude of Impact

17.5.5 The criteria for defining magnitude in this chapter are outlined in Table 17.10 below.

Table 17.10: Impact magnitude criteria

Magnitude of impact	Sub-topic	Definition
High	Agricultural land use	**Soils:** • physical removal or permanent sealing of more than 20 hectares (ha) of agricultural land.
		Agricultural land holdings: • loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features, or elements (e.g. direct acquisition and demolition of buildings and direct development of land to accommodate highway assets); and

Magnitude of impact	Sub-topic	Definition
		• introduction (adverse) or removal (beneficial) of complete severance with no/full accessibility provision.
	PRoW and other promoted routes	**Walkers, cyclists, and equestrians:** • >500m increase (adverse) or decrease (beneficial) in journey length.
Medium	Agricultural land use	**Soils:** • physical removal or permanent sealing on 1 to 20 ha of agricultural land; and • permanent loss/reduction of one or more soil function(s) and restriction to current or approved future use.
		Agricultural land holdings: • partial loss of/damage to key characteristics, features, or elements (e.g. partial removal or substantial amendment to access or acquisition of land compromising the viability of agricultural holdings); and • introduction (adverse) or removal (beneficial) of severe severance with limited/moderate accessibility provision.
	PRoW and other promoted routes	**Walkers, cyclists, and equestrians:** • >250m-500m increase (adverse) or decrease (beneficial) in journey length.
Low	Agricultural land use	**Soils:** • temporary loss/reduction of one or more soil function(s) and restriction to current or approved future use.
		Agricultural land holdings: • a discernible change in attributes, quality or vulnerability, or alteration to one (maybe more) key characteristics, features, or elements (e.g. amendment to access or acquisition of land resulting in changes to the operating conditions that do not compromise overall viability of agricultural holdings); and • introduction (adverse) or removal (beneficial) of severance with adequate accessibility provision.
	PRoW and other promoted routes	**Walkers, cyclists, and equestrians:** • >50 m-250 m increase (adverse) or decrease (beneficial) in journey length.
Negligible	Agricultural land use	**Soils:** • no discernible loss/reduction in soil function(s) that restrict current or approved future use.
		Agricultural land holdings: • very minor loss or detrimental alteration to one or more characteristics, features, or elements (e.g. acquisition of non-operational land or buildings not directly affecting the viability of agricultural holdings); and • very minor introduction (adverse) or removal (beneficial) of severance with ample accessibility provision.

Magnitude of impact	Sub-topic	Definition
	PRoW and other promoted routes	**Walkers, cyclists, and equestrians:** • <50 m increase (adverse) or decrease (beneficial) in journey length.
No change	Agricultural land use	**Soils:** • no loss/reduction of soil function(s) that restrict current or approved future use.
		Agricultural land holdings: • no loss or alteration of characteristics, features, or elements or accessibility; no observable impact in either direction.
	PRoW and other promoted routes	**Walkers, cyclists, and equestrians:** • no loss or alteration of characteristics, features, elements, or accessibility; no observable impact in either direction.

Duration of impacts

17.5.5.1 The criteria for describing the duration of impacts in this chapter are outlined in **Table 17.11** below.

Table 17.11: Duration of impacts

Definition	Duration of impact	Definition
Temporary	Short term	Period of months, up to one year.
	Medium term	Period of more than one year, up to five years.
	Long term	Period of greater than five years.
Permanent	Operational lifetime	An impact that occurs throughout the operational lifetime of permanent above ground infrastructure, including the substation.

17.5.6 For the purposes of the agricultural land use and PRoW assessment, it is considered that construction of the temporary construction compounds, temporary field compounds and HDD compounds would result in temporary impacts (short, medium and long term) on agricultural land use and PRoW.

17.5.7 Conversely, construction of the Solar PV Modules, Power Converter Stations, High Voltage Transformers, including switchgear, onsite cabling (33kV and 275kV), National Grid Electricity Transmission (NGET) 400kV substation, fencing, security cameras and lighting, new vehicular access and internal access tracks, new green infrastructure and new footpaths and cycleway would result in permanent impacts on agricultural land use and PRoW.

Significance of effect

17.5.8 The significance of the effect upon agricultural land use and PRoW has been determined by taking into account the sensitivity of the receptor and the magnitude of the impact. The method employed for this assessment is presented in **Table 17.12**. Where a range of significance levels is presented, the final assessment for each effect is based upon expert judgement.

17.5.9 In all cases, the evaluation of receptor sensitivity, impact magnitude and significance of effect has been informed by professional judgement and is underpinned by narrative to explain the conclusions reached.

17.5.10 For the purpose of this assessment, any effects with a significance level of minor or less are not considered to be significant in terms of the EIA Regulations.

Table 17.12: Assessment matrix

Sensitivity of Receptor	Magnitude of Impact				
	No Change	Negligible	Low	Medium	High
Negligible	Negligible	Negligible	Negligible or Minor	Negligible or Minor	Minor
Low	Negligible	Negligible or Minor	Negligible or Minor	Minor	Minor or Moderate
Medium	Negligible	Negligible or Minor	Minor	Moderate	Moderate or Major
High	Negligible	Minor	Minor or Moderate	Moderate or Major	Major
Very High	Negligible	Minor	Moderate or Major	Major	Major

17.5.11 Where the magnitude of impact is 'no change', no effect would arise. The definitions for significance of effect levels are described as follows:

- Major: These beneficial or adverse effects are considered to be very important considerations and are likely to be material in the decision-making process. These effects are generally, but not exclusively, associated with sites or features of international, national or regional importance that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also enter this category. Effects upon human receptors may also be attributed this level of significance.
- Moderate: These beneficial or adverse effects have the potential to be important and may influence the key decision-making process. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse or beneficial effect on a particular resource or receptor.
- Minor: These beneficial or adverse effects are generally, but not exclusively, raised as local factors. They are unlikely to be critical in the decision-making process but are important in enhancing the subsequent design of the project.
- Negligible: No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.
- No change: No loss or alteration of characteristics, features or elements; no observable impact in either direction.

Assumptions and limitations of the assessment

17.5.12 There are no limitations that affect the assessment of the Project on agricultural land use and PRoW.

17.6 Baseline Environment Conditions

Agricultural Land Quality and Soils

Location and Site

17.6.1 The Study Area occupies 1418.2 ha of land, of which 1,351.2 ha comprises agricultural land distributed over three broad locations:

- land between Wootton and Tackley;
- land west of Yarnton and north of Cassington; and
- land west of Botley at Oxford.

17.6.2 The land within the Study Area is predominantly utilised for arable cultivation. The main areas of grassland within the Study Area are located adjacent to the River Dorn and around Burleigh Wood.

17.6.3 Across the Study Area, the overall topography is gently undulating at altitudes between around 65 m and 120 m Above Ordnance Datum (AOD). The altitude generally falls with distance south, other than into the river valleys. The slopes are shallow and are not limiting to agricultural land quality.

17.6.4 Drainage within the Study Area is currently achieved via a combination of the slopes and field ditches, which act to direct water into the valleys of the River Dorn, River Evenlode and River Thames.

Climatic Conditions

17.6.5 Agro-climatic data for the Study Area have been interpolated from the Meteorological Office's standard 5 km grid point dataset at seven representative points and altitudes, which are presented in **Table 17.13** below.

17.6.6 Agro-climatic data indicates that the Study Area is moderately warm with moderate rainfall. Moisture deficits are moderate to moderately large. The number of Field Capacity Days (the number of days where the soil is above field capacity) is about average for lowland England (150) and is favourable for providing opportunities for agricultural field work. There is no overriding climatic limitation to agricultural land quality.

Table 17.13: Climatic Data at locations within the Study Area

Parameter	Locations						
	1	2	3	4	5	6	7
Easting	445679	445533	446186	444715	443878	443121	445925
Northing	220800	219000	217800	213720	213011	212275	205378

Parameter	Locations						
	1	2	3	4	5	6	7
Altitude	110 m	95 m	98 m	85 m	68 m	75 m	75 m
Average Annual Rainfall	701 mm	691 mm	685 mm	682 mm	668 mm	673 mm	646 mm
Accumulated Temperatures >0°C	1,383 day°	1,400 day°	1,397 day°	1,414 day°	1,434 day°	1,427 day°	1,427 day°
Field Capacity Days	153 days	151 days	149 days	148 days	146 days	146 days	136 days
Average Moisture Deficit, wheat	99 mm	102 mm	102 mm	104 mm	106 mm	105 mm	110 mm
Average Moisture Deficit, potatoes	89 mm	92 mm	92 mm	95 mm	99 mm	97 mm	103 mm

Soil parent material and soil type

17.6.7 The underlying geology (provided by the British Geological Survey) across most of the Study Area, from Burleigh Wood and south, comprises the Oxford Clay Formation and the West Walton Formation mapped together as one unit.

17.6.8 The Oxford Clay Formation includes grey silicate mudstone with sporadic limestone nodules. The West Walton Formation includes calcareous mudstone, silty mudstone, and siltstone, with some fine-grained sandstones and limestone or siltstone nodules.

17.6.9 Narrow bands of mudstone and sandstone of the Kellaways Formation mark the boundary to separate units of the Forest Marble Formation and the Cornbrash Limestone Formation which occur north, west and south of Burleigh Wood and generally west of the River Evenlode where the topography is flatter. The Forest Marble Formation has variably calcareous silicate-mudstone with cross-bedded limestone units, with some parts dominated by the limestone. The Cornbrash Formation is characterised by fine- to medium-grained limestone.

17.6.10 In the northern part of the Study Area, between Wootton and Tackley, the bedrock is predominantly a mix of the Forest Marble Formation and the Cornbrash Formation, with the addition of the White Limestone Formation in the west, comprising pale grey to off-white or yellowish limestone with localised variations in composition. A small area of the Hampen Formation limestone is mapped at Sansom's Platt.

17.6.11 Superficial deposits mainly comprise pockets of sand and gravel formations mapped between Cassington and Burleigh Road. Superficial deposits of alluvium are mapped in conjunction with the River Evenlode. A small pocket of

head deposits is mapped on the north side of the B4027, east of Stratford Lane.

17.6.12 Soil mapping (1:250,000 scale) (Soil Survey of England and Wales, 1984), indicates that the Study Area comprises the following soil associations:

- Elmton 1 association (343a), which is located across much of the northern part of the Study Area and is characterised by shallow, well drained, brashy, calcareous fine loamy soils over limestone;
- Elmton 3 association (343c), which is also located in the north of the site, characterised by shallow, well drained, brashy, calcareous fine loamy soils over limestone but including some deeper, slowly permeable, seasonally waterlogged and mainly calcareous clayey soils;
- Aberford association (511a), which is located across the remainder of the northern part of the Study Area and includes soils similar to the Elmton 1 association but is only locally brashy;
- Denchworth association (712b), which forms most of the central part of the Study Area, between Yarnton and Cassington in the south at Farmoor and characterised by seasonally waterlogged, clayey soils;
- Essendon association (714d), which is located around Bladon Heath and comprises seasonally waterlogged, coarse loamy over clayey soils;
- Sutton 1 association (571u) in patches on river terraces west of Carsington and Kidlington and comprising well drained, fine and coarse loamy soils that are locally calcareous and in places shallow over gravel;
- Badsey 1 association (511h), which is located west of Cassington and west of Lower Road and characterised by well drained, calcareous and non-calcareous, fine loamy soils over limestone gravel;
- Kelmscot association (832) north east of Eynsham, characterised by calcareous, fine loamy soils over gravel that are variably affected by groundwater, and associated with non-calcareous, clayey soils over gravel on flat land; and
- Fladbury 1 association (813b), which is located in the valley of the River Evenlode, comprising stoneless, clayey soils variably affected by groundwater.

