Longmarsh Green Energy

EPL Norfolk Limited

Scoping Report

Part 1

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Artificial Intelligence (AI) Disclosure Statement

The Artificial intelligence tools used in the preparation of this Scoping Report include standard spelling, grammar, consistency and proofreading checks.

All professional scoping conclusions and environmental impact assessment judgements alongside baseline data, scope and methodology for detailed technical assessments were identified and determined by competent human experts. The authoring professional team accepts full legal and professional responsibility for the accuracy and completeness of the submission.

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Glossary of Terms

Term	Definition
ADMS-6	Atmospheric Dispersion Modelling System model for point sources.
ADMS-Roads	Atmospheric Dispersion Modelling System model for Roads.
Agricultural Land Classification (ALC)	ALC is a methodology to determine land quality, with Grade 1 as excellent and Grade 5 as very poor. Grade 3 is subdivided into two subgrades.
Air Quality Objectives	A nationally defined set of health-based concentrations for nine pollutants, seven of which are incorporated in the Air Quality (England) Regulations 2000, setting out the extent to which the standards should be achieved by a defined date. There are also vegetation-based objectives for sulphur dioxide and nitrogen oxides.
Applicant	EPL Norfolk Limited, the party that will be seeking the necessary consents for the Proposed Development.
Areas (each individually an Area)	The five defined parts of the overall Site (i.e. Walpole Substation, Western Cable Route, Western Site, Eastern Cable Route and Eastern Site).
Best and Most Versatile (BMV)	English planning policy has defined land in ALC Grades 1, 2 and 3a as the “Best and Most Versatile” agricultural land.
Cable Routes	The Western Cable Route and Eastern Cable Route together.
Carbon Dioxide Equivalent (CO2e)	Carbon Dioxide Equivalent is a standard unit used to measure and compare the impact of different Greenhouse Gases (GHGs) on global warming. It expresses the effect of various gases in terms of the amount of carbon dioxide that would have the same Global Warming Potential (GWP).
Component	The different land uses proposed within the Site, including Solar Photovoltaic (PV) Panels (including associated inverters, transformers and switchgear), Data Centre Campus, Battery Energy Storage System (BESS) Units, Substations (including Intermediate and Export Substations, Export

Term	Definition
	Compound, Collector Compound, Export Substation and Combiner Box), biodiversity mitigation and enhancement areas, access areas and associated grid infrastructure to connect the Eastern Area to the Western Area and to connect the Proposed Development to the existing Walpole National Grid Energy Transmission (NGET) Grid Supply Point (GSP).
Cumulative effects	Cumulative effects comprise the combination or interaction of the effects of reasonably foreseeable human-induced changes within a specific geographical area and over a certain period of time and can be both direct and indirect. There are two types of cumulative effects: Inter-project effects and intra-project effects.
Development Consent Order (DCO)	A DCO is a statutory instrument granted by a Secretary of State in the United Kingdom under the Planning Act 2008 to permit the construction and operation of a Nationally Significant Infrastructure Project (NSIP).
DCO Application	The documentation that comprises the application for the DCO for the Proposed Development.
Eastern Cable Route	The route between the Western Site and the Eastern Site, including overhead lines and underground cabling Components of the Proposed Development.
Eastern Site	The Area located in proximity to the villages of Fincham and Barton Bendish. This Area will contain the following Components of the Proposed Development: Solar PV Panels, BESS Units, Substation, associated grid infrastructure, biodiversity mitigation and enhancement areas and access areas.
Environmental Impact Assessment (EIA)	EIA is a formal process set down in the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 used to systematically identify, predict and assess the significance of environmental effects related to a proposed development.
Environmental Statement (ES)	The ES is a document that presents outputs of the EIA process, including the assessment of the likely significant effects of the Proposed Development and

Term	Definition
	mitigation measures developed to avoid, prevent, reduce or offset such effects. The document must be prepared in accordance with the requirements of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.
Field Capacity Days (FCD)	The ALC methodology uses a measure of FCDs, which is an estimate of the number of days in a year when soils are saturated and can absorb no more water.
Greenhouse Gas (GHG)	GHGs are present within the atmosphere and they absorb and emit infrared radiation, contributing to global warming.
Glare	A continuous source of bright light.
Glint	A momentary flash of bright light.
Global Warming Potential (GWP)	GWP is a measure of how much heat a GHG traps in the atmosphere over a specific period, compared to carbon dioxide.
Habitats Regulations	The Conservation of Habitats and Species Regulations 2017, which covers the terrestrial environment.
Inter-project effects	Where the likely significant effects arising from a proposed development combine or interact with those effects associated with other developments located within a realistic geographical scope that may cause an effect of greater significance on the same receptor / receptor group.
Intra-project effects	Where two or more likely significant effects arising from a proposed development combine or interact to have effects on the same receptor / receptor group that may cause an effect of greater significance as compared to a single likely significant effect on that receptor / receptor group.
Lowest Observed Adverse Effect Level (LOAEL)	The level above which adverse effects on health and quality of life can be detected, as defined in the Noise Policy Statement for England (NPSE) and National Planning Practice Guidance (NPPG): Noise.
Main Site	The Western Site and Eastern Site together.

Term	Definition
Nationally Significant Infrastructure Project (NSIP)	Large-scale infrastructure projects that fall within one of the categories in Part 3 of the Planning Act 2008.
Net Zero	Refers to balancing the amount of GHGs emitted into the atmosphere with the amount removed, resulting in no overall increase in global emissions, when compared to a 1990 baseline (in the UK). Achieving Net Zero is essential for limiting global warming to 1.5°C or 2°C above pre-industrial levels, as outlined in the Paris Agreement.
Other Development	Existing and / or approved development which has environmental effects that have the potential to combine or interact with those from the Proposed Development (i.e. Inter-project Effects).
Proposed Development	The subject of the DCO Application, inclusive of all Components.
Rating Level, $L_{Ar,Tr}$	The Specific Sound Level plus any adjustment for the characteristic features of the sound.
Representative Concentration Pathway (RCP)	RCP refers to a set of climate scenarios that describe possible future GHG concentration trajectories and their impact on global climate change. Developed for the Intergovernmental Panel on Climate Change (IPCC), RCPs help model how different levels of emissions will affect global temperatures, sea levels, and ecosystems by 2100.
Significant Observed Adverse Effect Level (SOAEL)	The level above which significant adverse effects on health and quality of life occur, as defined in the NPSE and NPPG: Noise.
Site	The total overall boundary, that includes the Walpole Substation, Western Cable Route, Western Site, Eastern Cable Route and Eastern Site Areas.
Specific Sound Level, $L_{Aeq,Tr}$	The A-weighted equivalent continuous sound pressure level produced by the specific sound source at the reference location over a reference time interval, T.
UKCP18	UK Climate Projections 2018 are the latest set of climate projections for the UK, providing detailed information on how the UK's climate might change up to the year 2100. It includes data on temperature, rainfall, sea-level rise, and extreme weather events

Term	Definition
	to support climate risk assessments and adaptation planning.
Walpole Substation	The Area to the north-west of the existing Walpole NGET GSP where the Proposed Development will connect to the electricity grid.
Western Cable Route	The overhead line and underground cable route between the existing Walpole NGET GSP and the Western Site.
Western Site	The Area located to the north-east of the village of Tilney St Lawrence. This Area will contain the following Components of the Proposed Development: Solar PV Panels, BESS Units, Data Centre Campus, associated grid infrastructure, biodiversity mitigation and enhancement areas and access areas.

Abbreviations and Acronyms

Abbreviation / Acronym	Definition
AADT	Average Annual Daily Traffic
AC	Alternating Current
AGL	Above Ground Level
AIL	Abnormal Indivisible Loads
ALARP	As Low as Reasonably Practicable
ALC	Agricultural Land Classification
AOD	Above Ordnance Datum
AQMA	Air Quality Management Area
ASR	Annual Status Report
B&Bs	Bed and Breakfasts
BEIS	Department of Business, Energy & Industrial Strategy
BESS	Battery Energy Storage System
BGS	British Geological Survey
BMV	Best and Most Versatile Agricultural Land
BNG	Biodiversity Net Gain
BNL	Background Noise Level
BPM	Best Practicable Means
BRE	Building Research Establishment
BRES	Business Register and Employment Survey
BS	British Standard
CAA	Civil Aviation Administration
CAST	Combined Aerodrome Safeguarding Team
CCC	Climate Change Committee
CCRA	Climate Change Resilience and Adaptation
CCTV	Closed Circuit Television

Abbreviation / Acronym	Definition
CDM	Construction Design and Management
CDRA	Construction Dust Risk Assessment
CEA	Cumulative Effects Assessment
CIBSE	Chartered Institute of Building Services Engineers
CIEEM	Chartered Institute of Ecology and Environmental Management
CIfA	Chartered Institute for Archaeologists
CIRIA	Construction Industry Research and Information Association
CITB	Construction Industry Training Board
CL:AIRE	Contaminated Land: Applications in Real Environments
CLMA	Construction Labour Market Area
CMD	Common Medical Disorders
CNP	Critical National Priority
CO_2e	Carbon Dioxide Equivalent
COMAH	Control of Major Accident Hazards
CoP	Code of Practice
COSHH	Control of Substances Hazardous to Health
CRTN	Calculation of Road Traffic Noise
CWS	County Wildlife Sites
dB	Decibel
DBA	Desk Based Assessment
DC	Direct Electrical Current
DCO	Development Consent Order
DEFRA	Department for Environment, Food and Rural Affairs
DESNZ	Department of Energy Security and Net Zero
DfT	Department for Transport
DHSC	Department for Health and Social Care

Abbreviation / Acronym	Definition
DMRB	Design Manual for Roads and Bridges
DoW	Definition of Waste
DSM	Digital Surface Model
DTM	Digital Terrain Model
DWPA	Drinking Water Protected Area
DWSZ	Drinking Water Safeguard Zone
EA	Environment Agency
EcIA	Ecological Impact Assessment
ECoW	Ecological Clerk of Works
eDNA	Environmental DNA
EEA	European Economic Area
EFT	Emission Factor Toolkit
EIA	Environmental Impact Assessment
EMF	Electric and Magnetic Fields
EOPNIDB	East of the Ouse, Polver and Nar Internal Drainage Board
EPA	Environmental Protection Act 1990
EPD	Environmental Product Declarations
EPUK	Environmental Protection UK
ES	Environmental Statement
ESDAL	Electronic Service Delivery for Abnormal Loads
EU	European Union
EZoI	Ecological Zone of Influence
FAA	Federal Aviation Administration
FCD	Field Capacity Days
FEH	Flood Estimation Handbook
FEMAs	Functional Economic Market Areas
FRA	Flood Risk Assessment

Abbreviation / Acronym	Definition
FTE	Full Time Equivalent
GBTS	Great Britain Tourism Survey
GCN	Great Crested Newts
GHG	Greenhouse Gas
GIS	Geographical Information Systems
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GPA	Good Practice Advice
GPS	Global Positioning System
GSP	Grid Supply Point
GVA	Gross Value Added
GW	Gigawatt
Ha	Hectare
HCA	Homes and Communities Agency
HDV	Heavy Duty Vehicles
HEAN	Historic England Advice Note
HER	Historic Environment Record
HGV	Heavy Goods Vehicles
HRA	Habitats Regulation Assessment
HSE	Health and Safety Executive
HUDU	Healthy Urban Development Unit
HVO	Hydrotreated Vegetable Oil
IAQM	Institute of Air Quality Management
ICCI	In Combination Climate Impacts
ICE	Internal Combustion Engine
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IDB	Internal Drainage Board

Abbreviation / Acronym	Definition
IEMA	Institute of Environmental Management and Assessment
ILP	Institute of Lighting Professionals
IMD	Indices of Multiple Deprivation
INNS	Invasive Non-native species
IRENA	International Renewable Energy Agency
ISEP	Institute of Sustainability and Environmental Professionals
ISO	International Organization for Standardization
KL&WNBC	King's Lynn and West Norfolk Borough Council
KLIDB	King's Lynn Internal Drainage Board
Km	Kilometre
kV	Kilovolt
LAQM	Local Air Quality Management
LCA	Landscape Character Areas
LCT	Landscape Character Types
LDFP	Long Distance Footpaths
LDV	Light Duty Vehicles
LEN	List Entry Number
LFRMS	Local Flood Risk Management Strategy
LGV	Light Goods Vehicles
LI	Landscape Institute
LiDAR	Light Detection and Ranging
LLFA	Lead Local Flood Authority
LLSOA	Lower Layer Super Output Areas
LOAEL	Lowest Observed Adverse Effect Level
LPA	Local Planning Authority
LRF	Local Resilience Forums
LSA	Local Study Area