17.6.13 The location and geographic extent of soil associations within the Study Area are presented in Volume 2, Figures, Figure 17.6 of the ES **[EN010147/APP/6.4]**.

Published ALC Data

17.6.14 Volume 2, Figures, Figure 17.1 **[EN010147/APP/6.4]** contains two sources of published data on ALC, including:

- MAFF Provisional ALC mapping; and
- Sites where post-1988 ALC revision surveys have been undertaken by Defra.

17.6.15 The provisional mapping shows the distribution of ALC grades 1 to 5 but is based on reconnaissance survey work and was produced prior to the comprehensive revision of the ALC system in 1988. Although the provisional mapping provides an indication of the likely relative grading of areas of agricultural land, it cannot be used to accurately identify the detailed grading of individual areas and does not provide a subdivision of Grade 3 land into Subgrades 3a best and most versatile land and Subgrade 3b, which comprises lower quality land.

17.6.16 Based on the provisional ALC mapping, the percentages of the ALC grades (1-5) within Oxfordshire compared to England are presented in Table 17.14 below.

Table 17.14: Provisional ALC Mapping for Oxfordshire and England

ALC Grade	Quality	Agricultural Land - Oxfordshire (%)	Agricultural land - England (%)
1	Excellent	0.7	3.3
2	Very good	20.2	16.7
3	Good to moderate	58.5	54.0
4	Poor	20.1	15.7
5	Non-agricultural or urban	0.5	10.3

17.6.17 Provisional ALC mapping indicates that land within the Oxfordshire comprises a similar area of Grades 1, 2 and 3 land to England as a whole, but with a slightly higher percentage of Grade 2 land.

17.6.18 Detailed ALC survey work carried out by Defra, more recently, applying the post-1988 ALC Guidelines, only comprises a small area of land within the Study Area which has been graded a mixture of mainly lower quality Subgrade 3b land, together with smaller areas of Grade 2 and 3b land.

17.6.19 The quality of agricultural land determined by detailed post-1988 ALC surveys within the Study Area is provided in Volume 2, Figures, Figure 17.1 of the ES.

17.6.20 In addition, in 2017 Natural England produced predictive BMV land assessment maps, showing the potential location of areas of best and most versatile land. These maps divided the potential for BMV agricultural land into three distinct categories:

1. Low likelihood of BMV land (<20% area BMV);
2. Moderate likelihood of BMV land (20-60% area BMV); and
3. High likelihood of BMV land (>60% area BMV).

17.6.21 Volume 2, Figures, Figure 17.2 shows the distribution of these categories across the Study Area.

17.6.22 The area and percentage of predictive ALC grades of agricultural land within the Study Area, according to the predictive BMV land assessment maps (Natural England, 2017) are provided below.

Table 17.15: Predictive ALC Grades within the Study Area

ALC Predictive Grade	Area (ha)	Percentage (%)
Low likelihood of BMV land (<20% area BMV)	808	58
Moderate likelihood of BMV land (20-60% area BMV)	562.0	40
High likelihood of BMV land (>60% area BMV)	30	2
Total	1400	**100**

17.6.23 Within 58% of the Study Area, there is a low likelihood of BMV land being identified and the areas would be predicted to comprise predominantly lower quality Subgrade 3b or lower quality land. The combined area of land with a likelihood of 20% or greater for BMV agricultural land within the Study Area is predicted to be approximately 592 ha or 42%.

Agricultural Land Use

17.6.24 The Defra geographical breakdown series dataset for England (Defra, 2021) provides local authority statistical data for agricultural land use. The agricultural land within the Study Area comprises land within the districts of West Oxfordshire, Vale of White Horse and Cherwell.

Table 17.16: Statistical data for agricultural land use

Districts	Cereals		Fruit and Vegetables		Grassland		Total Farmed Area
	Area (ha)	Coverage (%)	Area (ha)	Coverage (%)	Area (ha)	Coverage (%)	Area (ha)
Cherwell	18,131	49	1,346	4	17,488	47	**47,507**
Vale of White Horse	18,552	57	120	<1	13,697	42	**43,378**
West Oxfordshire	21,825	54	80	<1	18,132	45	**53,974**
Total for three Districts	58,508	54	1,546	1	49,137	45	**144,859**

Districts	Cereals		Fruit and Vegetables		Grassland		Total Farmed Area
	Area (ha)	Coverage (%)	Area (ha)	Coverage (%)	Area (ha)	Coverage (%)	Area (ha)
England	2,691,749	38	119,104	2	4,313,954	60	**8,975,549**

17.6.25 The statistical data indicates that the land within the three districts within the Study Area comprises a higher percentage of cereal cropping than the England average. The area of land within the Project is predominantly in arable cropping.

17.6.26 The Defra publication Agriculture in the UK 2023, estimates that domestic wheat production is of the order of 14million tonnes per year, at approximately 8 tonnes per hectare.

17.6.27 On the assumption that approximately 1351.2 ha of the Study Area comprises agricultural land that is used predominantly for arable cultivation, at 8 tonnes per hectare, this would produce in the order of 10,839 tonnes of wheat/annum.

17.6.28 The Government Dataset for Agricultural Land Use in the United Kingdom provides historic data on trends in agricultural land use since 2010. This data shows that the total area of agricultural land has remained stable across this period with the utilised agricultural area varying between 70 and 72% of the total area of the UK. The Oxfordshire Food Strategy (2022) identified that approximately 74% of Oxfordshire land area is agricultural being mainly cereals. The total croppable area has also remained consistently around 6 million hectares. Despite variations in yields from year to year, often affected by weather or particular market conditions, or the implementation of changes in land use related to individual developments, the cropped area of land has remained stable within the UK.

17.6.29 The agricultural land within the Study Area forms part of 10 known land holdings as shown on Volume 2, Figures, Figure 17.4.

17.6.30 The land is currently predominantly in arable use, with the main areas of grassland situated to the north of the Thames close to Swinford Bridge.

17.6.31 Most of the land within the Project forms part of Blenheim Estate (Holding 1), which is a substantial land holding comprising a total of approximately 4900 ha (12,000 acres) of land. The land affected within the Study Area comprises predominantly arable land, with the majority of it farmed on contract farming agreements, with two small areas still operating on farm business tenancy agreements that end by the middle of 2025.

17.6.32 In addition to the arable land within the Project, the wider Blenheim Estate comprises a number of diverse farming businesses including a sheep flock of c.1,000 ewes, producing c.1,700 lambs each year and employing two full time shepherds. They also run a herd of British White cattle specifically for conservation grazing in the Site of Special Scientific Interest (SSSI) High Park. Together, livestock at Blenheim are managed using regenerative farming

techniques and predominantly graze permanent pastures, flood meadows, conservation sites, SSSI's and the 2,000 acre World Heritage Site. The Scotch Mule breed of sheep that Blenheim use is suited to extensive and conservation sites with the beef and lamb produced sold locally through the Palace restaurants, local butchers and other regional outlets. Where not grazed, grassland at Blenheim is left to be cut for hay by local farmers or managed as wildflower meadows through their various partnerships to promote biodiversity.

17.6.33 The area identified as Holding 2, comprises approximately 55.5 ha of land and forms part of a larger land holding of approximately 285 ha that is all within the ownership of one farmer and situated across several land parcels remote from Holding 2. Holding 2 is used for an arable based enterprise, which is run by the main owner with assistance from two further employees.

17.6.34 The area identified as Holding 3, comprises approximately 80.5 ha of arable land and forms part of a larger land holding of approximately 215 ha of land within the ownership of the holding. The holding is a family operated enterprise run by the father with part time assistance from his two sons. The father is considering retirement and the holding would be passed to his two sons to operate it at that point. The holding is predominantly farmed on an arable rotation including wheat, maize and beans.

17.6.35 The remaining known landholdings that are affected by the Project are located where temporary cable routing works may be required. The areas of land within each of these holdings included within the Study Area are approximately as follows:

- Landholding 4 – approximately 8.37ha
- Landholding 5 – approximately 33.21 ha
- Landholding 6 – approximately 0.07ha
- Landholding 7 – approximately 3.43ha
- Landholding 8 – approximately 3.55ha
- Landholding 9 – approximately 10ha
- Landholding 10 – approximately 5.29ha
- Unregistered land where freeholder unknown – 1.25ha

Site-specific surveys

17.6.36 The results of the ALC and soil surveys undertaken are provided in Volume 3, Appendix 17.1: Agricultural land classification and soil survey report **[EN010147/APP/6.5]** and presents the results of the ALC survey work, including auger boring and soil pit surveys, which has been used to determine the distribution of soil types across the Study Area. The distribution of ALC grades within the Study Area according to the ALC surveys are shown in Volume 2, Figures, Figure 17.3 of the ES **[EN010147/APP/6.4]**.

17.6.37 The areas and percentages of ALC Grades across the Study Area as identified by the ALC Survey work undertaken are presented in Table 17.17 below.

Table 17.17: ALC Site survey results

ALC Grade	Quality	Area (ha)	Percentage%
1	Excellent	2.1	0.2
2	Very good	96.9	7.2
3a	Good	391.2	29
3b	Moderate	797.0	59
Non Agricultural	Non Agricultural	64.0	4.6
Total surveyed		**1351.2**	**100.00**
Total un-surveyed agricultural land		67.0	
Total area of land within the Project site	1418.2		

17.6.38 The ALC survey work that has been undertaken to date has identified that:

- approximately 36.4% of the land surveyed to date comprises land within the category of BMV agricultural land (ALC Grades 1-3a); and
- approximately 59% of the land surveyed to date comprises lower quality Subgrade 3b agricultural land.

17.6.39 The results of the ALC survey work carried out to date are generally consistent with the patterns of soil types and ALC gradings indicated by the published ALC data, with a higher percentage of lower quality Subgrade 3b land across the Study Area (see Volume 2, Figures, Figure 17.1. In addition, much of the land that is identified as BMV agricultural land (i.e. ALC Grades 1-3a) is graded as being in the lowest quality of that category (Subgrade 3a land).

Public Rights of Way

Desk Top Information

17.6.40 PRoW and other promoted routes, including NCRs, Long Distance Paths, footpaths and bridleways located within Study Area that could be affected during the construction, operation and maintenance and decommissioning of the Project are set out in Table 17.18 below.

17.6.41 The location and geographic extent of PRoW and other promoted routes within the Study Area are presented in Volume 2, Figures, Figure 17.5 of the ES **[EN010147/APP/6.4]**.

Table 17.18: PRoW and other promoted routes located within the Study Area

Type	Local Authority Area(s)	Reference	Total length within the Project site (m)
Bridleway	Cherwell District Council	342/1/20	8.75
		342/2/10	58.64
		342/2/20	79.47
	West Oxfordshire District Council	132/5/10	280.72
		206/11/40	307.33
		206/23/20	24.16
		206/23/30	203.84
		206/8/20	4.36
		206/8/30	3.08
		206/9/10	0.01
		365/20/40	152.23
		379/23/10	49.86
		413/5/20	1.89
		413/5/30	61.46
		413/5/40	18.64
		413/5/50	95.21
		413/6/10	56.02
		416/11/10	676.37
		416/11/20	1437.41
		416/11/30	488.60
		416/11/40	60.87
		416/21/10	702.44
		416/21/20	42.19
	Cherwell District Council, West Oxfordshire District Council	124/4/10	209.55
		342/1/10	629.42
Footpath	Cherwell District Council	124/12/10	30.27
		265/24/20	476.68
		265/25/10	187.01
		265/26/10	670.01
		265/34/10	442.66
		342/4/10	41.03
		342/5/10	19.50

Type	Local Authority Area(s)	Reference	Total length within the Project site (m)
		342/5/20	22.37
		342/6/10	749.84
	Vale of White Horse District Council	184/15/20	7.69
		184/15/30	583.36
		184/16/20	499.62
		184/22/20	480.05
		184/29/10	387.69
		184/30/30	2.25
		184/30/40	433.71
		184/36/10	338.04
		184/37/10	290.00
		184/46/10	0.19
		184/50/10	0.20
		184/50/20	1.93
	West Oxfordshire District Council	132/10/10	108.68
		132/3/10	432.61
		132/4/10	1234.87
		132/6/10	731.87
		152/6/10	1923.29
		152/7/10	1020.60
		152/8/10	956.33
		206/5/20	7.94
		238/1/10	308.79
		238/2/10	3.25
		238/2/20	540.77
		238/4/10	52.65
		238/5/20	390.60
		379/1/30	55.67
		416/10/20	0.01
		416/10/30	8.22
		416/22/10	67.14
		416/24/10	278.47
		416/5/10	828.30

Type	Local Authority Area(s)	Reference	Total length within the Project site (m)
		416/5/20	393.88
	Cherwell District Council, West Oxfordshire District	124/5/10	273.13
		132/1/10	184.62
		132/2/10	388.30
		265/24/10	189.31
		420/15/30	1.13
NCR 5	Cherwell District Council, West Oxfordshire District	NCR 5	3867.43
Long Distance Footpath	Cherwell District Council, West Oxfordshire District	Shakespeare's Way	486.48
	Vale of White Horse District Council	Oxford Green Belt Way	889.54

17.6.42 In addition to the definitive PRoW and other promoted routes (e.g. NCR 5, Shakespeare's Way and Oxford Green Belt Way), the Project site also coincides with a small section of a permissive public footpath, Wharf Stream Way. Unlike definitive PRoW, permissive routes do not have a permanent right of access and the landowner can withdraw permission at any time.

PRoW User Surveys

17.6.43 Recreational user surveys have also been undertaken between May and August 2024 at several locations on the PRoW network within the Study Area.

17.6.44 The location and findings of the PRoW user surveys undertaken in 2024 are presented in Appendix B of the Outline Public Rights of Way Management Strategy **[EN010147/APP/7.6.1]**.

17.6.45 The results of the PRoW user surveys suggest that PRoW and other promoted routes within the Study Area are subject to regular usage by local residents in the area (more than once a week), predominantly consisting of individuals or small groups of walkers (between 2 to 3 individuals).

Future baseline conditions

17.6.46 A report prepared for Defra and the Welsh Government 2014, based on research undertaken by Cranfield University and ADAS (Keay et al., 2014) considers the impact of climate change on the capability of land for agriculture. In terms of the quality of agricultural land and the proportions on BMV land, the findings of the report 'suggest that the greatest impact on the proportion of BMV in England and Wales will take place after 2030'.

17.6.47 For sites which are affected by soil wetness, the report concluded that the quality of the land would be 'Largely unaffected over most of England and Wales mainly because, even though the start and end dates of field capacity are likely to change, the duration remained constant'. Where droughtiness is the main limitation, the retention of high quality land would be likely to become

more dependent on the use of irrigation to maintain productivity and versatility in agricultural land use.

17.6.48 The report concludes that 'the findings of this Project do not undermine the current use of the ALC system within land use planning'. In this case therefore, where soil wetness is the main limiting factor, the quality of the land would, based on this recent research, be unlikely to be significantly affected by climate change.

17.6.49 Section 6.5.1 of the IEMA Guide: A New Perspective on Land and Soil in Environmental Impact Assessment (IEMA, 2022) notes that changes to weather patterns associated with climate change will have different effects across the UK. There will be an increase in extreme events, shifts in temperature and variations in rainfall.

17.6.50 This could directly affect many soil properties including drainage, soil moisture content, nutrient cycling rates, carbon sequestration and emission rates, and changes in soil leaching, erosion, and run-off. It could also affect soil biodiversity and stability through clay shrinking. There will also be indirect effects due to land use changes, together with socio-economic consequences.

17.6.51 Section 6.5, Table 1 of the IEMA guidance (IEMA, 2022) notes that "for natural and undisturbed agricultural soils, drier conditions could affect their quality and capability, with currently droughty soils being downgraded but wet soils potentially upgraded (with respect to ALC)."

17.6.52 Based on the information available to date and the fact that the 1988 ALC Guidelines are still those currently applied for future planning purposes , no significant changes to the baseline conditions are anticipated with respect to agricultural land and PRoW. Although additional PRoW may be created in the future, the location and nature of these cannot be accurately predicted for the purposes of the assessment.

17.6.53 With regard to future land use, some areas of land within the Study Area are allocated for future development. The potential cumulative effects between the Project and other proposed developments are considered in section 17.10 of this chapter of the ES.

Key receptors

17.6.54 **Table 17.19** identifies the receptors taken forward into the assessment for agricultural land use and PRoW.

Table 17.19: Key receptors taken forward to assessment

Receptor	Description	Sensitivity/value
Agricultural land quality		
BMV agricultural land	Area classified as ALC Grade 1 agricultural land within the land use and PRoW Study Area.	Very high
	Area classified as ALC Grade 2 agricultural land within the land use and PRoW Study Area.	
	Area classified as ALC Grade 3a agricultural land within the land use and PRoW Study Area.	High

Receptor	Description	Sensitivity/value
Other ALC Grades	Area classified as ALC Grade 3b agricultural land within the land use and PRoW Study Area.	Medium
	Area classified as ALC Grade 4 agricultural land within the land use and PRoW Study Area.	Low
	Area classified as ALC Grade 5 agricultural land within the land use and PRoW Study Area.	Negligible
Agricultural land holdings		
Agricultural land holdings	Agricultural land holding(s) where the enterprise is wholly reliant on the spatial relationship of land to key agricultural infrastructure; and access between land and key agricultural infrastructure is required on a frequent basis (daily).	Very high
	Agricultural land holding(s) where land in which the enterprise is dependent on the spatial relationship of land to key agricultural infrastructure; and access between land and key agricultural infrastructure is required on a frequent basis (weekly).	High
	Agricultural land holding(s) where land in which the enterprise is partially dependent on the spatial relationship of land to key agricultural infrastructure; and access between land and key agricultural infrastructure is required on a reasonably frequent basis (monthly).	Medium
	Agricultural land holding(s) where land in which the enterprise is not dependent on the spatial relationship of land to key agricultural infrastructure; and access between land and key agricultural infrastructure is required on an infrequent basis (monthly or less).	Low
PRoW and other promoted routes		
NCR 5	NCR 5 begins in Reading and follows the northern half of the Thames Valley cycle route as it crosses the Chiltern Hills. NCR 5 then passes through Wallingford, Didcot, and Abingdon on the way to Oxford.	Very High
Oxford Greenbelt Way Long Distance Path	Oxford Greenbelt Way is a 50 mile circular path exploring the countryside around the city of Oxford. The route also connects four of Oxford's Park and Ride sites and intersects with several public bus routes.	High
Shakespeare Way Long Distance Path	Shakespeare Way is a 146 mile long distance path between Stratford-upon-Avon and Shakespeare's Globe in London. This long distance route utilises existing PRoW and minor roads.	High
PRoW, including bridleways and footpaths	Multiple designated PRoW, including public footpaths and biredlways intersect the Study Area.	Medium

17.7 Key Parameters for Assessment

Maximum design scenario

17.7.1 The maximum design scenarios identified in **Table 17.20** have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. These scenarios have been selected from the Project Design Envelope provided in Volume 1, Chapter 6: Project Description of the ES. Any other development scenario is considered to have less significant effects, based on details within the Project Design Envelope (e.g., different infrastructure layout), to that assessed here being taken forward in the final design scheme.

Table 17.20: Maximum design scenario considered for the assessment of potential impacts

C=construction, O=operational and maintenance, D=decommissioning

Potential impact	Phase			Maximum Design Scenario	Justification
	C	O	D		
The temporary loss of agricultural land, including BMV land and land from landholdings.	✓	×	✓	**Construction phase** • Construction of the Project is anticipated to last up to approximately 24 months. • The total area of surveyed agricultural land within the DCO boundary is approximately 1351.2 ha. • The maximum total developable area for the solar PV arrays, including the NGET substation is approximately 839 ha, which is divided into the following areas: – Northern site is approximately 247.3 ha; – Central site is approximately 545.2 ha; and – Southern site is approximately 46 ha. • 156 Power Converter Stations (1 per 7 ha), each with a maximum footprint area measuring approximately 14 m x 2.9 m. • Six High Voltage Transformers (secondary substations), each with a maximum footprint area measuring approximately 18 m x 10 m. • DC Cables from Solar PV Modules to Inverters would be buried up to approximately 40-80 cm below ground. • AC Cables from Transformers to Secondary Substation would be buried up to 101 cm (good agricultural land). • One Main Project Substation, with a maximum footprint area measuring approximately 1 ha (156 m x 63 m). • One NGET substation with a maximum site area requirement measuring approximately 3.8 ha. • Four main temporary construction compounds, with one compound measuring approximately 200 m x 200 m and the remaining three compounds measuring 100 m x 200 m.	The maximum design scenario (MDS) considers the greatest geographical area and longest duration of temporary loss of agricultural land during construction and decommissioning of the Project.
The permanent loss of agricultural land, including BMV land and land from landholdings.	✓	✓	✓		The maximum design scenario (MDS) considers the greatest geographical area and longest duration of permanent loss of agricultural land during construction, operation and decommissioning of the Project.
The temporary disruption and reduced access to agricultural land, including BMV land.	✓	×	✓		The MDS considers the greatest geographical area and longest duration of temporary disruption and reduced access to agricultural land during construction and decommissioning of the Project.
The permanent disruption and reduced access to agricultural land, including BMV land.	✓	✓	✓		The MDS considers the greatest geographical area and longest duration of permanent disruption and reduced access to agricultural land during construction, operation and decommissioning of the Project.

Potential impact	Phase C	Phase O	Phase D	Maximum Design Scenario	Justification
The temporary disruption or reduced access to PRoW and other promoted routes.	✓	×	✓	• In addition to the main construction compounds, there will be a need to construct several temporary 'satellite' compounds within each of the three main Site Areas and along the interconnecting cable route corridors. **Operation and maintenance phase** • Following the commissioning phase, the operational lifetime of the Project would be 37.5 years. • The maximum total developable area for the solar PV arrays, including the NGET substation is approximately 839 ha, which is divided into the following areas: – Northern site is approximately 247.3 ha; – Central site is approximately 545.2 ha; and – Southern site is approximately 46 ha. • 156 Power Converter Stations (1 per 7 ha), each with a maximum footprint area measuring approximately 14 m x 2.9 m. • Six High Voltage Transformers (secondary substations), each with a maximum footprint area measuring approximately 18 m x 10 m. • One Main Project Substation, with a maximum footprint area measuring approximately 1 ha (156 m x 63 m). • One NGET substation with a maximum site area requirement measuring approximately 3.8 ha. **Decommissioning phase** • Decommissioning of the Project would start two years before the end of the lease and is anticipated to last up to approximately 24 months. • The maximum total developable area for the solar PV arrays is approximately 839ha ha, which is divided into the following: – Northern site is approximately 247.3 ha; – Central site is approximately 545.2 ha; and – Southern site is approximately 46 ha.	The MDS considers the greatest geographical area and longest duration of temporary and disruption and reduced access to PRoW and other promoted routes during construction and decommissioning of the Project.
The permanent disruption or reduced access to PRoW and other promoted routes.	✓	✓	✓		The MDS considers the greatest geographical area and longest duration of permanent disruption and reduced access to PRoW and other promoted routes during construction, operation and decommissioning of the Project.