Abbreviation / Acronym	Definition
LVEPs	Local Visitor Economy Partnership Programmes
LVIA	Landscape and Visual Impact Assessment
LWS	Local Wildlife Sites
m	Metre
MAGIC	Multi-Agency Geographic Information for the Countryside
MSA	Mineral Safeguarding Area
MLSOA	Middle Layer Super Output Areas
MW	Megawatt
NAIP	Norfolk Access Improvement Plan
NAP3	Third National Adaptation Programme
NCA	National Landscape Character Areas
NCC	Norfolk County Council
NCN	National Cycle Network
NCR	National Cycle Route
NEET	Not in Education, Employment or Training
NFPA	National Fire Protection Association
NGET	National Grid Electricity Transmission
NDHA	Non-designated Heritage Asset
NH	National Highways
NHLE	National Heritage List for England
NHS	National Health Service
NLNRS	Norfolk Local Nature Recovery Strategy
NMP	National Mapping Project
NNR	National Nature Reserves
NO_2	Nitrogen Dioxide
NOx	Nitrogen Oxides (taken to be NO2 + NO)
NPPF	National Planning Policy Framework

Abbreviation / Acronym	Definition
NPPG	National Planning Practice Guidance
NPS	National Policy Statement
NPS EN-1	Overarching National Policy Statement for Energy
NPS EN-3	National Policy Statement for Renewable Energy Infrastructure
NPS EN-5	National Policy Statement for Electricity Networks Infrastructure
NPSE	Noise Policy Statement for England
NRMM	Non-road Mobile Machinery
NSIP	Nationally Significant Infrastructure Project
NTS	Non-Technical Summary
NVC	National Vegetation Classification
oBSMP	Outline Battery Safety Management Plan
oCEMP	Outline Construction Environmental Management Plan
oCTMP	Outline Construction Traffic Management Plan
oDEMP	Outline Decommissioning Environmental Management Plan
oDTMP	Outline Decommissioning Traffic Management Plan
OHID	Office for Health and Social Care
OHL	Overhead Line
oLEMP	Outline Landscape and Ecology Management Plan
ONS	Office for National Statistics
oOEMP	Outline Operational Environmental Management Plan
oOLS	Outline Operational Lighting Strategy
oROWAS	Outline Rights of Way Access Strategy
OS	Ordnance Survey
oSMP	Outline Soil Management Plan
oTP	Outline Travel Plan

Abbreviation / Acronym	Definition
PC	Process Contribution
PCHIA	Principles of Cultural Heritage Assessment
PHE	Public Health England
PINS	Planning Inspectorate
PM_{10}	Particulate Matter with a diameter of 10 micrometres or less
$PM_{2.5}$	Particulate Matter with a diameter of 2.5 micrometres or less
PoC	Point of Connection
PPE	Personal Protective Equipment
PRoW	Public Rights of Way
PV	Photovoltaics
PWMS	Precautionary Working Method Statement
R&PG	Registered Parks and Gardens
RAF	Royal Air Force
RCP	Representative Concentration Pathway
RICS	Royal Institute of Chartered Surveyors
RPA	Root Protection Areas
RPE	Respiratory Protective Equipment
RSPB	Royal Society for the Protection of Birds
RVAA	Residential Visual Amenity
SFRA	Strategic Flood Risk Assessment
SLR	Single Lens Reflex
SNCB	Statutory Nature Conservation Body
SOAEL	Significant Observed Adverse Effect Level
SoS	Secretary of State
SPZ	Source Protection Zone
SRN	Strategic Road Network
SSSI	Site of Special Scientific Interest

Abbreviation / Acronym	Definition
STANTA	Stanford Training Area
SuDS	Sustainable Drainage Systems
SWDS	Surface Water Drainage Strategy
TA	Transport Assessment
$tCO_2e/ha/yr$	Tonnes of Carbon Dioxide Equivalent Per ha Per Year
TEA	Triethanolamine
TGN	Technical Guidance Note
TraC	Transitional and Coastal
UAEL	Unacceptable Adverse Effect Level
UID	Unique Identifier
UK	United Kingdom of Great Britain and Northern Ireland
UKCP18	UK Climate Projections 2018
UKHAB	UK Habitat
UKHSA	UK Health Security Agency
UXO	Unexploded Ordnance
WCA	Wildlife and Countryside Act 1981
WEEE	Waste Electrical and Electronic Equipment
WFD	Water Framework Directive
WHO	World Health Organisation
WRAP	Waste and Resources Action Programme
WSA	Wider Study Area
WSI	Written Scheme of Investigation
ZOI	Zone of Influence
ZTV	Zone of Theoretical Visibility
$\mu g/m^3$	Micrograms per cubic metre

1 Introduction

1.1 Overview

1.1.1 Logika Group has been commissioned to prepare this Scoping Report to accompany a request for a Scoping Opinion from the Planning Inspectorate (PINS) (on behalf of the Secretary of State (SoS)) for the proposed Longmarsh Green Energy project by EPL Norfolk Limited (the 'Applicant').

1.1.2 The Longmarsh Green Energy project comprises the proposed construction, operation and maintenance and decommissioning of a solar photovoltaic (PV) panel array electricity generating station with electrical infrastructure (e.g. substations and underground cabling) (the 'Solar PV Panels'), Battery Energy Storage System (BESS) Units, a Data Centre Campus, biodiversity mitigation and enhancement areas, access areas and associated grid infrastructure to connect to the existing Walpole National Grid Electricity Transmission (NGET) Grid Supply Point (GSP). Collectively, these Components are referred to as the 'Proposed Development'. The Proposed Development will provide up to 1.3 – 1.4 gigawatts (GW) of electricity. It may also import surplus energy from the electricity grid when energy available to the grid exceeds demand. An initial description of the Proposed Development is provided in **Chapter 4: Initial Description of the Proposed Development**.

1.1.3 The land for the Proposed Development (the 'Site') is shown on **Figure 1-1: Site Location Plan**. The locations and extents of each Area of the Site are provided in **Figure 1-2a – f: Areas of the Site** and further details are provided in **Chapter 3: Location and Context of the Site**.

1.2 Definitions

1.2.1 The following project definitions have been used within this report, with reference to the Components listed in **Paragraph 1.1.2** (expanded on in **Chapter 4: Initial Description of the Proposed Development**) and **Figure 1-2a – f: Areas of the Site**:

- Walpole Substation – the Area to the north-west of the existing Walpole NGET GSP where the new substation Component of the Proposed Development will be located to connect into the electricity grid.
- Western Cable Route – the overhead line and underground cable route between the existing Walpole NGET GSP and the Western Site.

- Western Site – the Area located to the north-east of the village of Tilney St Lawrence. This Area will contain the following Components of the Proposed Development: Solar PV Panels, BESS Units and Data Centre Campus, associated grid infrastructure, biodiversity mitigation and enhancement areas and access areas.
- Eastern Cable Route – the route between the Western Site and the Eastern Site, including overhead lines and underground cabling Components of the Proposed Development.
- Eastern Site – the Area located in proximity to the villages of Fincham and Barton Bendish. This Area will contain the following Components of the Proposed Development: Solar PV Panels, BESS Units, associated grid infrastructure, biodiversity mitigation and enhancement areas and access areas.
- The 'Main Site' – this term refers to the Western Site and Eastern Site together.
- Cable Routes – this term refers to the Western Cable Route and Eastern Cable Route together.
- The Site boundary – this term reflects the overall land requirements for the Proposed Development, including the Walpole Substation, Main Site and Cable Routes.

1.2.2 Further details of the Areas are provided in **Chapter 3: Location and Context of the Site** and these are shown on **Figure 1-2: Areas of the Site**. Further details on the Components of the Proposed Development are provided in **Chapter 4: Initial Description of the Proposed Development** and the indicative locations of the Components are shown on **Figure 1-3: Layout Plan**.

1.3 The Applicant

1.3.1 The Applicant is a UK-based independent solar developer established to develop renewable energy infrastructure that will help the UK meet its legally binding 2050 Net Zero emissions target. EPL Norfolk Limited is a wholly owned subsidiary of Evolution Power Limited.

1.4 Consenting Regime and Purpose and Requirement for Environmental Impact Assessment (EIA)

Overview

1.4.1 The consenting regime for the Proposed Development is primarily provided by the following:

- Planning Act 2008[1].
- The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (the 'APFP Regulations')[2].
- The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the 'DCO EIA Regulations')[3].

1.4.2 It is noted that other impact assessment regimes are also relevant to the Proposed Development, including assessment under the Conservation of Habitats and Species Regulations 2017 ('Habitats Regulation Assessment') and the Water Framework Directive ('Water Framework Directive (WFD) Assessment'). These impact assessment regimes are discussed where relevant in this report.

Requirement for a Development Consent Order

1.4.3 Part 3, Section 14 of the Planning Act 2008 defines the types of development that constitute a 'Nationally Significant Infrastructure Project' (NSIP) and require development consent under Section 31.

1.4.4 The Proposed Development falls within the definition of an NSIP under Sections 14(1)(a) and 15(2) as it is for the construction of an onshore generating station in England which generates electricity directly from sunlight and has a capacity of more than 100 megawatts (MW) and Sections 14(1)(b) and 16 as it includes the installation of an electric line above ground wholly in England with a nominal voltage of more than 132 kilovolts (kV) and more than 2 kilometres (km) in length.

1.4.5 Under Section 35 of the Planning Act 2008, the SoS may give a direction for development to be treated as development for which development consent is required if the development is or forms part of (amongst other things) a business or commercial project of a prescribed description. A data centre is included within the list of prescribed projects within the Schedule to the Infrastructure Planning (Business or Commercial Projects) Regulations 2013[4]. The Applicant has submitted a request to the SoS for a Section 35 direction for the Data Centre

Campus Component of the Proposed Development to be treated as development for which development consent is required.

1.4.6 The Applicant will be seeking a Development Consent Order (DCO) to construct, operate and maintain and decommission the Proposed Development under Section 31 of the Planning Act 2008.

1.4.7 Section 37 of the Planning Act 2008 governs the form, content and accompanying documents that are required as part of a DCO Application. The requirements are implemented through the APFP Regulations.

1.4.8 The DCO Application will be submitted to PINS, who will examine the DCO Application and make recommendations to the SoS pursuant to the Planning Act 2008, who will subsequently determine whether or not a DCO should be granted for the Proposed Development.

The Purpose and Aims of EIA

1.4.9 The term 'EIA' is defined within Regulation 5(1) of the DCO EIA Regulations, as

> *"a process consisting of –*
>
> *(a) the preparation of an environmental statement or updated environmental statement, as appropriate, by the applicant;*
>
> *(b) the carrying out of any consultation, publication and notification as required under these Regulations, or, as necessary, any other enactment in respect of EIA development; and*
>
> *(c) the steps that are required to be undertaken by the Secretary of State under regulation 21 [Consideration of whether development consent should be granted] or by the relevant authority under regulation 25 [Decision-making on subsequent applications], as appropriate."*

1.4.10 Under Regulation 5(2), the

> *"EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors —*
>
> *(a) population and human health;*

> *(b) biodiversity, with particular attention to species and habitats protected under any law that implemented Directive 92/43/EEC and Directive 2009/147/EC;*
>
> *(c) land, soil, water, air and climate;*
>
> *(d) material assets, cultural heritage and the landscape;*
>
> *(e) the interaction between the factors referred to in sub-paragraphs (a) to (d).”*

1.4.11 EIA is a procedure that must be followed for certain types of projects before they can be granted consent (e.g. development consent). The procedure is a means of drawing together, in a systematic way, an assessment of a development's likely significant environmental effects and the measures for avoiding, preventing, reducing (termed ‘mitigation’) or, if practicable, offsetting (termed ‘compensation’) likely significant effects.

1.4.12 The aim of EIA is to protect the environment by ensuring that a determining body, such as the SoS, when deciding whether to grant consent for a development, which is likely to have significant effects on the environment, does so in the full knowledge of these likely significant effects, and takes them into account in the decision-making process.

The Need for EIA

1.4.13 United Kingdom (UK) legislation is influenced by a variety of international agreements (including European Union (EU) directives, regulations, and agreements), which are outlined in this report, where relevant. Following the UK leaving the EU, under the terms of the European Union (Withdrawal Agreement) Act 2020[5], EU-derived domestic legislation and certain EU legislation continue to have effect in domestic law.

1.4.14 As a DCO will be sought for the Proposed Development, the EIA process for the Proposed Development is underpinned by the DCO EIA Regulations. The DCO EIA Regulations set out the types of development which must be subject to an EIA (referred to as ‘Schedule 1 development’) and other types of development which may be subject to an EIA, depending on their potential to give rise to likely significant environmental effects (referred to as ‘Schedule 2 development’).