Potential impact	Phase C	Phase O	Phase D	Maximum Design Scenario	Justification
				• The maximum total developable area for the solar PV arrays, including the NGET substation is approximately 839 ha, which is divided into the following areas: – Northern site is approximately 247.5 ha; – Central site is approximately 545.4 ha; and – Southern site is approximately 46 ha. • 156 Power Converter Stations (1 per 7 ha), each with a maximum footprint area measuring approximately 14 m x 2.9 m. • Six High Voltage Transformers (secondary substations), each with a maximum footprint area measuring approximately 18 m x 10 m. • One Main Project Substation, with a maximum footprint area measuring approximately 1 ha (156 m x 63 m). • One NGET substation with a maximum site area requirement measuring approximately 3.8 ha. • Other than the 33 kV and 275 kV cables 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 Project site.	

17.8 Mitigation and Enhancement Measures Adopted as Part of the Project

17.8.1 The design process for the Project has been heavily influenced by the findings of early environmental appraisals and the EIA process. The Project has had several measures incorporated into the design to avoid or minimise environmental impacts.

17.8.2 The key aspects where the design has evolved are described in ES Volume 1, Chapter 5: Need and Alternatives Considered **[EN010147/APP/6.3]**. These include measures required for legal compliance, as well as measures that implement the requirements of good practice guidance documents. The assessment has been undertaken on the basis that these measures are incorporated in the design and construction practices (i.e. they are 'embedded mitigation').

17.8.3 Embedded mitigation measures for the construction phase are set out in the ES Volume 1, Chapter 6: Project Description **[EN010147/APP/6.3]** and the various management plans outlined in this chapter.

17.8.4 Implementation of embedded mitigation relied upon in the assessment will be secured in the DCO, including by ensuring the works described in Schedule 1 of the DCO are restricted to their corresponding works areas shown on the Works Plans **[EN010147/APP/2.3]**, DCO requirements requiring compliance of detailed design of the Project with the Outline Design Principles, or through DCO requirements requiring compliance with a management strategy, plan, or requirement document.

17.8.5 Consideration has been given to any ‘additional mitigation’ over and above the embedded mitigation that may be required and has the potential to mitigate any significant adverse effects identified following the assessment of the Project inclusive of its embedded mitigation. Where significant effects remain following the implementation of embedded mitigation and achievable further measures could lower the identified effect, the topic chapter identifies additional mitigation and explains how the additional mitigation is secured, for example via a specific DCO requirement or via a management plan, or document secured by a DCO requirement.

17.8.6 The residual effects (after the implementation of embedded and additional mitigation) have then been identified and are presented in each topic chapter. Significant residual effects for all topics are summarised in Chapter 21: Summary of Significant Environmental Effects of the ES **[EN010147/APP/6.3]**.

17.8.7 Where relevant, measures have been identified that may result in enhancement of environmental conditions. Both embedded and additional mitigation measures relevant to this chapter are summarised in Table 17.21 below.

Table 17.21: Mitigation measures intended to be adopted as part of the Project

Mitigation number	Measure adopted	How the measure will be secured
Embedded Mitigation		
17.1	Disturbance to PRoWs will be temporary where reasonably practicable and PRoWs will be reinstated as soon as reasonably practical. PRoW Management will be developed in accordance with the Outline PRoW Management Strategy. The detailed PRoW Management Strategy will include details of temporary and permanent diversions, such as: closures, controlled crossings, and signage to be provided during construction. In addition, where multiple managed crossings are required along the route of a PRoW, the Project would ensure that a maximum of two management crossings are required during construction at any one time.	This mitigation measure would be developed in accordance with the Outline PRoW Management Strategy, which is to be submitted with the ES. The PRoW Management Strategy would be implemented via an Outline CoCP **[EN010147/APP/7.6.1]**, which forms a requirement of the DCO application for the Project.
17.2	Where PRoWs are required to be closed during the construction Project, they will not be closed for any longer than three months at any one time, or for six months in total over the whole construction period. Where closures are required for longer periods due to unforeseen circumstances encountered during construction, the relevant local authorities will be informed in writing.	This mitigation measure would be developed in accordance with the Outline PRoW Management Plan, which is to be submitted with the ES. The PRoW Management Plan would be implemented via an Outline CoCP **[EN010147/APP/7.6.1]**, which forms a requirement of the DCO application for the Project.
17.3	A Soil Management Plan to ensure the conservation of soil resources; avoidance of damage to soil structures; maintenance of soil drainage; and the reinstatement, where required, of soil profiles as near as possible to their former condition. To maintain the quality of agricultural land temporarily affected by disturbance during the construction and decommissioning period. The following measures would be included in the Soil Management Plan for the Project: • Separate stripping and storage of identified topsoil and subsoil resources to prevent mixing of soil materials which can reduce overall soil quality. • Location of topsoil and subsoil heaps to avoid cross-contamination of materials and the trafficking of soil heaps by construction traffic. • Maintenance of topsoil and subsoil heaps to reduce potential losses of soil materials throughout the duration of storage. • Control of the timing of soil handling operations to reduce potential soil	This mitigation measure would be developed in accordance with the Outline Soil Management Plan, which is to be submitted with the ES. The Soil Management Plan would be implemented via an Outline CoCP **[EN010147/APP/7.6.1]**, which forms a requirement of the DCO application for the Project.

Mitigation number	Measure adopted	How the measure will be secured
Embedded Mitigation		
	damage through handling in unsuitable conditions. • Choice of soil handling machinery and method for its use, to reduce potential for soil compaction and soil damage. • Implementation of appropriate soil aftercare following reinstatement of land in accordance with the Outline Soil Management Strategy. • Careful supervision of soil handling operations on site to ensure that recognised good practice is effectively implemented on site.	
17.4	Farm access routes between fields within a farm holding will be maintained (where reasonably practicable), or alternative routes agreed with the land holder to enable the continued operation of agricultural land holdings during the construction phase.	This mitigation measure would be developed in accordance with the Outline CoCP **[EN010147/APP/7.6.1]**, which forms a requirement of the DCO application for the Project.
17.5	PRoWs affected during construction of the Project will be reinstated following completion of the works to ensure that no permanent effects remain and to maintain the connectivity of the wider PRoW network.	This mitigation measure would be developed in accordance with the Outline CoCP **[EN010147/APP/7.6.1]**, which forms a requirement of the DCO application for the Project.
Additional mitigation		
No additional mitigation measures are required to mitigate potential impacts on agricultural land use and PRoW during construction, operation and maintenance and decommissioning of the Project.		

Outline PRoW Management

17.8.8 As set out in Table 17.21 above, a PRoW Management Strategy will be prepared in accordance with the Outline PRoW Management Strategy, which has been submitted with the DCO application for the Project. The Outline PRoW Management Strategy sets out the outline management measures proposed for PRoW likely to be affected during construction and operation of the Project.

17.8.9 For most of the PRoW and other promoted routes that intersect the Study Area, access would be maintained during construction of the Project via the implementation of suitable managed crossings, segregated access and/or the implementation of banksmen. However, where this has not been feasible, indicative temporary and/or permanent diversions are proposed prior to the commencement of construction works to maintain access to the wider PRoW network.

17.8.10 A summary of the PRoW and other promoted routes that would require temporary or permanent stopping up and diversion during construction and operation of the Project is provided in Table 17.22 below, including the length of the existing PRoW to be diverted, length including the diversion and the

difference between these two values (which has been used to inform relevant sections of the assessment in this chapter of the ES).

Table 17.22: Lengths of PRoW and other promoted routes to be diverted

PRoW or other promoted route to be diverted	Length to be diverted (m)	Length with indactive diversion (m)	Difference between existing and diverted length (m)
Temporary diversions			
Public bridleway 206/23/30	28.48	59.40	+30.92
Public footpath 206/5/20	4.74	15.49	+10.75
Public footpath 132/4/10	303.71	333.90	+30.19
Permanent diversions			
Public footpath 132/4/10	367.00	367.72	+0.72
Public footpath 152/8/10	293.37	331.76	+38.39
Public footpath 416/24/10	275.39	301.50	+26.11
Long Distance Footpath Oxford Green Belt Way	168.44	171.02	+2.58

17.8.11 In accordance with the methodology set out in section 17.5 of this chapter of the ES, the temporary and permanent diversions of PRoW and other promoted routes listed above have been considered when determining the magnitude of potential impacts during construction, operation and decommissioning of the Project.

17.8.12 Further detail regarding the outline measures proposed for the management of affected PRoW and other promoted routes within the Study Area is provided in the Outline PRoW Management Strategy **[EN010147/APP/7.6.1]**. The location of outline management measures are presented in Appendix A of the Outline PRoW Management Strategy **[EN010147/APP/7.6.1]**.

17.9 Assessment of effects

17.9.1 The impacts of the construction, operation and maintenance, and decommissioning phases of the Project have been assessed. The potential impacts arising from the construction, operation and maintenance and decommissioning phases of the Project are listed in Table 17.20, along with the maximum design scenario against which each impact has been assessed.

17.9.2 A description of the potential effect on receptors caused by each identified impact is given below.

17.9.3 The assessment of significant effects relating to climate change is assessing the effects of GHG emissions on climate change, with the effects of climate change risk scoped out of the assessment.

Agricultural Land Quality

Construction phase

Sensitivity of the receptor

17.9.4 The ALC survey work undertaken for the Project has identified the Project to comprise a mixture of mainly Subgrades 3a and 3b land with smaller areas of Grade 2 land and a small pocket of Grade 1 land. On this basis the sensitivity of the agricultural land quality and soils receptor lies within a range between **medium** (Subgrade 3b land) to **very high** (Grade 1 and Grade 2 land).

Magnitude of impact

Permanent impacts on agricultural land quality and soils

17.9.5 The permanent loss of agricultural land as a result of the Project would occur during the construction period. This would include areas of land where the substations are located, including the National Grid substation, together with the main and small substations. Although whilst it is proposed that the power converter stations would be removed during decommissioning, on a precautionary basis it is assessed that there could be some permanent effects on agricultural land quality in these areas and therefore these are also included within the area of potential permanent sealing of soils and loss of agricultural land quality. The areas of permanent loss are therefore as follows:

- Maximum of 6 small substations x approximately 180 m². Total of approximately 0.05 ha
- Main substation - approximately 1 ha
- National Grid Substation – approximately 3.8 ha
- PCS locations – 156 locations x approximately 42 m². Total of approximately 0.65 ha

17.9.6 The total of area of best and most versatile agricultural land to be permanently lost is approximately 5.5 ha, which equates to 0.4 % of the total quantity of surveyed best and most versatile land within the wider Project site.

17.9.7 The design of the Project is subject to further refinement at this stage, but on a precautionary basis that the areas of permanent loss would comprise best and most versatile land, the magnitude is assessed as **medium** on the basis that there would be a permanent loss of between 1 and 20 ha of land.

Temporary impacts on agricultural land quality and soils

17.9.8 The potential for additional adverse effects on agricultural land quality and soils, in addition to the permanent losses could also occur in association with activities during the construction period including:

- Establishment of construction compounds which would require topsoil stripping and storage during the period of construction.

- Installation of the PV panels on mounted structures which are attached to the ground via legs. It is assumed that the legs would be piled into the ground. The implementation of piles would not involve soil removal or the potential for mixing of materials, but rather would involve the long term temporary displacement of small volumes of soil material.
- Installation of cable routing within the construction area. The cable corridors are shown in Volume 2, Figures 2.4A, s.4B, 2.4C and 2.4D. The location and size of these corridors will be subject to further detailed design and identification of a narrower and defined cable corridor. However, the potential for these wider corridors in terms of the likely effect on agricultural land quality and agricultural land holdings is assessed at this stage.
- Installation of maintenance tracks, where the use of Terrafirma matting is considered to be inappropriate, which would require the stripping and storage of topsoils either alongside the tracks or in larger consolidated bunds around the margins of the array.

17.9.9 The construction would take place within the developable areas as identified in the Project Description, totalling an area of approximately 839 ha.