1.4.15 The Proposed Development (as described in **Chapter 4: Initial Description of the Proposed Development**) does not fall under any of the types of

development set out in Schedule 1 of the DCO EIA Regulations. However, the Proposed Development is of a type that falls under the following descriptions in Schedule 2 of the DCO EIA Regulations:

> *"3. Energy industry*
>
> *a) industrial installations for the production of electricity, steam and hot water (projects not included in Schedule 1 to these Regulations);*
>
> *b) industrial installations for carrying gas, steam and hot water; transmission of electrical energy by overhead cables (projects not included in Schedule 1 to these Regulations)"*
>
> *"10. Infrastructure projects*
>
> *a) industrial estate development projects".*

1.4.16 Given the nature, scale and location of the Proposed Development and the associated potential for likely significant environmental effects, the Applicant has concluded that the Proposed Development requires an EIA and consequently, a formal Screening Opinion is not being sought from the SoS. As the Applicant proposes to provide an ES in respect of the Proposed Development with the DCO Application, this report constitutes the Applicant's notification under Regulation 8(1)(b) of the DCO EIA Regulations.

1.4.17 The findings of the EIA will be reported in an Environmental Statement (ES) in accordance with the DCO EIA Regulations and will be submitted with the DCO Application in accordance with Regulation 5(2)(a) of the APFP Regulations.

1.5 Purpose and Objectives of this Report

1.5.1 Having determined that an ES will be included as part of the DCO Application, which will present the outputs of the EIA process, in accordance with Regulation 10(1) of the DCO EIA Regulations, the Applicant is applying to PINS for their opinion (on behalf of the SoS) as to the scope and level of detail of the information to be provided in the ES (a 'Scoping Opinion'), informed by this report.

1.5.2 The purpose of Scoping is to help ensure that the EIA is focused on the likely significant environmental effects and is also used to obtain agreement on the approach and methodologies for the detailed assessments, which will be

provided in the ES. This Scoping Report provides the justification and rationale for 'scoping out' technical aspects and associated environmental effects and / or receptors where it is considered that significant environmental effects are unlikely to arise as a result of the Proposed Development.

1.5.3 This report has been prepared in accordance with Regulation 10(3) of the DCO EIA Regulations as well as PINS Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment ('PINS Advice on EIA')[6] and PINS Nationally Significant Infrastructure Projects: Technical Advice Page for Scoping Solar Development (the 'PINS Advice for Scoping Solar Developments')[7].

1.5.4 **Table 1-1** presents the information that must be included in a request for a Scoping Opinion, as prescribed by Regulation 10(3) of the DCO EIA Regulations and the location of this information in this report. Supplementary descriptions in Regulation 8(3) are also provided for information in **Table 1-1**.

Table 1-1: Information required for a request for a Scoping Opinion

Description of information required (Regulation 10(3))	Supplementary descriptions (Regulation 8(3))	Location of required information in this report
"*A plan sufficient to identify the land*"	-	**Figure 1-1: Site Location Plan**, provided in **Appendix A: Figures**
"*A description of the proposed development, including its location and technical capacity*"	"*a description of the physical characteristics of the whole development and, where relevant, of demolition works;* *a description of the location of the development, with particular regard to the environmental sensitivity of geographical areas likely to be affected*."	**Chapter 3: Location and Context of the Site** and **Chapter 4: Initial Description of the Proposed Development**
"*An explanation of the likely significant effects of the development on the environment*"	"*…resulting from…* *the expected residues and emissions and the production of waste, where relevant; and* *the use of natural resources, in particular soil, land, water and biodiversity*."	**Technical Aspect Chapters 6 – 16**, **Chapter 18: Cumulative Effects Assessment Methodology** and **Chapter 19: Summary**

Description of information required (Regulation 10(3))	Supplementary descriptions (Regulation 8(3))	Location of required information in this report
"*Such other information or representations as the person making the request may wish to provide or make*"	-	**Technical Aspect Chapters 6 – 16**, **Chapter 18: Cumulative Effects Assessment Methodology** and **Chapter 19: Summary**

1.5.5 **Table 1-2** outlines the information recommended by PINS Advice on EIA and the location of the recommended information in this report.

Table 1-2: Information recommended by PINS Advice on EIA

Description of information recommended by PINS Advice on EIA	Location of recommended information in this report
A description of all elements of the Proposed Development	**Chapter 4: Initial Description of the Proposed Development**
A description of the location of the Proposed Development	**Chapter 3: Location and Context of the Site**
Referenced plans presented at an appropriate scale to ensure legibility and all known features associated with the Proposed Development	**Figure 1-1: Site Location Plan, Figure 1-2a – f: Areas of the Site**, and **Figure 1-3: Layout Plan** provided in **Appendix A: Figures**
An explanation of the approach to addressing uncertainty in relation to elements of the proposed development where this remains, and the clear identification of where flexibility or optionality is likely to be sought	**Chapter 2: EIA Methodology** and **Chapter 4: Initial Description of the Proposed Development**
A description of the development phases and how each phase will be assessed in the ES (construction, operation including maintenance, and decommissioning)	**Chapter 2: EIA Methodology**, **Chapter 4: Initial Description of the Proposed Development**, **Technical Aspect Chapters 6 – 16** and **Chapter 18: Cumulative Effects Assessment Methodology**
An outline of the reasonable alternatives studied and the reasons for selecting the preferred option including any views sought through consultation and / or engagement and how these have informed decision-making – or, where alternatives remain under consideration, a description of how it	**Chapter 2: EIA Methodology**

Description of information recommended by PINS Advice on EIA	Location of recommended information in this report
proposes to select the preferred option(s) taking into effects on the environment	
Results of desktop and baseline studies undertaken to date, where available	**Technical Aspect Chapters 6 – 16**
A detailed description of the aspects and matters proposed to be 'scoped out' of further assessment with reasoning and supporting information provided	**Technical Aspect Chapters 6 – 16**, **Chapter 17: Technical Aspects to be 'Scoped Out'**, **Chapter 18: Cumulative Effects Assessment Methodology**, **Chapter 19: Summary** and **Appendix B: Initial Commitments Register**
A summary table depicting each of the aspects and matters that are requested to be 'scoped out'	**Technical Aspect Chapters 6 – 16**, **Chapter 17: Technical Aspects to be 'Scoped Out'** and **Chapter 19: Summary**
For aspects and matters to be 'scoped in', a description of the methods to be used to further refine baseline conditions and to assess the significance of effects	**Chapter 2: EIA Methodology**, **Technical Aspect Chapters 6 – 16**, where relevant, and **Chapter 18: Cumulative Effects Assessment Methodology**
A summary of any measures proposed to avoid, reduce or prevent likely significant effects that are known at this stage and how they may be secured (with reference to a draft commitments' register where relied upon to scope matters out)	**Technical Aspect Chapters 6 – 16**, **Chapter 17: Technical Aspects to be 'Scoped Out'** and **Appendix B: Initial Commitments Register**
References to any guidance and best practice to be applied when defining the baseline, assessing effects or prescribing mitigation	**Chapter 2: EIA Methodology**, **Chapter 4: Initial Description of the Proposed Development**, **Technical Aspect Chapters 6 – 16**, **Chapter 17: Technical Aspects to be 'Scoped Out'** and **Appendix B: Initial Commitments Register**
Evidence of any agreements on the proposed scope of assessment with relevant bodies (e.g. the statutory nature conservation bodies or local authorities)	**Technical Aspect Chapters 6 – 16**, where relevant
An outline of the structure of the proposed ES	**Chapter 2: EIA Methodology** and **Appendix C: Structure and Format of the ES**

1.5.6 The guidance provided in the PINS Advice on Scoping Solar Developments has also informed this report, in particular:

- The 'Solar Scoping Table' – the evidence base provided in this report to 'scope out' particular technical aspects / potential effects has had regard to the Table, insofar as this information is applicable and available for the Proposed Development.
- The 'Supporting Technical Assessments to the Environmental Statement' – the approaches for the consideration of Electric and Magnetic Fields (EMF), glint and glare and lighting within this report have had regard to this section.

1.6 Structure of the Remainder of this Report

1.6.1 The remainder of this report is structured as follows:

- **Chapter 2: EIA Methodology** – provides an overview of the approach to the EIA process, including consultation and stakeholder engagement, approach to alternatives and design evolution, defining the project, approaches to the assessment of likely significant environmental effects, transboundary effects, co-ordination with other impact assessment regimes and the structure and format of the ES.
- **Chapter 3: Location and Context of the Site** – provides a broad description of the Site and each Area.
- **Chapter 4: Initial Description of the Proposed Development** – outlines the key Components of the Proposed Development and a description of the construction, operation and maintenance and decommissioning phases.
- **Chapter 5: Planning Policy Context** – identifies the key national and local planning policy documents, together with a summary of the principal planning policies or provisions relevant to the need for the Proposed Development.
- **Chapters 6 – 16: Technical Aspect Chapters** – present a summary of baseline information, engagement undertaken and mitigation identified to date and the proposed scope of the assessment (including the potential likely environmental effects proposed to be 'scoped out' and those 'scoped in'). A description is also provided of the proposed assessment methodologies for the detailed technical assessments to be presented in the ES.
- **Chapter 17: Technical Aspects to be 'Scoped Out'** – provides an evidence base for the technical aspects proposed to be 'scoped out'.
- **Chapter 18: Cumulative Effects Assessment Methodology** – sets out the intended approach to the cumulative effects assessment.

- **Chapter 19: Summary** – summarises the findings of the report in relation to technical aspects and potential likely environmental effects proposed to be 'scoped in' and 'scoped out' of the EIA.
- **Appendix A: Figures.**
- **Appendix B: Initial Commitments Register.**
- **Appendix C: Structure and Format of the ES.**
- **Appendix D: Built Heritage Assets.**
- **Appendix E: Desk Studies and Technical Notes.**

2 EIA Methodology

2.1 Overview

2.1.1 The overarching EIA process has been and will continue to be undertaken in accordance with the regulatory framework set by the DCO EIA Regulations and relevant case law and with regard to the following key good practice guidance and policy that contain advice in relation to the EIA process for NSIPs:

- PINS Advice on EIA.
- Nationally Significant Infrastructure Projects: Advice on the Preparation and Submission of Application Documents[8].
- Nationally Significant Infrastructure Projects: Advice on EIA Notification and Consultation[9].
- Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment ('PINS Advice on CEA')[10].
- Nationally Significant Infrastructure Projects: Advice on Preparing Applications for Linear Projects ('PINS Advice on Linear Projects')[11].
- Nationally Significant Infrastructure Projects: Technical Advice Page for Scoping Solar Development (the 'PINS Advice for Scoping Solar Developments').
- Nationally Significant Infrastructure Projects: Advice on Good Design[12].
- Institute for Sustainability and Environmental Professionals (ISEP) (formerly the Institute for Environmental Management and Assessment (IEMA) 'Implementing the Mitigation Hierarchy from Concept to Construction'[13] (the 'ISEP EIA Mitigation Hierarchy Guidance').
- Overarching National Policy Statement for Energy ('NPS EN-1')[14].
- National Policy Statement for renewable energy infrastructure ('NPS EN-3')[15].
- National Policy Statement for electricity networks infrastructure ('NPS EN-5')[16].
- National Planning Practice Guidance (NPPG)[17] (noting that this is primarily applicable to EIAs under the Town and Country Planning regime).

2.1.2 The detailed technical assessments reported in the ES will be undertaken with regard to specific technical methodologies in relevant standards, guidance and good practice documents. Further details are provided in **Technical Aspect Chapters 6 – 16**. Note that the approach to the assessment of cumulative effects is provided in **Chapter 18: Cumulative Effects Assessment Methodology**.

2.2 Approach to Scoping

2.2.1 As noted in **Chapter 1: Introduction**, this report sets out the overall framework for the EIA in relation to the technical aspects and associated likely significant environmental effects that will be subject to detailed technical assessment as part of the EIA and will be presented in the ES.

2.2.2 This report has been prepared having regard to the documents outlined in **Paragraph 2.1.1**. Based on an understanding of the Site and the initial description of the Proposed Development, the technical EIA team have:

- Established the relevant baseline conditions through desk-based studies, surveys, analysis and evaluation of technical data and information.
- Undertaken initial technical engagement with stakeholders.
- Developed mitigation measures to avoid, prevent, reduce or offset environmental effects.
- Identified whether potential likely effects associated with a technical aspect are not significant and therefore are proposed to be 'scoped out'. This may be due to the absence of a source, impact pathway or receptor or through the application of mitigation measures identified to date. An evidence base to justify 'scoping out' aspects and effects has been provided.
- Identified the potential likely significant environmental effects and the associated receptors that will be subject to detailed technical assessment in the ES.
- Established the methodology for detailed technical assessment of potential likely significant environmental effects in the ES.
- Identified any assumptions, limitations or uncertainties.

2.2.3 The outputs of the above are reported in **Technical Aspect Chapters 6 – 16** and **Chapter 17: Technical Aspects to be 'Scoped Out'** of this report.

2.2.4 If the information available at this Scoping stage does not enable a robust evidence-led conclusion to be reached that a potential likely environmental effect is not significant, then such effects have been precautionarily 'scoped in' for detailed technical assessment in the ES.