17.9.10 In order to limit, wherever possible, the potential to reduce the quality of soils and agricultural land quality during the period of the temporary works, the Project includes the implementation of a Soil Management Plan which would be substantially in accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]** included aas part of the CoCP.

17.9.11 The Outline Soil Management Plan is based on the following principles:

- The conservation of soil resources;
- The avoidance of damage to soil structures;
- The maintenance of soil drainage; and
- The reinstatement of disturbed soils to as near as possible its former condition.

17.9.12 Whilst much of the cable routing areas have been surveyed as part of the ALC survey, there are remaining areas shown on Figure 17.5 as not-surveyed where surveys have not been undertaken and this comprises approximately 67 ha of agricultural land, which comprise approximately 5% of the Site. These areas include areas to the north and south of the River Thames where different options for cable routing are included within the wider Project boundary. Where these areas have not been surveyed, the Outline Soil Management Plan **[EN010147/APP/7.6.1]**identifies that further soil survey work would be undertaken to determine the topsoil and subsoil resources that would be affected within these areas to ensure that appropriate soil handling measures will be implemented within these areas.

17.9.13 The Outline Soil Management Plan **[EN010147/APP/7.6.1]** has been developed in accordance with recognised best practice guidance provided in the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Defra, 2009) and applying best practice soil handling

methods for soil handling provide in the Institute of Quarrying Good Practice Guide for Handling Soils 2021.

17.9.14 The successful implementation of the Soil Management Plan would ensure that the quality of the soils and agricultural land can be maintained through the construction period.

17.9.15 Natural England, in the response to the scoping report for this Project identified that due to the nature of the Project a good proportion of the agricultural land affected by the Project will not be lost.

17.9.16 This view is consistent with the stakeholder input that NE have recently provided in relation to other large scale DCO solar projects that comprise proportions of bmv land. For example, the Statement of Common Ground between the applicant and NE, in relation to the Longfield solar farm which comprises 150ha of bmv land, stated in respect to the loss of bmv that:

"We consider that the proposed development, if temporary as described, is unlikely to lead to significant permanent loss of BMV agricultural land, as a resource for future generations. This is because the solar panels would be secured to the ground by steel piles with limited soil disturbance and could be removed in the future with no permanent loss of agricultural land quality likely to occur, provided the appropriate soil management is employed and the development is undertaken to high standards"

17.9.17 Similarly, the Secretary of State for Energy and Net Zero has concluded in recent DCO decisions that, with appropriate soil management measures in place, soil quality can be maintained within the areas of solar farm development. For example, the recent decision letter for Mallard Pass (12th July 2024 - EN010127-001740-Secretary of State's Decision Letter.pdf) states that:

"given that the soil quality would be restored to the same quality at decommissioning (as set out in the outline SMP), the harm is not permanent, albeit it would be long term, and the ExA has therefore ascribed the harm identified to land use and soil section little weight in the planning balance."

17.9.18 In the decision letter for Cottam Solar Project, published on 5th September 2024 (EN010133-002077-Secretary of State Decision Letter - Cottam Solar Project.pdf) the SoS concludes similarly that:

The Secretary of State concludes that as the losses to agricultural and BMV land brought about by the Proposed Development would be temporary and reversible, he agrees with the ExA and ascribes little negative weight in the planning balance.

17.9.19 The implementation of the Soil Management Plan, substantially in accordance with the Outline Soil Management Plan **[EN010147/APP/7.6.1]** will reduce, as far as possible, the potential for permanent impacts to the quality of agricultural land. On this basis, the magnitude of temporary impacts on agricultural land quality and soils is assessed to be up to medium term **negligible**, where there would be no discernible loss/reduction in soil function(s) that would restrict the approved future use of the land.

Significance of the effect.

Permanent effects

17.9.20 The construction of the Project would lead to the permanent loss of small areas of agricultural land that are assessed to comprise approximately 5.5ha of the best and most versatile agricultural land. The magnitude of this loss is assessed to be medium on a receptor of high to very high sensitivity and the significance of this loss is therefore assessed to be of **moderate adverse** significance.

17.9.21 In terms of the significance of this small loss of 5.5ha of bmv, two publications are relevant:

- the Town and Country Planning (Development Management Procedure (England) Order) (DMPO) 2015 Schedule 4 paragraph Y, that requires that planning authorities must consult Natural England on all non-agricultural applications that result in the loss of more than 20 hectares (ha) of BMV land if the land is not included in a development plan; and
- the Institute of Environmental Management and Assessment (IEMA) IEMA Guide: A New Perspective on Land and Soil in Environmental Impact Assessment (IEMA, 2022), which also references the Planning Practice Guidance and identifies the arrangements for the consideration of large-scale developments where:

"In the circumstances set out in Schedule 4 paragraph (y) of the Development Management Procedure Order 2015, Natural England is a statutory consultee: a local planning authority must consult Natural England before granting planning permission for large-scale non-agricultural development on best and most versatile land that is not in accord with the development plan".

17.9.22 Applying the National Planning Guidance in assessing the consideration of large-scale loss as being more than 20ha of best and most versatile land and in accordance with the reference to this threshold within the IEMA guidance, it is assessed that the loss of approximately 5.5ha of best and most versatile land is not assessed to be significant in EIA terms.

17.9.23 In addition, whilst not relied upon for the assessment of permanent effects, the conversion of land from arable to grassland use managed through conservation sheep grazing, in accordance with the Outline Landscape and Ecology Management Plan **[EN010147/APP/7.6.3]** can also provide benefits during the operational period to soil health.

17.9.24 The greatest benefits in terms of increase in soil organic matter (SOM), and hence soil organic carbon (SOC), can be realised through land use change from intensive arable to grasslands. Likewise, SOM and SOC are increased when cultivation of the land for crops (tillage) is stopped and the land is uncultivated (zero tillage).

17.9.25 Soils are habitats for millions of species, ranging from bacteria, fungi, protozoa, and microscopic invertebrates to mites, springtails, ants, worms and plants. Soil biota are strongly influenced by land management. Modern farming hasg led to the loss of soil biodiversity. Changes in land management practice and land use can have large effects on soil biodiversity over relatively short-time

scales. Reducing the intensity of management, introducing no-tillage management, and converting arable land to pasture, such as grassland under solar PV arrays, can provide significant beneficial effects.

17.9.26 In a well-structured soil, water and air can move freely through cracks and pores. However, a poor soil structure prevents water and air movement, and increases the risk of runoff. Soil structure is improved when the land is uncultivated over time (no tillage), and when soil organic matter content (SOM) is increased through the accumulation of plant material, such as roots, in the soil. The aerobic (oxygenated) decomposition of SOM helps to bind soil particles together into aggregates (peds). Therefore, the conversion of land which is tilled for arable to long-term grassland (no tillage) through the implementation of the Landscape and Ecology Management Plan **[EN010147/APP/7.6.3]** would benefit soil structure over time.

Temporary Effects.

17.9.27 The implementation of the Outline Soil Management Plan **[EN010147/APP/7.6.1]** as part of the Project as identified in Table 17.20 of this Chapter would ensure that further effects on the quality of agricultural land and soil is reduced, as far as possible. It is therefore assessed that based on a negligible magnitude of impact on a receptor of up to a very high sensitivity that there would be a medium term temporary **minor adverse** significance of effect on agricultural land quality and soils during the construction period.

Operation and maintenance

17.9.28 No further effects on agricultural land quality and soils are assessed during the operational period of the Project.

Decommissioning

17.9.29 The decommissioning phase would include the removal of the solar infrastructure and restoration of maintenance tracks and potentially also the removal of cables by pulling these out through the cable ducts within the area of the Project. The potential effects on agricultural land quality and soils are assessed to be the same as for the construction phase on the basis that:

- The removal of the infrastructure could lead to the temporary disturbance to agricultural land in a similar way to during the initial installation phase.
- It is assumed that the areas of permanent loss associated with the substations would remain, as the quality of the final reinstatement and intended final land use of these areas is uncertain.

Agricultural Land Use

Construction Phase

17.9.30 The installation of the Project will lead to the removal of land from intensive arable agricultural use during the construction period. However, the Project includes the retention on agricultural use within the area of the PV panels as part of the Outline Landscape and Ecology Management Plan

[EN010147/APP/7.6.3]. The land within this area would be used for conservation grazing with sheep. Blenheim Estate, which owns much of the land within the Project, already has sheep flocks, including suitable breeds for this type of conservation grazing available within the wider estate and therefore suitable livestock and farming experience to be able to establish the proposed conservation grazing land use within the area is already available in the vicinity of the Project.

17.9.31 For the purposes of the assessment, whilst the conservation grazing would be established under the panels, enabling both agricultural productivity to continue, together with the implementation of landscape and biodiversity objectives, the assessment of effects has been based on the potential effects of the removal of arable productivity from the current farm holdings across the area of the Project, with no assumptions made as to the potential benefits of the conservation grazing to any particular enterprise.

17.9.32 The potential economic effects of the reduction in agricultural land use are considered in Chapter 15 Socio-Economics. The potential effects of the reduction in areas of land within individual farm holdings is considered here.

Sensitivity of the receptor

17.9.33 The predominantly arable based landholdings that form part of the Project are considered to be of **medium** sensitivity where the agricultural operation requires regular require access between the farm infrastructure and the land and where severance to land and loss of certain areas and facilities as part of the holding during the construction phase can cause effects to the operation of the wider holding.

Magnitude of Impact

Permanent effects on agricultural land holdings

17.9.34 The location of the substations as part of the scheme could affect a maximum of approximately 5.5 ha of agricultural land. The loss of this area from any of the farm holdings affected is assessed to have a permanent **negligible** impact on the holdings where the amount of land lost is small in comparison to the size of the large landholdings affected and would not affect the viability of the remaining area of the landholdings.

Temporary impacts on agricultural land holdings

17.9.35 The holdings affected by the Project includes land that forms part of 10 known land holdings of which Blenheim Estate is a substantial estate holding (Holding 1) where the majority of the Project infrastructure is located. The implementation of the Project would not affect the continued operation of this significant estate which comprises a total of approximately 12,500 acres.

17.9.36 The other two holdings (2 and 3) affected by the location of the solar infrastructure both comprise large farming enterprises and these would remain as large commercial farming enterprises, taking the implementation of the Project into account. Indeed, the diversification of land within these holdings

for the implementation of the solar array would provide additional income that can support the future viability of the remaining agricultural enterprises.

17.9.37 The implementation of the cable routing within the Project would temporarily affect limited areas of land, potentially within up to 9 additional known landholdings. During the cable routing construction there is potential for there to be disruption to farming management, including changes to farm access within individual fields and along local roads, as well as temporary effects on field drainage systems. The measures included within the Outline SMP (Ref) and within the CoCP **[EN010147/APP/7.6.1]** would be implemented to ensure, as far as possible, that farming operations within these landholdings can continue to operate effectively during the construction period.

17.9.38 The construction would be likely to temporarily affect the attributes of individual holdings but with the implementation of measures identified in Table 17.20 would ensure that this would not affect the operation and viability of those farms affected. The duration of this temporary impact is medium term (i.e. one to five years).

17.9.39 The magnitude of impact on these holdings is therefore assessed to be of a **low** magnitude where there would be a discernible change in attributes, quality or vulnerability, or alteration to one (maybe more) key characteristics, features, or elements, such as temporary severance effects or required adjustments to farm access points, gateways and fencing.

Significance of Effect

Permanent effects on agricultural land holdings

17.9.40 Based on the assessment of a **negligible** magnitude of impact on farm holdings of a **medium** sensitivity, it is assessed that the small areas of permanent land lost would have a permanent **negligible adverse** significance of effect on the land holdings that form part of the Project.