2.3 Approach to Consultation and Stakeholder Engagement

2.3.1 Consultation and engagement with stakeholders are critical to a proportionate and robust EIA process. This is recognised by the Applicant and regard will be had in particular to the advice contained within PINS's Nationally Significant

Infrastructure Projects: Advice on EIA Notification and Consultation and Nationally Significant Infrastructure Projects: Advice on working with public bodies in the infrastructure planning process[18].

2.3.2 In line with Regulation 10(6) of the DCO EIA Regulations, PINS, on behalf of the SoS, will consult 'the consultation bodies' (as defined in Regulation 3(1) of the DCO EIA Regulations) on this report before adopting the Scoping Opinion.

2.3.3 Outside of the formal Scoping consultation undertaken by PINS, technical engagement has been and will continue to be undertaken by the Applicant with relevant stakeholders, including Natural England, Environment Agency, Historic England, National Highways, Norfolk County Council (NCC) and King's Lynn and West Norfolk Borough Council (KL&WNBC), to guide baseline data collection, scope, assessment methodologies and development of mitigation measures, as appropriate.

2.3.4 Details of the technical engagement undertaken by the Applicant to date are provided in **Technical Aspect Chapters 6 – 16**. Further details of stakeholder engagement undertaken by the Applicant will be provided in the ES.

2.4 Approach to Alternatives and Design Evolution

2.4.1 The DCO EIA Regulations and relevant guidance require that an ES should contain a description of the reasonable alternatives considered by an applicant, which are relevant to a proposed development and its specific characteristics, and an indication of the main reasons for the chosen option, taking into account the effects of the development on the environment.

2.4.2 Under the DCO EIA Regulations, there is no requirement to assess alternatives, only a requirement to provide a review of those alternatives that have been considered. NPS EN-1 paragraph 4.3.22 also outlines that the SoS should, subject to any relevant legal requirements which indicate otherwise, be guided by the following principles when deciding what weight should be given to alternatives:

> *"The consideration of alternatives in order to comply with policy requirements should be carried out in a proportionate manner; and*
>
> *Only alternatives that can meet the objectives of the proposed development need to be considered."*

2.4.3 Based on guidance provided within the PINS Advice on EIA, NPS EN-1, NPS EN-3 and NPS EN-5 and drawing from the NPPG (albeit it is acknowledged that this primarily applies to developments undertaken within the Town and Country Planning regime), the following types of alternatives are proposed to be considered and reported on in the ES:

- Alternative locations – the Site location has been influenced by a number of factors, including proximity to available, near-term grid connection capacity at Walpole Substation, availability of suitable land that is proximate to Walpole Substation but that is remote from population centres / densely populated areas with limited public access, and proximity to the A-road highway network, alongside other environmental factors.
- Alternative routes and design options – the design of the Proposed Development has and will continue to evolve in response to the identification of environmental features, sensitivities and impacts, consultation feedback, stakeholder engagement, landowner discussions and engineering requirements.
- Alternative technologies – due to the nature of the Proposed Development, a series of alternative technology options have been and will continue to be considered, influenced by engineering requirements and environmental impacts.

2.4.4 It is proposed that where alternatives are examined and assessed during the application process in relation to the above, information on the potential options and reasons for selection (or otherwise) will be included within the ES.

2.4.5 The 'Do Nothing' scenario as an alternative to the Proposed Development, which would constitute no development, is not considered to be a reasonable alternative as it would not deliver the proposed renewable electricity generation capacity which is required to meet the UK's Net Zero statutory targets. NPS EN-1 paragraph 4.3.27 states that "*[a]lternative proposals which mean the necessary development could not proceed, for example because the alternative proposals are not commercially viable or alternative proposals for sites would not be physically suitable, can be excluded on the grounds that they are not important and relevant to the Secretary of State's decision*". On this basis, the 'Do Nothing' scenario will not be considered further as part of the evaluation of alternatives within the ES. However, the detailed technical assessments presented in the ES will include the determination of the 'future baseline' (see 'Consideration of the Future Baseline' below) to meet the requirements of the DCO EIA Regulations.

2.4.6 Where, at the time of submission of the DCO Application, alternative options are still necessary for any particular element of the Proposed Development, the EIA will consider and assess the 'worst case' impacts of the alternative options, in accordance with the 'Rochdale Envelope approach' outlined in PINS Advice on EIA. Further details on this approach are provided under the 'Application of the 'Rochdale Envelope' section below.

2.5 Defining the Proposed Development

2.5.1 As outlined in the brief description provided in **Chapter 1: Introduction**, the Proposed Development includes the following Components:

- Solar PV Panels.
- BESS Units.
- Data Centre Campus.
- Biodiversity mitigation and enhancement areas.
- Access areas.
- Associated grid infrastructure to connect the Eastern and Western Sites, and to connect the Western Site to the existing Walpole NGET GSP, including overhead lines and underground cabling.

2.5.2 A description of the Proposed Development, including the Components above, is provided in **Chapter 4: Initial Description of the Proposed Development**.

2.5.3 At this stage, off-site works undertaken by third parties related to utilities and services improvements or reinforcement works (such as for potable water supplies, foul water drainage or telecommunication connections) are to be identified through engagement with the relevant operators.

2.5.4 It is considered appropriate that such works do not need to be captured within the Site boundary as they would be undertaken by third parties and any impact will be assessed and controlled as part of a separate approval process for such works, which will be subject to its own protocols to understand any environmental effects.

2.5.5 Nonetheless, there is the potential for environmental effects associated with such works off-site. Therefore, in line with PINS Advice on EIA, these related and consequential developments will be considered. The proposed approach is to provide an assessment commensurate with the level of information available, to ensure that the 'combined' effects with the Proposed Development are identified

and presented in the ES. Further details are provided in **Chapter 18: Cumulative Effect Assessment Methodology**.

2.6 Approach to EIA

Overview

2.6.1 This section outlines the overarching approach for the EIA process. Where there is deviation from the overarching approach across the technical aspects, due to technical standards and guidance, good practice and the nature of specific environmental effects, this is set out in **Technical Aspects Chapters 6 – 16** and **Chapter 17: Technical Aspects to be 'Scoped Out'**, where relevant.

Study Areas

2.6.2 The Site boundary upon which baseline data has been and will continue to be collected is defined in **Figure 1-1: Site Location Plan**. The Site boundary represents the full extent of temporary and permanent works required to construct, operate and maintain and decommission the Proposed Development, as understood at this stage.

2.6.3 Where required, specific technical study areas informed by legislation, policy, standards and guidance will also be used. These are typically defined as a radius from the Site boundary.

2.6.4 The technical study areas for each aspect (and associated environmental effects) are defined in **Technical Aspect Chapters 6 – 16** and **Chapter 17: Technical Aspects to be 'Scoped Out'**, where relevant.

Baseline Data Collection Activities

2.6.5 Likely significant environmental effects as a result of the Proposed Development will be described in the ES in relation to the deviation from the relevant baseline conditions within the Site and / or relevant technical study areas.

2.6.6 The baseline conditions have been and will continue to be based on the following:

- Desk-based studies, including review of existing site-specific environmental information or public literature.
- Site visits and surveys.
- Computer modelling.
- Review of relevant national and local planning policies.

- Engagement with the relevant stakeholders through the EIA process.

2.6.7 At this Scoping stage, the level of baseline collection is appropriate to enable the identification of the potential likely significant environmental effects. As set out in **Technical Aspect Chapters 6 – 16** and **Chapter 17: Technical Aspects to be 'Scoped Out'**, in many cases, this comprises desk-study data, supplemented with some survey data. Further baseline data collection activities are to be undertaken to inform the detailed technical assessments that will be reported in the ES, as outlined in **Technical Aspect Chapters 6 – 16**.

2.6.8 The data used to inform the baseline conditions will vary depending upon the timing of surveys or the date when data sources will have been accessed. Where relevant, older data may be obtained from third parties, though it may still be relevant to establishing the baseline conditions if there have been no notable changes or if it is the latest available information. The origin of all data, the dates of baseline data collection activities and the dates when data sources have been accessed will be clearly outlined with associated limitations, assumptions and uncertainties in the ES.

2.6.9 It is understood that the majority of the Site has been or will be subject to a degree of ongoing land management, such as arable cultivation, during baseline data collection. While such management practices directly influence the 'baseline' of the majority of the Site, there is unlikely to be any material influence on the prevailing environmental conditions identified through baseline data collection activities due to the relatively low-impact nature and recent history of such practices.

Consideration of the Future Baseline

2.6.10 As required by the DCO EIA Regulations, the ES will report on the likely evolution of the baseline conditions, with justification given as to why any change is assumed. The discussion will focus on how the Site and technical study area(s) may change, assuming the Proposed Development did not go forward and with the continuation of the existing land management regimes.

Identification of Sensitive Receptors

2.6.11 Informed by baseline information and data, a series of receptors or receptor groups are identified and evaluated. Where potential likely significant environmental effects are anticipated to occur on these receptors, these receptors will be subject to detailed technical assessment in the ES.

2.6.12 In addition, the future receptors associated with the Proposed Development have also been considered as receptors, for example, construction workers and future employees. This will ensure that all likely significant environmental effects of the Proposed Development are considered throughout all relevant development phases.

2.6.13 Details of the receptors that are subject to detailed technical assessment in the ES are set out in **Technical Aspect Chapters 6 – 16**, alongside the relevant potential likely significant environmental effects.

Information to Inform the Detailed Assessments in the ES

2.6.14 The technical assessments reported in the ES will be based on the description of the Proposed Development provided as part of the ES (see **Appendix C: Structure and Format of the ES**) and supporting plans and figures.

2.6.15 The description of the Proposed Development will comprise an expanded version of **Chapter 4: Initial Description of the Proposed Development** in this report and will cover all Components of the Proposed Development and its different development phases, including construction, operation and maintenance and decommissioning.

2.6.16 The DCO Application will include a Design Principles Document, Land Plans, Works Plans and Draft DCO that will set out the parameters within which the Proposed Development will be carried out. Further details will be provided in the ES of all the information that has informed the detailed technical assessments.

2.6.17 Together, the description of the Proposed Development and the documents referred to above will provide the necessary information required to inform a robust assessment of likely significant environmental effects and to meet the requirements of the DCO EIA Regulations.

Application of the 'Rochdale Envelope'

2.6.18 The PINS Advice on EIA explains that the "*'Rochdale Envelope' assessment approach is an acknowledged way of assessing a proposed development comprising EIA development where uncertainty exists and necessary flexibility is sought*". The Rochdale Envelope recognises that during the early stages of development design, certain aspects may remain subject to change. However, an application for a DCO should ensure that it contains a level of detail that enables a proper assessment of the environmental effects to be made. The extent of flexibility needed depends on the design progress when the application for a

DCO is made. To accommodate this, the detailed technical assessments can define an 'envelope' within which the proposed development will unfold, featuring maximum and (where appropriate) minimum parameters, so that an assessment of the reasonable worst-case scenario can be undertaken. The parameters should be as realistic as possible to determine likely significant environmental effects as accurately as possible.

2.6.19 PINS Advice on EIA provides guidance on the application of the Rochdale Envelope approach for NSIPs. The PINS Advice on Linear Projects also contains guidance on flexibility, including Limits of Deviation.

2.6.20 To comply with the DCO EIA Regulations, PINS Advice on EIA and the PINS Advice on Linear Projects, these parameters will be defined as narrowly as possible to enable the accurate identification, assessment and reporting of the likely significant environmental effects, rather than exaggerating effects that are improbable.

2.6.21 The ES will clearly set out which Components of the Proposed Development are yet to be finalised and provide reasons for this. Where flexibility is sought for any Components, the ES will set out the construction, operation and maintenance and decommissioning phase parameters and the works involved. The EIA will ensure a clear understanding of assumptions applied to represent a ‘worst-case’, ensuring a robust assessment of the likely significant environmental effects.

2.6.22 To ensure clarity as to how mitigation measures included within the design of the Proposed Development are secured, a Commitments Register will be included within the DCO Application, with an initial version provided as **Appendix B: Initial Commitments Register** of this report. Further details on the Commitments Register are provided under ‘Consideration of Mitigation, Enhancement and Monitoring’ below.

Assessment Scenarios

Main Assessment Scenarios

2.6.23 The EIA will assess the likely significant environmental effects arising from the Proposed Development, taking into account the construction, operation and maintenance and decommissioning phases. Therefore, the main assessment scenarios that will be assessed, where relevant to each technical aspect / likely significant environmental effect, comprise:

- Baseline vs construction – this will vary across the technical aspects and will not be attributed to a specific year. Instead, it will be determined at what point the worst-case impact could occur, as relevant to each likely significant environmental effect. This will be clearly defined within the detailed technical assessments reported in the ES.
- Baseline vs operation and maintenance – this will consider the environmental effects associated with the full operation of the Proposed Development (or specific Components thereof) and maintenance activities.
- Baseline vs decommissioning – this will consider the environmental effects associated with the decommissioning of the Proposed Development (or specific Components thereof). Where relevant, this will utilise outputs of the detailed technical assessment of the construction phase to inform the evaluation of likely significant environmental effects.

2.6.24 Further details on the anticipated start and end dates for the main development phases above will be provided in the ES. For the purposes of the EIA, the decommissioning assessment will be based on an assumption that the temporary Components of the Proposed Development (i.e. all above ground infrastructure at the Eastern Site, the Eastern Cable Route and the Solar PV Panels at the Western Site) will be operational for 60 years. The detailed technical assessments will not assume that the operation and maintenance phase of the permanent Components of the Proposed Development (i.e. Walpole Substation, the Data Centre Campus / BESS Units / Substation in the Western Site, the Western Cable Route, biodiversity mitigation and enhancement areas and the Western Site's associated operational access areas and grid infrastructure) will be limited to 60 years as these Components may continue to be operating safely beyond this time period. However, this timeframe will be used as an approximation to assess the likely significant environmental effects arising from the decommissioning phase, taking account of the uncertainty associated with the future timing and context of decommissioning. This approach ensures that the assessment considers the potential likely significant environmental effects of decommissioning based on the anticipated operational lifespan of the Proposed Development. Further details will be provided within the ES.

Data Centre Campus Considerations

2.6.25 The Data Centre Campus forms part of the Proposed Development as described above (under 'Defining the Proposed Development'). However, in the event that the Data Centre Campus did not come forward, Solar PV Panels would instead

be delivered in this part of the Site, alongside the BESS Units and Substation. This optionality has been considered in preparing this report. It should be noted that the primary assessment scenario is the inclusion of the Data Centre Campus.

2.6.26 The optionality does not trigger the need for additional baseline activities to be undertaken for the purposes of the detailed technical assessment, as set out across this report. This is because the suite of baseline data collection activities required is the same in either scenario. Evaluation trial trenching is being undertaken for the Data Centre Campus / BESS Units / Substation in the Western Site to obtain information on archaeology on a conservative basis given the anticipated extent of below-ground works associated with this proposed land use.

2.6.27 This optionality does not trigger the need to consider any new or additional receptors over and above those already considered within the **Technical Chapters 6 – 16** and **Chapter 17: Technical Chapters to be 'Scoped Out'**. This is because the receptors requiring assessment are the same in either scenario.

2.6.28 The optionality is not anticipated to change the scope or the methodology for the detailed technical assessment set out in this report. Further information is provided in **Table 2-1**.

Table 2-1: Summary of whether the optionality changes the scope of assessment

Technical aspect	Does the optionality change the scope and methodology for assessment?	
Transport and access	×	The scope and methodology for detailed technical assessment set out in **Chapter 6: Transport and Access** are based on the greatest number of vehicle movements and largest vehicles (e.g. Abnormal Indivisible Loads (AILs)) for all phases.
Noise and vibration	×	The scope and methodology for detailed technical assessment set out in **Chapter 7: Noise and Vibration** are based on the greatest noise and vibration-generating plant, equipment, activities and traffic generation for all phases.
Air quality	×	The scope and methodology for detailed technical assessment set out in **Chapter 8: Air Quality** are based on the greatest number of traffic movements

Technical aspect	Does the optionality change the scope and methodology for assessment?	
		and plant, equipment and activities with emissions to air (e.g. backup generators) for all phases.
Biodiversity	×	The scope and methodology for detailed technical assessment set out in **Chapter 9: Biodiversity** are based on the greatest number of traffic movements and scale / footprint of development as well as operational activities (including emissions to air from backup generators) and lighting requirements for all phases.
Landscape and visual	×	The scope and methodology for detailed technical assessment set out in **Chapter 10: Landscape and Visual** are based on the greatest scale, massing and development footprint for all phases.
Built heritage	×	The scope and methodology for detailed technical assessment set out in **Chapter 11: Built Heritage** are based on the greatest scale, massing and development footprint for all phases.
Buried heritage	×	The scope and methodology for detailed technical assessment set out in **Chapter 12: Buried Heritage** are based on the greatest extent of groundworks for all phases.
Water environment	×	The scope and methodology for detailed technical assessment set out in **Chapter 13: Water Environment** are based on the greatest extent of groundworks, scale / footprint of development and the demands on potable and foul water infrastructure for all phases.
Agricultural land and soils	×	The scope and methodology for detailed technical assessment set out in **Chapter 14: Agricultural Land and Soils** are based on the greatest extent of groundworks and loss and disturbance of agricultural land and soils for all phases.
Greenhouse gases and climate change	×	The scope and methodology for detailed technical assessment set out in **Chapter 15: Greenhouse Gases and Climate Change** are based on the largest scale / footprint of development, inputs required (e.g. water) and traffic generation for all phases.
Socio-economics and population	×	The scope and methodology for detailed technical assessment set out in **Chapter 16: Socio-economics**

Technical aspect	Does the optionality change the scope and methodology for assessment?
	and Population are based on the lowest potential employment and economic effects (i.e. the worst-case) and highest potential effects in relation to services, tourist accommodation, etc. from the Proposed Development for all phases.

2.6.29 The optionality has been accounted for within the evidence base provided to 'scope out' technical aspects (and associated potential effects). This is summarised in **Table 2-2**.

Table 2-2: Consideration of whether the optionality would change the technical aspects 'scoped out'

Technical aspect	Discussion
EMF	× The inclusion of the Data Centre Campus would be a worst-case given the potential EMF generation within the buildings. This has been accounted for within the evidence base to 'scope out' presented in **Chapter 17: Technical Aspects to be 'Scoped Out'**.
Glint and glare	× The inclusion of the Solar PV Panels instead of the Data Centre Campus is considered to represent a 'worst-case' in relation to glint and glare, as this is generated by the Solar PV Panel Component only. This has been accounted for within the evidence base to 'scope out' presented in **Chapter 17: Technical Aspects to be 'Scoped Out'**. The worst-case position, of the Solar PV Panels instead of the Data Centre Campus, will be reflected within the Solar Photovoltaic Glint and Glare Assessment.
Human health	× The worst-case positions for the related technical aspects (e.g. transport and access, noise and vibration, air quality, landscape and visual, water environment and land quality) have been accounted for within the evidence base to 'scope out' presented in **Chapter 17: Technical Aspects to be 'Scoped Out'**.
Land quality	× The inclusion of the Data Centre Campus is considered to be a worst-case due to the extent of groundworks for this Component. This has been accounted for within the evidence base to 'scope

Technical aspect		Discussion
		out' presented in **Chapter 17: Technical Aspects to be 'Scoped Out'**.
Lighting	×	The inclusion of the Data Centre Campus is considered to be a worst-case due to the lighting requirements for this Component. This has been accounted for within the evidence base to 'scope out' presented in **Chapter 17: Technical Aspects to be 'Scoped Out'**.
Major accidents and disasters	×	The inclusion of the Data Centre Campus is considered to be a worst-case due to the greater vulnerability of this Component to major accidents and disasters compared with Solar PV Panels. This has been accounted for within the evidence base to 'scope out' presented in **Chapter 17: Technical Aspects to be 'Scoped Out'**.
Microclimate	×	The inclusion of the Data Centre Campus is considered to be a worst-case due to the scale, massing and development footprint of this Component. This has been accounted for within the evidence base to 'scope out' presented in **Chapter 17: Technical Aspects to be 'Scoped Out'**.
Waste and materials	×	The inclusion of the Data Centre Campus is considered to be a worst-case due to the volume of waste generated and material resources used by this Component during construction and operation and maintenance. The inclusion of the Solar PV Panels instead of the Data Centre Campus is a worst-case in relation to decommissioning due to the 'additional' volume of waste that would be generated. These scenarios have been accounted for within the evidence base to 'scope out' presented in **Chapter 17: Technical Aspects to be 'Scoped Out'**.

2.6.30 Within the ES and supporting assessments, as relevant to the potential effects, an assessment will be undertaken for both scenarios, with the reporting of this optionality focusing on whether there is a change in the level of effect and significance between the two scenarios.

Additional Anticipated Assessment Scenarios

2.6.31 Additional assessment scenarios will be considered for specific technical aspects or likely significant environmental effects. Further details are provided in **Technical Aspect Chapters 6 – 16**, where relevant.

Consideration of Mitigation, Enhancement and Monitoring

2.6.32 Following the ISEP Mitigation Hierarchy Guidance, different categories of mitigation have been and will be identified and developed as part of the EIA process as follows:

- Primary mitigation – modifications to the location or design of the Proposed Development made during the pre-application phase that are an inherent part of the development.
- Secondary mitigation – bespoke, targeted measures required in response to development or site-specific sensitivities and / or bespoke actions that will require further activity to be undertaken to achieve the anticipated outcome.
- Tertiary mitigation – actions that would occur with or without input from an EIA. These include actions undertaken to meet other existing legislative requirements or actions considered to be standard practice that are used to manage commonly occurring environmental effects.

2.6.33 The design process has and will continue to be informed by baseline surveys, desktop reviews and technical analysis and evaluation, so that environmental effects are well understood and primary and tertiary mitigation can be developed. An example of primary mitigation is offsetting infrastructure from an ecological designation within the development layout. An example of tertiary mitigation includes the implementation of measures required by the Construction (Design and Management) ('CDM') Regulations 2015[19].

2.6.34 The assessment of likely significant environmental effects presented in the ES will first consider the effects, inclusive of relevant primary and tertiary mitigation measures, during the construction, operation and maintenance and decommissioning phases. The resulting level of effect, taking these measures into account, will then be presented. Where secondary mitigation or bespoke enhancement measures are identified to be required, these are then presented. A residual effects assessment, accounting for these secondary measures, will then be undertaken, with the overall level of effect and significance subsequently reported.

2.6.35 Secondary mitigation measures are only considered appropriate if there is a high-level of confidence in their deliverability, efficacy and implementation (by the Applicant or a third party).

2.6.36 Where enhancement measures are identified to be required, these will be considered either as primary mitigation where these are 'embedded' into the development layout and design or as tertiary mitigation where these are standard practice to maximise beneficial environmental effects. Where bespoke enhancement measures are required, these will be treated as secondary mitigation.

2.6.37 Where monitoring arrangements are identified to be required, these will be considered as tertiary mitigation where such arrangements are commonly undertaken and / or required by relevant standards and guidance. Where bespoke monitoring arrangements are proposed, these will be treated as secondary mitigation.

2.6.38 Mitigation identified to date is set out in **Technical Aspect Chapters 6 – 16**. The measures are summarised in **Appendix B: Initial Commitments Register**. A full Commitments Register will be prepared alongside the ES, identifying how commitments will be secured and implemented to ensure that potential likely significant environmental effects arising from the Proposed Development are mitigated as far as possible, in accordance with the EIA mitigation hierarchy. The Commitments Register follows PINS' Nationally Significant Infrastructure Projects: Commitments Register[20].

Approach to Defining Level of Effect and Significance

2.6.39 The approach to defining the level of effect varies between technical aspects, but in principle will be based on:

- The sensitivity (or value, importance, etc.) of a receptor or a receiving environment to change includes aspects such as adaptability, tolerance to change or recoverability from a change. Sensitivity (or value, importance, etc.) will typically be assessed on a scale of high, medium, low and negligible.
- The magnitude of impact (or change) from the relevant baseline conditions and / or against a prescribed threshold / criteria incorporates aspects such as probability, likelihood of occurrence, geographical extent, complexity, duration, frequency and reversibility (i.e. whether the effect is temporary or permanent). The magnitude of impact (or change) will typically be assessed on a scale of large, medium, small and negligible.

2.6.40 The above will be combined to determine the level of effect with the support of the matrix in **Table 2-3**, alongside professional judgement. This may, where relevant, take account of other factors, such as feedback from stakeholders, relevant legislation, international / national / regional / local standards and guidance and the inter-relationship between environmental effects.

2.6.41 Whilst the matrix within **Table 2-3** provides ranges, this is to guide the competent expert and a definitive level of effect will be provided, where possible, for each likely significant environmental effect reported in the ES. The level of effect can be adverse or beneficial.

Table 2-3: Standard matrix to determine the level of effect

		Sensitivity (or value, importance, etc.)			
		High	**Medium**	**Low**	**Negligible**
Magnitude of impact (or change)	**Large**	Major	Major to Moderate	Moderate to Minor	Negligible
	Medium	Major to Moderate	Moderate	Minor	Negligible
	Small	Moderate to Minor	Minor	Minor to Negligible	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

2.6.42 For some technical aspects, relevant legislation, policy, standards or guidance or the nature of the likely significant environmental effects require that differing criteria or scales for determining the level of effect are used from those set out above. However, for consistency within the ES, the level of effect will be reported using the terminology set out in **Table 2-3** (i.e. Major, Moderate, Minor or Negligible), where appropriate for the technical aspect.