Temporary effects on agricultural land holdings

17.9.41 Based on the assessment of a **low** magnitude of impact on farm holdings of a **medium** sensitivity, it is assessed that the loss of land during construction would have a long term temporary **minor adverse** significance of effect on the land holdings that form part of the Project.

Operation and maintenance

17.9.42 No further effects on farm holdings beyond those assessed during the construction are assessed during the operational period of the Project.

Decommissioning

17.9.43 The successful reinstatement of the land to agricultural use following the removal of the solar infrastructure would enable the land to be returned to the current land holdings and the medium term **minor adverse** temporary effects identified during the construction phase would cease following decommissioning.

17.9.44 It is assessed that the small areas of land affected by the national grid, main and small substations may not be returned to the original agricultural use, depending on the quality of the restoration and land use requirements of the individual land holdings and therefore that the **negligible adverse** permanent effects on land holdings, arising from the installation of the substation areas may remain during the decommissioning period.

PRoW and Other Promoted Routes

Construction Phase

PRoW

Sensitivity of the receptor

17.9.45 The sensitivity of PRoW (footpaths) located within the Study Area is assessed as **medium**. This is because most of the public footpaths identified in the Study Area are used by the local community primarily for recreation and alternative routes are available within the wider PRoW network.

17.9.46 The sensitivity of PRoW (bridleways) located within the Study Area is assessed as **high**. This is because there are limited alternative routes available for public bridleways identified in the Study Area within the wider PRoW network.

Magnitude of Impact

17.9.47 An Outline Public Rights of Way management plan **[EN010147/APP/7.6.1]** is submitted alongside the ES and has been developed to provide measures to reduce, as far as possible, potential disruption to the network of PRoW during the construction period. The PRoW are proposed to remain predominantly in situ during the construction period, with managed crossings implemented wherever possible, providing priority access for PRoW users and providing banksman to manage the crossings as necessary.

17.9.48 Table 17.22 identifies PRoW where permanent and temporary diversions are proposed as part of the Project.

17.9.49 There are three proposed lengths of permanent diversions as identified in Table 17.22. The diversions would divert routes close to their existing alignments and would increase the length of the routes for users by approximately 1 to 39m.

17.9.50 No lengthy temporary diversions of PRoW are proposed, and should temporary diversions be required during the construction period these would be likely to be less than 50m in length, as identified in Table 17.22. It is assessed that the temporary impact on the use of PRoW (footpaths and bridleways) located within the Study Area is assessed to be **negligible** during the construction phase. PRoW are expected to remain in situ or close to their current alignments during construction of the Project and measures to be included in the Outline PRoW Management Plan as part of the OCoCP **[EN010147/APP/7.6.1]** would minimise the potential impacts of construction works and the duration of the temporary impact of disruption during

construction of the Project. However, on a conservative basis it is assessed that disruption could take place across the 24 month construction period.

Significance of effect

17.9.51 Based on the **medium** sensitivity and **negligible** magnitude of impact, the effect on PRoW (footpaths) during construction of the Project is assessed to be medium term temporary **minor adverse**, which is not significant in EIA terms.

17.9.52 Based on the **high** sensitivity and **negligible** magnitude of impact, the effect on PRoW (bridleways) during construction of the Project is assessed to be medium term temporary **minor adverse**, which is not significant in EIA terms.

Oxford Greenbelt Way Long Distance Path

Sensitivity of the receptor

17.9.53 The sensitivity of Oxford Greenbelt Way Long Distance Path as a regional trail is assessed as **high** where there is little or no potential for substitution.

Magnitude of Impact

17.9.54 The route is impacted at one location in the southern part of the Project to the west of Denmans Farm. The implementation of the Project would require the permanent closure of approximately 171 m of this route and the diversion of this section to the east of the current route to follow a short section of Footpath 184/15/30. This diversion would require users to walk an additional approximate 2.58m. In addition, during the construction of the Project there would be a requirement a managed crossing of the route at one location as shown on Figure 1.1 in the Outline PRoW Management Plan **[EN010147/APP/7.6.1].** Although it is expected that these measures would affect the route for a short period of time, on a conservative basis it is assessed that disruption could take place across the 24 month construction period.

17.9.55 Taking into account the measures included in the Outline PRoW Management Plan **[EN010147/APP/7.6.1]** the magnitude of the temporary impact on the use of Oxford Greenbelt Way Long Distance Path during construction of the Project is assessed as **negligible**, where a short section of the route will be impacted with a diversion implemented and appropriate measures can be adopted to maintain the connectivity of the route.

Significance of Effect

17.9.56 Based on the **high** sensitivity and **negligible** magnitude of impact, the effect on Oxford Greenbelt Way Long Distance Path during construction of the Project is assessed to be medium term temporary **minor adverse**, which is not significant in EIA terms.

Shakespeare Way Long Distance Path

Sensitivity of the receptor

17.9.57 The sensitivity of promoted Shakespeare Way Long Distance Path as a regional route is assessed as **high**, where there is little to no potential for substitution.

Magnitude of Impact

17.9.58 The route is impacted along two short sections of the route to the east of Heath Lane south of Bladon. These sections will be subject to management measures during the construction period, where cable route construction and the crossing of the route by construction traffic is required. The magnitude of the temporary impact on the use of Shakespeare Way Long Distance Path during construction of the Project is assessed as **negligible**. The Outline PRoW Management Plan as part of the OCoCP **[EN010147/APP/7.6.1]** would minimise the potential impacts of construction works and the duration of the temporary impact of disruption during construction of the Project. Although it is expected that these measures would affect the route for a short period of time, on a conservative basis it is assessed that disruption could take place across the 24 month construction period.

Significance of Effect

17.9.59 Based on the **high** sensitivity and **negligible** magnitude of impact, the effect on Shakespeare Way Long Distance Path during construction of the Project is assessed to be medium term temporary **minor adverse**, which is not significant in EIA terms.

NCR 5

Sensitivity of the receptor

17.9.60 The sensitivity of NCR 5 as a national route is assessed as **very high**. This is because NCR 5 is used frequently by local communities for both commuting and recreation as well as long distance riders and there is little to no potential for substitution.

Magnitude of Impact

17.9.61 The magnitude of the temporary impact on the use of NCR 5 during construction of the Project is assessed as **negligible**. This is because NCR 5 would remain open during the construction period, with measures to be included in the Outline Public Rights of Way management Plan **[EN010147/APP/7.6.1]** Outline Construction Traffic Management (CTMP) **[EN010147/APP/7.6.1]** to minimise the potential impacts of construction works and the duration of the temporary impact of disruption during construction of the Project, as far as possible.

Significance of Effect

17.9.62 Based on the **very high** sensitivity and **negligible** magnitude of impact, the effect on NCR 5 during construction of the Project is assessed to medium term temporary **minor adverse**, which is not significant in EIA terms.

Operational Phase.

17.9.63 No additional adverse effects on PRoW are assessed during the operational phase of the Project.

17.9.64 In addition, the Project includes proposals to implement additional recreational routes, which would be available during the operational phase of the Project, including permissive footpaths and potential cycleways as shown on the Landscape, Ecology and Amenities Layer Plans **[EN010147/APP/7.3.3].** These additional routes would provide benefit in terms of opportunities for recreation within the DCO boundary and enhance connectivity within the existing recreational network.

Decommissioning Phase.

17.9.65 On a precautionary basis, it is assessed that the implementation of the decommissioning plan would require similar PRoW management measures to be adopted as those identified during the construction phase of the Project. It is therefore assessed that the effects of decommissioning on PRoW would be the same as for those during the construction period.

17.10 Cumulative Effects

17.10.1 The Agricultural Land Use and PRoW CEA methodology has followed the methodology set out in Volume 1, Chapter 4: Approach to Environmental Assessment. As part of the assessment, all projects and plans considered alongside the Project have been allocated into ‘tiers’ reflecting their current stage within the planning and development process.

- Tier 1
  - Under construction
  - Permitted application
  - Submitted application
  - Those currently operational that were not operational when baseline data were collected, and/or those that are operational but have an ongoing impact
- Tier 2
  - Scoping report has been submitted
- Tier 3
  - Scoping report has not been submitted
  - Identified in the relevant Development Plan
  - Identified in other plans and programmes.

17.10.2 This assessment is followed by all other relevant projects, identified by tier.

17.10.3 This tiered approach is adopted to provide a clear assessment of the Project alongside other projects, plans and activities.

17.10.4 The specific projects, plans and activities scoped into the CEA, are outlined in **Table 17.23**.

17.10.5 It is acknowledged that some 92 potential cumulative schemes were identified, forming the CEA long list. This list of schemes has been reviewed as part of the assessment, with 74 being discounted for one or more of the following reasons:

- The other cumulative schemes were located beyond the 1 km study area adopted for the assessment of cumulative effects for agricultural land use and PRoW;
- The other cumulative schemes are of a scale/type which is not anticipated to not cause a significant or any cumulative effect with respect to agricultural land use and PRoW;
- The other cumulative schemes do not affect agricultural land or PRoW and therefore there is no potential for cumulative effects during the construction, operation and decommissioning of the Project.
- The other cumulative schemes have already been completed and therefore have been considered as part of the baseline assessment.

Table 17.23: List of other projects, plans and activities considered within the CEA

Project/Plan	Status	Distance from the Project (nearest point, km)	Description of project/plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Overlap with the Project
Tier 1						
20/01734/OUT	Outline Planning Application – decision pending	Immediately adjacent to Central Site Area	Outline application for Salt Cross Garden Village – 2,200 dwellings and 40 ha. of employment land.	To be confirmed	To be confirmed	To be confirmed
16/01364/OUT	Under construction	0.8 km south west of Northern Site Area	Land east of Woodstock, residential development of 300 dwellings.	Commenced		
21/00189/FUL	Full Planning Application - permitted	1.0 km west of Northern Site Area	Land north of Hill Rise, Woodstock, residential development of 180 dwellings.	To be confirmed	To be confirmed	To be confirmed
21/00217/OUT	Pending	0.3	Land north of Banbury Road, Woodstock. 225 dwellings. 16.9 ha in size.	To be confirmed	To be confirmed	To be confirmed
22/01330/OUT	Permitted	2.2	Land North of Witney Road, Long Hanborough. 150 dwellings. 10.3 ha in size.	To be confirmed	To be confirmed	To be confirmed
19/02516/FUL	Permitted	2.5	Twelve Acre Solar Farm. 63.4 ha in size.	To be confirmed	To be confirmed	To be confirmed
20/01817/FUL	Permitted	Adjacent	Land Between Woodstock Sewage Works and B4027 Solar. 11 ha in size.	To be confirmed	To be confirmed	To be confirmed
22/0074/OUT	Pending	3.0	Land at Bicester Road, Kidlington. 370 homes. 27.8 ha in size.	To be confirmed	To be confirmed	To be confirmed
21/03522/OUT	Outline Planning Application – decision pending	0.35 km west of Central Site Area	West of Rutten Lane, Yarnton, residential development of up to 540 dwellings.	To be confirmed	To be confirmed	To be confirmed
22/01715/OUT	Pending	Adjacent	Land south of Perdiswell Farm, Shipton Road. Erection of up to 500 dwellings with	To be confirmed	To be confirmed	To be confirmed

Project/Plan	Status	Distance from the Project (nearest point, km)	Description of project/plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Overlap with the Project
			associated access, open space and infrastructure. 48.8 ha in size.			
22/01682/F	Pending	7.5	Land north of Manor Farm, Noke. Development of ground mounted solar farm. 43.8 ha.	To be confirmed	To be confirmed	To be confirmed
22/038773/F	Pending	15.0	Land north of Mill Lane Stratton Audley, installation and operation of a renewable energy generating station. 67.9 ha	To be confirmed	To be confirmed	To be confirmed
23/02098/OUT	N/A	Adjacent	Begbrooke - multi-phased residential development (c1800 homes)	To be confirmed	To be confirmed	To be confirmed
23/03307/OUT	Pending	1.3	Land north of Woodstock Road, Yarnton for 300 dwellings. 13.5 ha	To be confirmed	To be confirmed	To be confirmed
24/00539/F	Pending	5.9	Land east of Stratfield Brake, provision of a stadium. 7.2 ha	To be confirmed	To be confirmed	To be confirmed
Tier 2						
P23/V0306/SCR	Positive Screening	1.5	Cumnor Solar Farm. 31 ha	To be confirmed	To be confirmed	To be confirmed
P23/V2624/FUL	Withdrawn	Adjacent	Red House Solar Farm. 63 ha	To be confirmed	To be confirmed	To be confirmed
Tier 3						
N/A	N/A	Adjacent/within the Order Limits	The NGET substation is not part of the Project but may be located within or adjacent to the Project Site.	To be confirmed	To be confirmed	To be confirmed

Maximum design scenario – cumulative effects assessment

17.10.6 The maximum design scenarios identified in **Table 17.24** have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. The cumulative effects presented and assessed in this section have been selected from the Project Design Envelope provided in Volume 1, Chapter 6: Project Description, of the ES as well as the information available on other projects and plans, in order to inform a 'maximum design scenario'. Any other development scenario is considered to have less significant effects, based on details within the Project Design Envelope (e.g., different foundation type or substation layout), to that assessed here, being taken forward in the final design scheme.

Table 17.24 Maximum design scenario for the assessment of cumulative effects

Potential cumulative effect	Phase C	Phase O	Phase D	Maximum Design Scenario	Justification
The permanent loss of agricultural land, including BMV land and land from landholdings.	✓	×	×	The MDS as described in Table 17.20 of this chapter of the ES for the Project has been assessed cumulatively with the following other projects/plans: **Tier 1** • 20/01734/OUT - Outline application for Salt Cross Garden Village – 2,200 dwellings and 40 ha. of employment land. • 16/01364/OUT - Land east of Woodstock, residential development of 300 dwellings. • 21/00189/FUL - Land north of Hill Rise, Woodstock, residential development of 180 dwellings. • 21/00217/OUT - Land north of Banbury Road, Woodstock. 225 dwellings. 16.9 ha in size. • 22/01330/OUT - Land North of Witney Road, Long Hanborough. 150 dwellings. 10.3 ha in size. • 19/02516/FUL - Twelve Acre Solar Farm. 63.4 ha in size. • 20/01817/FUL - Land Between Woodstock Sewage Works and B4027 Solar. 11 ha in size. • 22/0074/OUT - Land at Bicester Road, Kidlington. 370 homes. 27.8 ha in size. • 22/01715/OUT - West of Rutten Lane, Yarnton, residential development of up to 540 dwellings. • 21/03522/OUT - Land south of Perdiswell Farm, Shipton Road. Erection of up to 500 dwellings with associated access, open space and infrastructure. 48.8 ha in size • 22/01682/F - Land north of Manor Farm, Noke. Development of ground mounted solar farm. 43.8 ha. • 22/0387/F - Land north of Mill Lane Stratton Audley, installation and operation of a renewable energy generating station. 67.9 ha. • 23/02098/OUT - Begbrooke - multi-phased residential development (c1800 homes). • 23/03307/OUT - Land north of Woodstock Road, Yarnton for 300 dwellings. 13.5 ha. • 24/00539/F - Land east of Stratfield Brake, provision of a stadium. 7.2 ha. **Tier 2** • P23/V0306/SCR - Cumnor Solar Farm. 31 ha. • P23/V2624/FUL - Red House Solar Farm. 63 ha.	The MDS presented in Table 17.20 above considers the largest spatial and temporal extent of potential impacts during construction, operations and maintenance and decommissioning of the Project. Therefore, this MDS provides the greatest potential for spatial and temporal cumulative effects to occur between the Project and other projects/plans with respect to agricultural land and PRoW.
The permanent disruption and reduced access to agricultural land, including BMV land.	✓	×	×		
The temporary impact on PRoW and other promoted routes.	✓	×	✓		

Potential cumulative effect	Phase C	O	D	Maximum Design Scenario	Justification
				Tier 3 • The NGET substation is not part of the Project but may be located within or adjacent to the Project Site.	

[a] C=construction, O=operational and maintenance, D=decommissioning

17.11 Cumulative effects assessment

17.11.1 A description of the significance of cumulative effects upon agricultural land and PRoW receptors arising from each identified impact is given below.

Agricultural Land Quality

17.11.2 Cumulative effects could occur where areas of BMV land are permanently affected by other proposed developments or plans within the Study Area that have been screened into the CEA.

Agricultural Land Use – Farm Holdings

17.11.3 Cumulative effects could occur where farm holdings within the Study Area are also affected by other proposed developments or plans that have been screened into the CEA.

Public Rights of Way and other promoted routes

17.11.4 Cumulative effects could occur where PRoW and other promoted routes affected within Study Area are also affected by other proposed developments or plans that have been screened into the CEA.

Tier 1 Projects

Construction phase – Agricultural Land Quality

Sensitivity of the receptor

17.11.5 The sensitivity of the agricultural land quality receptor is assessed to be **very high** due to the presence of Grade 1 and 2 land.

Magnitude of impact

17.11.6 The developments screened into the assessment are likely to affect areas of BMV land in addition to the areas permanently affected by the Project. There is potential that these areas could comprise more than 20 ha of agricultural land and the magnitude is therefore assessed to be **high.**

Significance of effect

17.11.7 The significance of the effect in the cumulative scenario on the permanent loss of agricultural land would be of up to **major** permanent adverse significance, based on a high magnitude of impact on a receptor of high sensitivity. This is significant in EIA terms.

Further mitigation and residual effect

17.11.8 Mitigation has been identified in **Table 17.20** These measures will further control the impacts on land used temporarily during the construction phase. However, they will not materially reduce the permanent loss of agricultural land that is likely to occur cumulatively, particularly with the residential

developments included in the CEA. Although opportunities have been explored during the design process to reduce, as far as practicable, the size of the substations, some permanent loss of agricultural land is an unavoidable consequence of the construction of the permanent infrastructure. Therefore, at this stage the residual effect on areas of permanent land take, combined with other Projects, would remain as **major** adverse significance.

Construction phase – Agricultural Land Use

Sensitivity of the receptor

17.11.9 The sensitivity of the farm holdings that may be permanently affected by the cumulative schemes is assessed to be **up to medium**, where access between the land and infrastructure is required on a reasonably frequent basis (monthly). This is based on the presence of a number of discrete areas of agricultural holdings affected by the cumulative schemes, that are largely arable based with some areas of grassland livestock use.

Magnitude of impact

17.11.10 In relation to the farm holdings that form part of the Project, the Woodstock Solar (20/01817/FUL) and Land South of Perdiswell (22/01715/OUT) cumulative schemes would affect land within Blenheim Estate. On the basis that the cumulative schemes would be unlikely to impact the operation or viability of the farm holdings included within this Project, taking into account the size and operation of these holdings, the magnitude of the permanent impact on the operation of farm holdings is assessed as **low**.

Significance of effect

17.11.11 The cumulative permanent loss of land from farm holdings is assessed to be of permanent **minor adverse** significance based on a low magnitude of impact on a receptor of low to medium sensitivity.

Construction phase – PRoW and other promoted routes

Sensitivity of the receptors

17.11.12 As previously stated in **section 0** above, the sensitivity of PRoW, including footpaths and bridleways located within the Study Area are assessed as **medium** and **high** respectively. The sensitivity of Oxford Greenbelt Way and Shakespeare Way Long Distance Paths are both assessed as **high**. The sensitivity of NCR 5 is assessed as **very high**.

Magnitude of Impact

17.11.13 The magnitude of the temporary cumulative impact on the use of PRoW (footpaths and bridleways) is assessed as being **negligible** where measures including potential temporary diversions may be required during the construction period.

17.11.14 For long Distance Paths (Oxford Greenbelt Way and Shakespeare Way) and NCR 5 during construction of the Project is assessed as **negligible.**

17.11.15 With the PRoW management plan in place to ensure that the connectivity of the network remains in place during the construction period for the Project, it is considered that there is minimal potential for additional cumulative impacts to occur between the Project and other projects/plans during the construction phase.

Significance of effect

17.11.16 Based on the high to very high sensitivity of the promoted routes and NCR 5 respectively, and **negligible** magnitude of impact, the cumulative effect on these resources during construction of the Project is assessed to temporary **minor adverse**, which is not significant in EIA terms.

17.11.17 For other PRoW including footpaths and bridleways, it is assessed that there would be a medium term **minor adverse** significance of effect on these resources within the Project based on a **negligible** magnitude of impact on PRoW of medium to high sensitivity. It is assessed that this could lead to a similar **minor adverse** cumulative effect arising from arising from the construction of the Project together with adjacent schemes, which is not significant in EIA terms.

Tier 2 Projects

Construction phase – Agricultural Land Quality

Sensitivity of the receptor

17.11.18 The sensitivity of the agricultural land quality receptor is assessed to be high to very high due to the presence of Grade 1, 2 and 3a land.

Magnitude of impact

17.11.19 The developments screened into the assessment are likely to permanently affect only small areas of BMV land in addition to the areas permanently affected by the Project as the effects are predominantly temporary in nature and it is unlikely that these would exceed more than 20ha in total. The magnitude is therefore assessed to be **medium**.

Significance of effect

17.11.20 The significance of the effect in the cumulative scenario on the permanent loss of agricultural land would be of **moderate adverse** significance. On the basis that this comprises less than the 20ha threshold, as discussed in paragraph 17.9.2.17 -17.9.2.19 of this chapter, this loss is not assessed to be significant in EIA terms.

Construction phase – Agricultural Land Use

Sensitivity of the receptor

17.11.21 The sensitivity of the farm holdings that may be permanently affected by the cumulative schemes is assessed to be **medium**, based on the presence of a number of discrete areas of agricultural holdings affected by the cumulative schemes, that are largely arable based.

Magnitude of impact

17.11.22 On the basis that the cumulative schemes would be unlikely to impact the operation or viability of the farm holdings included within this Project, taking into account the size and operation of these holdings, the magnitude of the permanent impact on the operation of farm holdings is assessed as **low**.

Significance of effect

17.11.23 The cumulative permanent loss of land from farm holdings is assessed to be of permanent **minor adverse** significance based on a low magnitude of impact on a receptor of medium sensitivity.

Construction phase – PRoW and other promoted routes

Sensitivity of the receptors

17.11.24 As previously stated in **section 0** above, the sensitivity of PRoW, including footpaths and bridleways located within the Study Area are assessed as **medium** and **high** respectively. The sensitivity of Oxford Greenbelt Way and Shakespeare Way Long Distance Paths are both assessed as **high**. The sensitivity of NCR 5 is assessed as **very high**.

Magnitude of Impact

17.11.25 The magnitude of the temporary cumulative impact on the use of PRoW (footpaths and bridleways) is assessed as **negligible**, based on the measures included in the Outline PRoW Plan as part of the CoCP **[EN010147/APP/7.6.1]** would minimise the potential impacts of construction works.

17.11.26 For long Distance Paths (Oxford Greenbelt Way and Shakespeare Way) and NCR 5 during construction of the Project is assessed as **negligible**. This is because PRoW and other promoted routes would remain in situ during construction of the Project and measures included in the Outline PRoW Plan as part of the CoCP **[EN010147/APP/7.6.1]** would minimise the potential impacts of construction works.

17.11.27 Although it is expected that these measures would affect the route for a short period of time, on a conservative basis it is assessed that disruption could take place across the 24 month construction period.

17.11.28 With a PRoW management plan in place to ensure that the connectivity of the network remains in place during the construction period, it is considered that

there is minimal potential for additional cumulative impacts to occur between the Project and other projects/plans during the construction phase.