2.6.43 For every likely significant environmental effect, a binary judgement will be made as to whether it is 'Significant' or 'Not Significant'. Where the level of effect is reported, it is anticipated that Major or Moderate effects would be 'Significant' and Minor or Negligible effects would be 'Not Significant'. Any departures from this will be justified with professional judgement and / or relevant legislation, policy, standards and guidance, where applicable. Significance will be concluded

only on the residual level of effect (i.e. following the identification of secondary mitigation or enhancement).

2.6.44 Likely significant environmental effects will also be described in line with the requirements of the DCO EIA Regulations (i.e. as direct or indirect, short, medium or long-term and permanent or temporary). The durations of short, medium and long-term will be set out for each technical aspect within the ES.

2.6.45 Summary tables that outline the likely significant environmental effects, affected receptors, the residual level of effect and whether the effect is considered to be 'Significant' or 'Not Significant' will be provided at the end of each Technical Aspect Chapter in the ES. An overall summary Chapter will also be provided.

Limitations, Assumptions or Uncertainties

2.6.46 Where limitations, assumptions or uncertainties have been identified to date, these are outlined within this report. For those technical aspects proposed to be 'scoped in', where further limitations, assumptions or uncertainties are identified during the preparation of the detailed technical assessments, these will be presented in the ES.

2.7 Transboundary Effects

2.7.1 Regulation 32 of the DCO EIA Regulations requires the consideration of any likely significant effects in the environment of another European Economic Area (EEA) State. Guidance on the consideration of transboundary effects is provided in PINS' Nationally Significant Infrastructure Projects: Advice on Transboundary Impacts and Process[21].

2.7.2 Due to the nature and location of the Proposed Development (as set out in **Chapter 3: Location and Context of the Site** and **Chapter 4: Initial Description of the Proposed Development**), it is not anticipated that there is a potential for likely significant effects on the environment of another EEA State. Therefore, a transboundary screening matrix has not been included within this report and transboundary effects are proposed to be 'scoped out' of detailed technical assessment.

2.8 Co-ordination with Habitats Regulation Assessment

2.8.1 The Site is located circa 2.1km at its nearest point to the closest National Site Network Site (i.e. Breckland Special Protection Area (SPA) – see further details

in **Chapter 9: Biodiversity**). The Proposed Development is not related to the management of any national network site. The Conservation of Habitats and Species Regulations 2017 (the 'Habitat Regulations')[22] are considered to apply to the Proposed Development.

2.8.2 Regulation 26 of the DCO EIA Regulations requires that an assessment under the Habitats Regulations ('Habitats Regulation Assessment' (HRA)) is 'co-ordinated' with the EIA process.

2.8.3 To meet this requirement, the following elements will be co-ordinated:

- Baseline data collection, including the bird surveys that have been undertaken to date (further details are provided in **Chapter 9: Biodiversity**).
- Scope of assessment.
- Engagement with Natural England, KL&WNBC, NCC and other stakeholders, as relevant.
- Assessment methodology.
- Cumulative effects assessment, where appropriate, as it is noted that HRA additionally requires the consideration of 'plans'.

2.8.4 The co-ordination of the EIA and HRA processes will be documented in the ES.

2.9 Structure of the ES

2.9.1 In accordance with Regulation 14 and Schedule 4 of the DCO EIA Regulations and PINS Advice on EIA, the EIA process will be documented in an ES which will:

- Describe the Proposed Development.
- Describe the reasonable alternatives studied by the Applicant.
- Provide details of the EIA methodology and any technical methodologies and data used in support of the detailed technical assessments.
- Present the relevant baseline conditions, including a consideration of the future baseline.
- Present the assessment of likely significant environmental effects.
- Detail any mitigation, enhancement and monitoring measures that have been identified and developed.
- Present the assessment of residual effects.
- Report the cumulative effects (the methodology is set out in **Chapter 18: Cumulative Effects Assessment Methodology**).

2.9.2 The ES will comprise three volumes:

- **Volume 1: Informative Chapters.**
- **Volume 2: Technical Aspect Chapters.**
- **Volume 3: Supporting Information** (including figures and appendices).

2.9.3 The proposed format and structure of the ES is provided in **Appendix C: Structure and Format of the ES**.

2.9.4 A standalone Non-Technical Summary (NTS) will be prepared, which will communicate the key findings of the EIA in a clear and concise format to allow stakeholders and local communities to understand what the Proposed Development comprises and where it is located, the likely significant environmental effects and mitigation measures.

3 Location and Context of the Site

3.1 Overview

3.1.1 This Chapter provides a broad description of the Site and its constituent Areas in terms of location, setting and existing land uses. Technical baseline information is provided in **Technical Aspect Chapters 6 – 16** (for those technical aspects for which potential likely significant effects have been identified) and in **Chapter 17: Technical Aspects to be 'Scoped Out'** (for those technical aspects for which no likely significant effects have been identified).

3.2 Location, Setting and Land Uses

3.2.1 The Site boundary is shown in **Figure 1-1: Site Location Plan** and consists of approximately 1,980 hectares (ha) of land. The Site boundary spans from near the hamlet of Walpole Marsh in the west to near the village of Barton Bendish in the east, extending circa 29km north-west to south-east. The approximate centre of the Site boundary is at Ordnance Survey (OS) grid reference TF 61049 13487.

3.2.2 The Site boundary falls wholly within the administrative areas of KL&WNBC and NCC.

3.2.3 As outlined in **Chapter 1: Introduction**, the Site consists of five Areas:

- Walpole Substation.
- Western Cable Route.
- Western Site.
- Eastern Cable Route.
- Eastern Site.

3.2.4 It is noted that the Western Site and the Eastern Site are geographically separate, with the nearest part of each boundary located approximately 11.5km apart. Notwithstanding this spatial separation, both land parcels form integral and complementary parts of the Proposed Development and are not standalone or alternative sites.

3.2.5 A broad description of these Areas is provided below and they are shown in **Figure 1-2a – f: Areas of the Site**.

Walpole Substation

3.2.6 Walpole Substation consists of a block of land to the north-west of the existing Walpole NGET GSP.

3.2.7 The Walpole Substation covers approximately 43ha and consists of agricultural fields, existing infrastructure associated with overhead lines and the existing Walpole NGET GSP. Hedgerows, trees, woodland, ditches, roads and properties form the boundaries of the Walpole Substation.

3.2.8 The Walpole Substation is not dissected by any Main Rivers; the River Nene is located approximately 1km to the west at the closest.

3.2.9 The nearest settlements to the Walpole Substation include:

- Walpole Marsh.
- Walpole St Peter and Walpole St Andrew.
- Ingleborough.

Western Cable Route

3.2.10 The Western Cable Route consists of a linear corridor of land from the existing Walpole NGET GSP to the Western Site, near Tilney High End.

3.2.11 The Western Cable Route comprises a corridor of up to 100m wide and circa 8km long, predominantly consisting of agricultural fields alongside ditches and roads. At its western extent, the Western Cable Route also encompasses the existing Walpole Bank Solar farm. The works will be contained to a limited width within this corridor over its full length. The existing Walpole NGET GSP infrastructure, ditches, hedgerows, roads and properties form the boundaries of the Western Cable Route.

3.2.12 The Western Cable Route is not dissected by any Main Rivers; the River Nene is located approximately 600m to the west at the closest point (refer to **Figure 1-2c**).

3.2.13 The nearest settlements to the Western Cable Route comprise:

- Walpole St Peter.
- Ingleborough.
- Tilney High End.

Western Site

3.2.14 The Western Site consists of a contiguous block of land to the south-east of Tilney High End and east and north-east of Tilney St Lawrence.

3.2.15 The Western Site comprises circa 629ha of land, predominantly consisting of agricultural fields and ditches, with some small areas of woodland, hardstanding and roads. Woodland, hedgerows, roads and the gardens of properties form the boundaries of the Western Site.

3.2.16 The Western Site is not dissected by any Main Rivers; the River Great Ouse is located approximately 1km to the west at the closest point (at Eau Brink Road) (refer to **Figure 1-2d**).

3.2.17 The nearest settlements to the Western Site include:

- Tilney High End.
- Tilney St Lawrence.
- Terrington St John.
- Tilney cum Islington.

Eastern Cable Route

3.2.18 The Eastern Cable Route consists of a linear corridor of land from the Western Site to the Eastern Site.

3.2.19 The Eastern Cable Route comprises a corridor of up to 100m wide and circa 14.5km long, predominantly consisting of agricultural fields as well as the Cambridge to King's Lynn railway line (also known as the Fen Line), ditches and roads. The works will be contained to a limited width within this corridor over its full length. Woodland, hedgerows, roads and properties form the boundaries of the Eastern Cable Route.

3.2.20 The Eastern Cable Route is bisected by the River Great Ouse and the Great Ouse Relief Channel (refer to **Figure 1-2e**).

3.2.21 The nearest settlements to the Eastern Cable Route include:

- Tilney cum Islington.
- Wiggenhall St Mary the Virgin.
- Wiggenhall St Germans.
- Wiggenhall St Peter.
- Watlington.
- Runcton Holme.

- Wormegay.
- Shouldham.
- Shouldham Thorpe.

Eastern Site

3.2.22 The Eastern Site consists of several interconnected blocks of land in the vicinity of the villages of Fincham and Barton Bendish.

3.2.23 The Eastern Site covers 964ha and predominantly comprises agricultural land, primarily used for arable cultivation, alongside small areas of woodland, hardstanding and roads. There are also agricultural buildings within the Eastern Site. Woodland, hedgerows, roads and gardens of properties form the boundaries of the Eastern Site.

3.2.24 Lode Dike runs within and adjacent to the Eastern Site (refer to **Figure 1-2f**).

3.2.25 The nearest settlements to the Eastern Site include:

- Stradsett.
- Shouldham Thorpe.
- Shouldham.
- Fincham.
- Barton Bendish.
- Eastmoor.
- Marham.
- Upper Marham.
- Beachamwell.
- Oxborough.
- Stoke Ferry.
- Wereham.

4 Initial Description of the Proposed Development

4.1 Overview

4.1.1 This Scoping Chapter presents an initial description of the Proposed Development and has been split into five parts, including design commitments, overview of the construction phase, overview of the operation and maintenance phase, overview of the decommissioning phase and programme and phasing. The indicative locations of the Components of the Proposed Development are shown in **Figure 1-3: Layout Plan**. Initial parts of the Site identified for mitigation are not shown on **Figure 1-3: Layout Plan** but have been accounted for in the Zones of Theoretical Visibility (ZTVs) (refer to **Figures 10-7a – j** and **11-5 – 11-8**). This initial mitigation is subject to further discussion with relevant stakeholders.

4.2 Design Commitments

4.2.1 The Proposed Development has been subject to an iterative design process from its inception. By integrating environmental considerations into the design process, the Applicant has adopted a proactive approach to managing potential effects. This process aligns with the principles of 'mitigation by design' set out in the ISEP EIA Mitigation Hierarchy Guidance, ensuring that potential adverse environmental effects are avoided, prevented or reduced. This has resulted in the establishment of a series of design commitments, which are as follows:

- Maintaining a minimum distance of 30m between residential properties and other amenity sensitive receptors (e.g. parish halls, schools, General Practitioner (GP) surgeries) and the solar panels.
- Locating any inverters / transformers at least 100m from residential properties and other amenity sensitive receptors (e.g. parish halls, schools, General Practitioner (GP) surgeries).
- Providing a separation distance of at least 300m from major built infrastructure, including the Data Centre Campus / BESS Units / Substation in the Western Site and the BESS Units and Substation in the Eastern Site.
- Working with residents nearest to the Proposed Development to develop site-specific mitigation measures, including appropriate planting, screening and landscape treatments.
- Maintaining a minimum buffer of 100m between the Islington Heronry Site of Special Scientific Interest (SSSI) and any above-ground infrastructure.

- Developing opportunities for new and enhanced habitats that support local wildlife and strengthen ecological networks.
- Using appropriate separation distances, landscape screening and design measures to limit any visual effects for users of Public Rights of Way (PRoW).
- Exploring opportunities to improve connectivity within the wider Rights of Way network, including new permissive path links.
- Developing a traffic strategy that specifies routes for construction Heavy Goods Vehicles (HGVs) that avoid local villages, including Tilney St Lawrence, Barton Bendish and Fincham, where possible. Routing operational traffic associated with the Data Centre Campus away from Tilney St Lawrence.

4.2.2 Whilst not directly relevant to EIA, the Proposed Development will support local communities by:

- Establishing a community benefit fund to support local initiatives and projects.
- Exploring opportunities for additional local energy initiatives that provide a direct and lasting benefit for homes located nearest to the Proposed Development.