Significance of effect

17.11.29 Based on the high to very high sensitivity of the promoted routes and NCR 5 respectively, and **negligible** magnitude of impact, the cumulative effect on these resources during construction of the Project is assessed to temporary **minor adverse**, which is not significant in EIA terms.

17.11.30 For other PRoW which includes bridleways, it is assessed that there would be a medium term **minor adverse** temporary significance of effect during the construction period on these resources within the Project based on up to a low magnitude of impact on PRoW of high sensitivity. It is assessed that this could lead to a similar **minor adverse** cumulative effect arising from arising from the construction of the Project together with adjacent schemes, which is not significant in EIA terms.

Tier 3 Projects

17.11.31 No cumulative effects are anticipated with the potential location of the NGET substation outside the DCO boundary for this Project. The permanent loss of the agricultural land, if removed from the DCO boundary, would be replaced by solar infrastructure within the DCO boundary, which would be temporary and would not permanently affect the quality of the soils or agricultural land. The permanent effect of the substation development would not therefore lead to an additional agricultural impact, rather it is a displacement of the same permanent loss to a different location.

17.11.32 The development of the NGET substation which comprises approximately 3.8ha of land in a different location would not be expected to have any additional effects on individual farming enterprises. Neither would any additional cumulative effects on PRoW be likely to occur in the cumulative development of this substation.

Tier 1 and 2 Projects

Decommissioning phase

17.11.33 No further effects, beyond those experienced during the construction phase, are likely to occur during decommissioning of the Project. Therefore, no cumulative effects for agricultural land and PRoW are likely to occur during the decommissioning phase.

17.12 Transboundary effects

17.12.1 As per the scoping report, it was concluded that the proposed development is unlikely to have a significant effect either alone or cumulatively on the environment in a European Economic Area State (EEA states) and therefore a transboundary assessment is not proposed in the ES.

17.13 Inter-related effects

17.13.1 Inter-relationships are the impacts and associated effects of different aspects of the Project on the same receptor. These are as follows.

- Project lifetime effects: Assessment of the scope for effects that occur throughout more than one phase of the Project (construction, operation and maintenance, and decommissioning), to interact to potentially create a more significant effect on a receptor than if just assessed in isolation in these three phases (e.g., construction noise effects from piling, operational substation noise, and decommissioning disturbance).
- Receptor led effects: Assessment of the scope for all effects (including inter-relationships between environmental topics) to interact, spatially and temporally, to create inter-related effects on a receptor.
- A description of the likely inter-related effects arising from the Project on the historic environment is provided in Volume 1, Chapter 20: Cumulative Effects and Inter-relationships of the ES **[EN010147/APP/6.3]**.

17.13.2 **Table 17.25** lists the inter-related effects (project lifetime effects) that are predicted to arise during the construction, operational and maintenance and decommissioning phases of the Project, and also the inter-related effects (receptor-led effects that are predicted to arise for agricultural land use and PRoW receptors.

Table 17.25: Summary of likely significant inter-related effects

Description of impact	Phase			Likely significant inter-related effects	Significance
	C	O	D		
The temporary and permanent loss of agricultural land including BMV	✓	×	✓	The temporary loss of agricultural land, including BMV land would only occur during construction and decommissioning of the Project. The permanent loss of agricultural land, including BMV land would only occur during construction of the Project. There would be no additional effects during operation and maintenance of the Project. The period of time between the construction and decommissioning phase of the approximately 37.5 years. As such, it is unlikely that these impacts would interact to produce a project lifetime effect of greater significance than those identified during each individual phase. Therefore, it is considered that there is no potential this impact to result in significant project lifetime effects.	No change resulting from inter-related assessment.
Temporary and permanent disruption to farm holdings	✓	×	✓	The temporary disruption to agricultural land holdings would only occur during construction and decommissioning of the Project. The permanent disruption to agricultural land holdings would only occur during construction of the Project. There would be no additional effects	No change resulting from inter-related assessment.

Description of impact	Phase C	Phase O	Phase D	Likely significant inter-related effects	Significance
				during operation and maintenance of the Project. The period of time between the construction and decommissioning phase of the is substantial. As such, it is unlikely that these impacts would interact to produce a project lifetime effect of greater significance than those identified during each individual phase. Therefore, it is considered that there is no potential this impact to result in significant project lifetime effects.	
Temporary and permanent disruption to the recreational use of PRoW	✓	✗	✓	The temporary disruption to PRoW would only occur during construction and decommissioning of the Project. There would be no additional effects during operation and maintenance of the PRoW. The period of time between the construction and decommissioning phase of the Transmission Assets is approximately 37.5 years. As such, it is unlikely that these impacts would interact to produce a project lifetime effect of greater significance than those identified during each individual phase. Therefore, it is considered that there is no potential for this impact to result in significant project lifetime effects.	No change resulting from inter-related assessment.

Receptor-led effects

Potential receptor led effects include those affecting the amenity of PRoW because of changes to the visual and acoustic environments.

These are assessed, where relevant, in Volume 2: Chapter 8: Landscape and Visual Impact Assessment **[EN010147/APP/6.3]** and Volume 2: Chapter 13: Noise and Vibration of the ES **[EN010147/APP/6.3]**.

In addition, effects on rivers, waterways and agricultural drainage are considered in Volume 2, Chapter 10: Hydrology and flood risk of the ES, including potential impacts due to contamination of surface water and groundwater.

Overall, it is unlikely that receptors would experience increased significance of inter-related effects than that which has already been reported in the individual chapters for the identified receptors. Therefore, it is considered that there is no potential for identified impacts to result in significant receptor led effects.

17.14 Summary of impacts, mitigation measures and monitoring

17.14.1 Information on agricultural land use and PRoW within the Study Area was collected through a combination of desk top study, surveys of PRoW and detailed soil and ALC surveys within the Study Area.

17.14.2 Table 17.26 presents a summary of the impacts, measures adopted as part of the Project and residual effects in respect to agricultural land use and PRoW. The impacts assessed include: loss of agricultural land quality; impacts on farm holdings and impacts on PRoW. Overall, it is concluded that there will be no significant effects arising from the Project during the construction, operation and maintenance or decommissioning phases:

17.14.3 Table 17.27 presents a summary of the potential cumulative impacts, mitigation measures and residual effects. The cumulative impacts assessed include: loss of agricultural land quality; impacts on farm holdings and impacts on recreational resources. Overall, it is concluded that there will be the following significant cumulative effects between the Project alongside other projects/plans during the construction phase:

- A major adverse permanent effect on agricultural land quality.

17.14.4 This is on the basis that construction of the Project and other developments considered in the CEA would result in the cumulative loss of over 20 ha of BMV agricultural land.

17.14.5 With respect to agricultural land use and PRoW, no transboundary effects are likely to occur during construction, operation and maintenance and decommissioning of the Project on the interests of European Economic Area states.

Table 17.26: Summary of potential environmental effects, mitigation and monitoring.

Description of impact	Phase			Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D						
The temporary loss of agricultural land, including BMV land and land from landholdings.	✓	×	✓	C: Negligible D: Negligible	C: Medium to High D: Medium to High	C: Minor adverse D: Minor adverse	No further mitigation required	C: Minor Adverse D: Minor Adverse	No proposed monitoring required
The permanent loss of agricultural land, including BMV land and land from landholdings.	✓	✓	✓	C: Medium O: Medium D: Medium	C: High to very high O: High to very high D: Medium	C: Moderate adverse O: High to very high D Medium	No further mitigation required	C: Moderate Adverse (not significant) O: Moderate Adverse (not significant) D: Moderate Adverse (not significant)	No proposed monitoring required
The temporary disruption to farm holdings including reduced access to agricultural land.	✓	×	✓	C: Low D: Low	C: Medium D: Medium	C: Minor Adverse D: Minor Adverse	No further mitigation required	C: Minor Adverse D: Minor Adverse	No proposed monitoring required
The permanent disruption to farm holdings including reduced access to agricultural land.	✓	✓	✓	C: Negligible O: Negligible D: Negligible	C: Medium O: Medium D: Medium	C: Negligible O: Negligible D Negligible	No further mitigation required	C: Negligible O: Negligible D: Negligible	No proposed monitoring required
The temporary disruption or reduced access to PRoW.	✓	×	✓	C: Negligible D: Negligible	C: High (bridleways) D: High (bridleways)	C: Minor Adverse D: Minor Adverse	No further mitigation required	C: Minor Adverse D: Minor Adverse	No proposed monitoring required

Description of impact	Phase			Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D						
The permanent disruption or reduced access to PRoW.	✓	✓	✓	C: Negligible O: Negligible D: Negligible	C: High (bridleways) O: High (bridleways) D: High (bridleways)	C: Minor Adverse O: Minor Adverse D: Minor Adverse	No further mitigation required	C: Minor Adverse O: Minor Adverse D: Minor Adverse	No proposed monitoring required
The temporary disruption or reduced access to Oxford Greenbelt Way	✓	×	✓	C: Negligible O: Negligible D: Negligible	C: High O: High D: High	C: Minor Adverse O: Minor Adverse D: Minor Adverse	No further mitigation required	C: Minor Adverse O: Minor Adverse D: Minor Adverse	No proposed monitoring required
The permanent disruption or reduced access to Oxford Greenbelt Way.	✓	✓	✓	C: Negligible O: Negligible D: Negligible	C: High O: High D: High	C: Minor Adverse O: Minor Adverse D: Minor Adverse	No further mitigation required	C: Minor Adverse O: Minor Adverse D: Minor Adverse	No proposed monitoring required
The temporary disruption or reduced access to Shakespeare Way	✓	×	✓	C: Negligible D: Negligible	C: High D: High	C: Minor Adverse D: Minor Adverse	No further mitigation required	C: Minor Adverse D: Minor Adverse	No proposed monitoring required
The temporary disruption or reduced access to NCR 5	✓	×	✓	C: Negligible D: Negligible	C: Very High D: Very High	C: Minor Adverse D: Minor Adverse	No further mitigation required	C: Minor Adverse D: Minor Adverse	No proposed monitoring required

[a] C=construction, O=operational and maintenance, D=decommissioning

Table 17.27: Summary of potential cumulative environmental effects, mitigation and monitoring.

Description of effect	Phase[a] C	O	D	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
Tier 1									
The permanent loss of agricultural land, including BMV land and land from landholdings.	✓	×	×	C: High	C: Very High	C: Major Adverse	No further mitigation required	C:Major Adverse	No further monitoring required
The permanent disruption and reduced access to agricultural land, including BMV land.	✓	×	×	C: Medium	C: Low	C:Minor Adverse	No further mitigation required	C:Minor Adverse	No further monitoring required
The temporary impact on PRoW and other promoted routes.	✓	×	✓	C: Very High (NCR) D: Very High (NCR)	C: Negligible D: Negligible	C: Minor Adverse D: Minor Adverse	No further mitigation required	C:Minor Adverse D: Minor Adverse	No proposed monitoring required
Tier 2									
The permanent loss of agricultural land, including BMV land and land from landholdings.	✓	×	×	C: Medium	C: Very High	C: Moderate Adverse (not significant)	No further mitigation required	C:Moderate Adverse (not significant)	No further monitoring required
The permanent disruption and reduced access to agricultural land, including BMV land.	✓	×	×	C: Medium	C: Low	C: Minor Adverse	No further mitigation required	C:Minor Adverse	No further monitoring required
The temporary impact on PRoW and other promoted routes.	✓	×	✓	C: Very High (NCR) D: Very High (NCR)	C: Negligible D: Negligible	C: Minor Adverse D: Minor Adverse	No further mitigation required	C: Minor Adverse D: Minor Adverse	No proposed monitoring required

[a] C=construction, O=operational and maintenance, D=decommissioning

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