4.2.3 Further information will be provided in the DCO Application.

4.3 Overview of the Construction Phase

4.3.1 The following activities are anticipated during the construction phase:

- Main Site preparation, including ground investigations and any remedial works if required, utility isolation, capping and / or diversion and perimeter fencing.
- Establishment and / or upgrading of temporary and permanent access routes.
- Establishment of temporary primary and secondary construction compounds and welfare facilities.
- Setting out positions for the Proposed Development infrastructure.
- Delivery of construction materials, plant and equipment.
- Erection of Mounting Structures and installation of Solar PV Panels.
- Installation of Main Site cabling, Substations and BESS Units, including concrete foundations and piling, buildings and all electrical infrastructure.
- Construction of the Data Centre Campus, including concrete foundations and piling, data centre buildings (and cooling infrastructure), back-up generation, fuel storage, office space, welfare accommodation, electrical and communications infrastructure and waste heat recovery apparatus.

- Installation of the Eastern Cable Route, the Western Cable Route and the connection to NGET Walpole GSP, including underground cable route, overhead line (including metal towers) and the fit-out of a dedicated substation (and specific bay) including all required electrical infrastructure at Walpole NGET GSP.
- Testing and commissioning.
- Main Site reinstatement works.
- Implementation of hard and soft landscaping (including for the Data Centre Campus and boundary treatments), biodiversity enhancements and habitat creation.

4.3.2 Ground investigation works will be undertaken on-site with regard to relevant guidance and standards to confirm the existing ground conditions, contamination and geotechnical properties, where required. The ground investigation works will be secured by DCO Requirement. Results will be assessed, and if a risk is identified that requires remediation works, these will be designed and undertaken to reduce the risk to acceptable levels. Following the completion of remediation works (if required), a validation report will be produced to verify that the remedial goals set out have been achieved. The completion of remedial works (if required) and validation reporting will be secured by DCO Requirement. If any further unexpected contamination is encountered, remedial measures will be undertaken as part of a Discovery Strategy secured within the outline Construction Environmental Management Plan (oCEMP).

4.3.3 It is assumed that ground clearance will occur across the Western Site and Eastern Site, aside from around retained vegetation and other features, including the undesignated earthworks associated with the Alymer Hall Scheduled Monument on the Western Site (which will be left in situ as secured via design principles). Ground clearance will also be undertaken along the Western Cable Route and Eastern Cable Route. Targeted vegetation removal along some of the field boundaries will be undertaken to facilitate the construction of access and other infrastructure required.

4.3.4 There will be areas on-site where levels will reduce (areas of cut) and where levels will increase (areas of fill). Overall, it is anticipated that there will be a net import of materials.

4.3.5 A temporary drainage strategy will be implemented during the construction works, which will be in accordance with relevant guidance and standards. A detailed plan will be approved post-consent. The installation and maintenance of

the temporary drainage strategy will be in line with this detailed plan that will be secured within the oCEMP.

4.3.6 Temporary screening or hoarding will be introduced around compounds and storage areas. In addition, solid screens or barriers will be introduced around dusty activities or the boundaries of the construction working areas that are at least as high as any stockpiles on-site.

4.3.7 On-site watercourse crossings will be provided to facilitate construction works, where required, including the removal and replacement of the existing farm access track crossing of Reeds Drain and associated hardstanding in the Western Site. Where appropriate, these will be removed following construction or retained for operational use. Further details will be provided within the ES.

4.3.8 The existing Walpole NGET GSP lies within Walpole Substation. There are also agricultural buildings within the Eastern Site. These structures and buildings will not be demolished as part of the Proposed Development. The Walpole Bank Solar Farm lies within the Western Cable Route and any interaction between the Proposed Development and the solar farm will be set out in the ES.

4.4 Overview of the Operation and Maintenance Phase

4.4.1 The key Components of the Proposed Development during the operation and maintenance phase are described below.

Solar PV Panels (and Associated Electrical Infrastructure)

Solar PV Panels

4.4.2 The Solar PV Panels will be located within the Main Site.

4.4.3 Solar panels convert sunlight into direct electrical current (DC). Individual panels are typically up to 2.5m long and up to 1.5m wide and comprise PV cells located below a layer of toughened glass. Each panel is enclosed in a metal panel frame, typically using anodised aluminium, and will be dark blue, black, grey or similar colour.

4.4.4 Solar PV technology is rapidly developing, with panels available today with a DC generating capacity of between 650 – 700 watts (W). At the time of construction, depending on technology improvements, it is anticipated that panels will be readily available with a capacity of between 700 – 740W.

4.4.5 Solar panels can be installed with a 'fixed' tilt or with single-axis trackers, which adjust the position of the Solar panels to track the sun throughout the day. It is anticipated that there will be a mixture of 'fixed' and 'tracker' panels used.

4.4.6 Where a 'fixed' approach is used, panels will be set at an angle of between 20-25 degrees from the horizontal, with a maximum height up to 4.5m and a minimum clearance above ground level (AGL) of 0.8m. Where 'tracker' panels are installed, a maximum height of 4.5m is possible for a temporary period when fully tilted. Therefore, the maximum height for the solar panels is 4.5m.

4.4.7 Solar panels can be orientated to the south (azimuth angle of 180 degrees) or can be installed using an east-west arrangement, with the panels tracking the movement of the sun during the day (facing east in the morning, horizontal at midday and west in the evening). Except in fields where an east-west arrangement is required to provide glint and glare mitigation, it is anticipated that all panels will be south-facing, whether 'fixed' or 'tracker'.

4.4.8 The EIA will assume a reasonable worst-case scenario regarding the Solar PV Panel layout. Where environmental effects are identified (for example, unacceptable glint and glare effects on RAF Marham if south-facing panels were installed in certain areas), the Applicant will commit to an installation approach that mitigates the identified harm.

Mounting Structures

4.4.9 The panels are attached to metal frame mounting structures. These are attached to metal piles (typically galvanised steel or anodised aluminium) that are driven to a depth of between 1m and 3m into the ground, subject to ground conditions.

4.4.10 The distance between each row of panels will be between 2m and 5m, depending on topography, to limit the impact of inter-row shading, with a minimum distance of 2m to allow for the movement of maintenance vehicles and equipment between rows.

4.4.11 It is assumed that a minimum distance of 3.2m is provided between the solar panel rows and the Main Site security fencing.

Inverters

4.4.12 Inverters convert the DC electricity generated by the Solar PV Panels into alternating current (AC). Inverters are sized and connected to a defined number of solar panels to match the total output of that section of the Main Site.

4.4.13 The Proposed Development will utilise string or central inverters. String inverters are small and are typically connected to the mounting structure. Where centralised inverters are used, these are typically located within groups of Solar PV Panels housed in a container on an area of hard standing and up to a maximum of 4.5m in height.

4.4.14 The EIA will assume centralised inverters to ensure a reasonable worst-case scenario assessment is completed.

Transformers / Switchgear

4.4.15 Transformers step up the voltage of the electricity to 33kV. Switchgear includes switches, fuses and circuit breakers, which allow the control, protection and isolation of electrical equipment. Switchgear is used both to de-energise equipment to allow work to be done and to clear faults downstream.

4.4.16 Transformers and switchgear will be up to a maximum of 4.5m in height. Switchgear containers are either located adjacent to the transformers or contained within a containerised unit. Where centralised inverters are used, these will be located adjacent to the transformer / switchgear infrastructure.

4.4.17 The areas where transformers / switchgear / centralised inverters are located are defined as Export Compounds. The Export Compounds will typically be located within groups of Solar PV Panels.

Substations

4.4.18 Both the Eastern Site and the Western Site will include Collector Compounds, Intermediation Substations and an Export Substation.

4.4.19 Collector Compounds combine electricity from a number of 33kV cables prior to export to the Export Substation and reduce the cabling required. Collector Compounds will typically be located within groups of Solar PV Panels.

4.4.20 Each Collector Compound will be sited on a concrete pad or strip foundations and will be constructed using metal or brickwork. The Collector Compounds will be up to 4.5m in height.

4.4.21 Each of the Export Substations will include electrical infrastructure such as transformers, switchgear and metering equipment. The Export Substations will also include a control building, office space, welfare facilities and spare parts storage.

4.4.22 It is anticipated that the Eastern Site will include a 33kV / 132kV Export Substation. This will receive electricity exported from the Collector Compounds within the Eastern Site and will also manage the import / export of electricity from co-located BESS Units in the Eastern Site. The maximum height for the BESS Units and Substation (including the Export Substation) in the Eastern Site is up to 8m from the proposed ground level.

4.4.23 It is anticipated that the Western Site will include a 400kV Export Substation, expected to be located in the central part of the Western Site. This will include 33kV / 400kV transformers to receive electricity exported from the Collector Compounds within the Western Site, manage the import / export of electricity from co-located BESS Units in the Western Site and manage the electricity requirements of the Data Centre Campus. It will also include 132kV / 400kV transformers to allow electricity exported from the Export Substation at the Eastern Site to be transformed to 400kV for export to the Walpole NGET GSP. At this stage, the Export Substation sits within the wider Data Centre Campus / BESS Units / Substation area in the Western Site, with a maximum height of 25m.

Main Site Cabling

4.4.24 Connections between the Solar PV Panels and the inverters, transformers and switchgear will use low-voltage cabling, initially located above ground level, fixed to the mounting structure and collected at a Combiner Box. Combiner Boxes are then connected via underground cabling to the Export Compounds. Higher voltage cabling (typically 33kV) will then run between Export Compounds and the Collector Compounds, and between the Collector Compounds and the Export Substations. In addition, data cables will be required to allow for the monitoring and control of the Solar PV Panels and other electrical infrastructure. Data cables will typically be installed alongside the electrical cable.

4.4.25 Where possible, on-site cabling will be installed underground using open-cut trenching methods. Trenching widths will be subject to the number of underground cables they contain and the cable voltage, but Main Site trenches will typically be up to 3m wide with a maximum depth of 1.5m.

4.4.26 Where open-cut trenching is not possible, there may be a requirement for trenchless techniques (e.g. Horizontal Directional Drilling (HDD)) to be used.

4.4.27 To allow development traffic to cross drains within the Site, new or replacement bridges will be required. For major drains (e.g. Reeds Drain), the bridges will include cable ducting as part of this structure to limit any additional impacts.

BESS Units

4.4.28 The BESS allows electricity generated by the Solar PV Panels to be stored and discharged at a later point in time. This allows the Proposed Development to 'load-shift' solar PV generation from periods of low demand to high demand, ensuring the Proposed Development can assist to the maximum extent possible in meeting the UK Government's objective to decarbonise the electricity grid. The capacity of the BESS Units will be scaled appropriately to the Solar PV Panels.

4.4.29 As a secondary function, the BESS is expected to be able to import electricity from the National Grid during periods of oversupply, where there is BESS capacity available that is not required to 'load shift' solar PV generation (for example, overnight or during the winter months). This secondary function provides an additional benefit as it assists in balancing demand and supply on the National Grid.

4.4.30 BESS technology is rapidly evolving and therefore, flexibility is required to allow the Proposed Development to take advantage of expected future improvements.

4.4.31 Any BESS infrastructure will be designed and installed in compliance with the National Fire Chiefs Council (NFCC) Guidance on grid-scale energy storage.

4.4.32 It is anticipated that BESS will be installed in the Eastern and Western Sites; in each case, this technology is likely to be located next to the respective Export Substation.

4.4.33 Each BESS Unit is expected to include:

- Battery containers, with integrated heating, ventilation and air conditioning (HVAC) equipment, fire detection and suppression systems.
- Inverters and transformers.
- AC / DC converters to control the charge of the BESS from the Solar PV Panels or the National Grid.
- A switchgear / control room building to isolate and control exported power from the BESS.
- Appropriate fire safety infrastructure, including on-site water storage, access routes and parking.

4.4.34 The dimensions of the infrastructure outlined above will be set out in the ES. These will not exceed the maximum heights set out for the Data Centre Campus / BESS Units / Substation in the Western Site (25m) and the BESS Units and Substation in the Eastern Site (8m).

Data Centre Campus

4.4.35 The Data Centre Campus will be considered a hyperscale installation. This size of facility is associated with significant data-producing cloud and internet providers and requires large volumes of servers to enable cloud operations, including data storage, big data processing, computing applications, digital communication, along with enabling the Internet of Things, AI and 5G applications to function. The capacity of the Data Centre Campus will be circa 1GW.

4.4.36 Hyperscale projects are able to realise economies of scale – this reduces the capital investment costs per MW and allows for improvements in energy efficiency by spreading energy consumption more evenly across a larger number of computing units. In both cases, reducing costs for operators.

4.4.37 The Data Centre Campus will be located within the central part of the Western Site, adjacent to the Western Area Substation and BESS Units, and will have a maximum footprint area of up to 70ha.

4.4.38 The Campus will include a number of data centre buildings, each of which will include server halls and cooling infrastructure. It is anticipated that up to 10 buildings will be required, each of which will have a maximum building height (including plant) of 25m. Further details will be provided in the ES.

4.4.39 The same 400kV grid connection will be used for the Data Centre Campus as the other Components of the Proposed Development (e.g. the Solar PV Panels and the BESS Units). Backup generation and fuel storage will be required in the event of a loss of grid connection. It is anticipated that the backup generators will be HVO compatible. However, the EIA will assume any backup generators are diesel to assess a reasonable worst-case scenario with respect to emissions and associated potential effects.

4.4.40 The Data Centre Campus will also include office space and welfare accommodation, water and oil storage areas, electrical and communications infrastructure (to link the data centre buildings to each other, the backup generators, the BESS Units and Substation in the Western Site) and new utility

connections for potable water and sewerage. Waste heat recovery apparatus will also be included, with opportunities for heat re-use under consideration. Further details will be provided in the ES.

4.4.41 The Proposed Development landscape strategy will include specific visual mitigation in relation to the Data Centre Campus, to reduce effects outside the immediate area.

4.4.42 The surface water drainage system for the Data Centre Campus will comprise a range of sustainable drainage features.

4.4.43 The Data Centre will generate commercial waste streams (e.g. recyclable and mixed waste) and electronic waste during operation. Appropriate storage and collection facilities will be provided. During operation, units may require replacement and would be recycled and / or reconditioned, as appropriate. Where required, operational waste materials will be removed, handled and disposed of in line with legislative requirements and any necessary permits or licenses obtained.

4.4.44 Where required, chemical tanks will be provided on-site to store chemicals / materials for use within the proposed on-site processes. Such tanks would be designed and installed in accordance with relevant legislation.

4.4.45 The Data Centre Campus forms part of the Proposed Development. However, should the Data Centre Campus not be brought forward, this area of the Site could instead accommodate Solar PV Panels alongside the BESS Units and Substation. This alternative scenario has been taken into account in defining the Proposed Development and, where relevant, will be considered within the EIA (as set out in **Chapter 2: EIA Methodology**).

Cable Routes (Intra-Site Connections and Grid Connection)

4.4.46 The Proposed Development will export and import electricity via a 400kV connection at the Walpole GSP.

4.4.47 Cabling between the Western Site and Walpole NGET GSP (the Western Cable Route) will be predominantly via overhead line with a short section of underground cabling at the western end, where connecting into Walpole Substation, and at the eastern end, where connecting into the Substation in the Western Site. The total length is approximately 8km, with approximately 7km being overhead line with metal towers of a maximum height of 50m. The overhead grid connection corridor will be located between the existing 400kV

National Grid Walpole - Norwich overhead line and two 132kV overhead lines that connect Walpole to other generators in order to limit any new environmental effects to the extent possible. Near to the Walpole NGET GSP the cabling will be transferred from overhead line to underground cabling at a cable sealing end compound to allow access to the point of connection, as this would be inaccessible with an overhead line given the existing infrastructure in this area. The Applicant is required to fully equip and commission a 400kV generator bay at the Walpole NGET GSP. At this stage, it is anticipated that the generator bay and the substation box, within which the bay sits, will form part of the DCO Application.

4.4.48 Cabling between the Eastern Site and the Western Site (the Eastern Cable Route) will be a combination of overhead and underground, with a total length of circa 14.5km. Between the Eastern Site and A10 to the south of Setchey, cabling for a length of approximately 7.5km is proposed to be underground, as there are no existing overhead lines in this area and there are a number of designated heritage assets, including the Stradsett Hall Registered Park and Garden and Church of St Botolph Grade I Listed Building. After the A10 junction, the cabling will transfer to an overhead line with a length of approximately 7km and a maximum height of 35m using metal towers. The overhead grid connection corridor will be located to the south of the existing 400kV National Grid Walpole-Norwich overhead line.

4.4.49 Where cables are underground, this is likely to be using an open trench method where possible, requiring up to a temporary maximum 50m working width, with total trench widths up to 15m wide and up to 3m deep. Other techniques, such as micro-tunnelling, boring, or HDD, will be used if required.

4.4.50 For the overhead lines, pylon towers will not be located within 100m of a residential receptor. All cabling will be installed in line with relevant design standards, including the International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines for Limiting Exposures to Time-Varying Electric, Magnetic and Electromagnetic (up to 300 GHz)[23].

Fencing and Security

4.4.51 Operational areas of the Proposed Development will be fenced using agricultural wooden posts with wire mesh fencing with a maximum height of 2.5m, with clearances above ground or use of mammal gates included to permit the

passage of wildlife. Pole-mounted closed-circuit television (CCTV) systems with a maximum height of 5m will be deployed around the perimeter of the Main Sites.

4.4.52 Metal palisade fencing (up to 3m high) will be installed around the Data Centre Campus and any high-voltage electrical infrastructure (including the Export Compounds, all Substations and BESS Units).

4.4.53 All high-voltage electrical infrastructure areas will also include lighting, in accordance with relevant standards, but will not be permanently lit.

4.4.54 The Data Centre Campus will require additional CCTV and security infrastructure. External lighting required for the Data Centre Campus will be designed and installed in line with standards and guidance.

4.4.55 Permanent protective fencing will be installed around sensitive ecological areas to prevent vehicle or human encroachment.

Activities During the Operation and Maintenance Phase

4.4.56 The following activities are anticipated during the operation and maintenance phase:

- Regular visual inspection of all infrastructure, with testing and servicing as required.
- Cleaning of Solar PV Panels, if required.
- Repair or replacement of damaged items.
- Landscaping and vegetation management (to avoid nesting / breeding seasons).

4.5 Overview of the Decommissioning Phase

4.5.1 The Solar PV Panels on the Main Site, Eastern Site BESS Units and Substation and Eastern Cable Route (both overhead lines and underground cable) will be decommissioned at the end of their operational lifespan of 60 years. Once decommissioning is complete, the land – apart from certain biodiversity mitigation and enhancement areas – would be restored to a condition where it could be returned to its current agricultural use.

4.5.2 The activities during the decommissioning phase are anticipated to be similar to those during the construction phase, though without piling works.

4.5.3 All above-ground infrastructure related to the Solar PV Panels, Eastern Site BESS and Substation and Eastern Cable Route will be removed and recycled or

disposed of in accordance with industry practice at the time, with materials expected to follow the waste hierarchy where they would be reused if possible before recycling or disposal is considered.

4.5.4 The Walpole Substation, Data Centre Campus / BESS Units / Substation in the Western Site, Western Cable Route, biodiversity mitigation and enhancement areas and the Western Site's associated operational access areas and grid infrastructure are assumed to be permanent development for the purposes of the EIA.

4.6 Programme and Phasing

4.6.1 It is anticipated that construction works for the Proposed Development will commence in 2029, subject to receipt of the grant of the DCO. Construction is assumed to be concurrent across the Western Site, Eastern Site and Cable Routes.

4.6.2 The Solar PV Panels across the Main Site, Eastern Site BESS and Substations and Cable Route infrastructure is assumed to be fully completed and operational by 2032. These Components will be temporary development, with an operational lifespan of 60 years.

4.6.3 It is anticipated that the Data Centre Campus will be built out across a period of approximately 10 years, starting in 2029, with each phase comprising two data centre halls. The Western Site BESS and Data Centre Phase 1 is also assumed to be fully completed and operational by 2032.

4.6.4 The decommissioning works for the Solar PV Panels across the Main Site, Eastern Site BESS and Substations and Eastern Cable Route are anticipated to take 18 months.

5 Planning Policy Context

5.1 Overview

5.1.1 This Scoping Chapter provides an overview of the planning policies of relevance to the Proposed Development at national and local level. Further information on planning policy where relevant to a particular technical aspect is provided in the **Technical Aspect Chapters 6 – 16**.

5.1.2 The ES will provide an overview of relevant planning policy and where policy has informed the assessment of effects reported in the ES, including, where relevant, informing the judgement on significance, this will be set out. An assessment of the Proposed Development's compliance with relevant planning policy will be reported in the Planning Statement that will accompany the DCO Application.

5.1.3 As set out in **Chapter 1: Introduction**, the Proposed Development is classified as an NSIP and therefore a DCO is required[1]. In accordance with Section 104(2)(a) of the Planning Act 2008, the SoS is required to have regard to any relevant NPSs when deciding whether or not to grant a DCO. Therefore, the primary policy framework for examining and determining DCO applications is provided by NPSs. The NPSs relevant to the Proposed Development, as outlined in **Chapter 2: EIA Methodology**, comprise:

- NPS EN-1.
- NPS EN-3.
- NPS EN-5.

5.1.4 In addition, the policies within the National Planning Policy Framework (NPPF)[24] and relevant Development Plan at a local level may be considered to be important and relevant to the SoS's decision on the DCO Application.

5.1.5 A summary of the planning policy framework outlined above is provided in the sections below. Further details of this framework will be provided in the ES.

[1] Note that a Section 35 Direction will be sought for the Data Centre Campus to be treated as development for which development consent is required and thus included as part of the Proposed Development that will be the subject of the DCO Application. Further details, including a description of the Proposed Development, will be provided in the ES.

5.2 NPS EN-1

5.2.1 NPS EN-1 sets out the national policy for delivering major energy infrastructure in England and Wales. The NPS has effect in combination with the relevant technology specific NPS (in the case of the Proposed Development NPS EN-3 and NPS EN-5) in examining and determining applications for development consent for nationally significant energy infrastructure projects.

5.2.2 Part 2 outlines UK Government policy on energy and energy infrastructure development. Key sections include:

- Section 2.2, which confirms the UK Government's legally binding target of achieving Net Zero in terms of GHG emissions by 2050.
- Section 2.3, which underlines how the provision of new energy infrastructure will be critical to the UK achieving Net Zero by 2050, while maintaining secure, reliable, affordable, and low carbon supplies and supporting economic growth.

5.2.3 Part 3 sets out the need for new nationally significant energy infrastructure projects in the context of meeting energy objectives and why it considers that the need for such infrastructure is urgent. Key sections comprise:

- Section 3.1, which states that it will not be possible to develop the necessary amounts of energy infrastructure without some significant residual adverse impacts. It is noted that these effects will be minimised by the application of policy set out in Parts 4 'Assessment Principles' and 5 'Generic Impacts' and Part 2 of the relevant technology specific NPSs (see further information under 'NPS EN-3' and 'NPS EN-5' below).
- Section 3.3, which notes that generation from renewable energy sources, such as solar, is intermittent and how electrical storage technologies can be used to manage this intermittency.

5.2.4 Part 4 sets out the general policies for the submission and assessment of DCO applications relating to energy infrastructure. Key sections include:

- Section 4.1, which notes that in considering any proposed development, in particular when weighing its adverse impacts against its benefits, the SoS should take into account:
  - "*Its potential benefits including its contribution to meeting the need for the Clean Power 2030 Mission and net zero, energy infrastructure, job creation, reduction of geographical disparities, environmental enhancements, and any long-term or wider benefits;*

  - *Its potential adverse impacts, including on the environment, and including any long-term and cumulative adverse impacts, as well as any measures to avoid, reduce, mitigate or compensate for any adverse impacts, following the mitigation hierarchy*."

- Section 4.1.7 confirms that where an applicant is required to mitigate impacts but the SoS considers that there would still be residual adverse effects after the implementation of such mitigation measures, the SoS should weigh those residual effects against the benefits of the proposed development. The policy confirms that for projects which qualify as Critical National Priority (CNP) Infrastructure, it is likely that the need case will outweigh the residual effects not capable of being addressed by application of the mitigation hierarchy, in all but the most exceptional cases.
- Section 4.2, which outlines that applicants and their consultants and advisors must ensure that their applications are clear and accessible to both the public and decision-makers. An ES should therefore be proportionate and focused, with just the sufficient detail required to clearly identify the likely significant environmental effects from a proposal. It is also noted that applicants must apply the mitigation hierarchy and demonstrate that it has been applied and should seek the advice of the appropriate Statutory Nature Conservation Body (SNCB) (in the case of the Proposed Development, Natural England) or other relevant statutory body when undertaking this process. Furthermore, it is stated that an applicant should demonstrate that all residual effects are those that cannot be avoided, reduced or mitigated. The policy notes the CNP status of low carbon infrastructure and confirms that, provided that the ES identifies the likely significant environmental effects from a proposed development and appropriately applies the mitigation hierarchy, then it is likely that the urgent need for CNP Infrastructure will outweigh any other residual impacts in all but the most exceptional circumstances.
- Section 4.3, which confirms that all proposed developments that are subject to the DCO EIA Regulations must be accompanied by an ES describing the aspects of the environment likely to be significantly affected by the development. Advice on the required contents of an ES, dealing with uncertainty (e.g. the Rochdale Envelope) and consideration of alternatives is also provided.
- Sections 4.4, 4.6, 4.10, 4.12 – 4.14, which provide advice on specific environmental issues relevant to energy infrastructure, including health, environmental and biodiversity net gain, climate change adaptation and

resilience, pollution control and other environmental regulatory regimes, safety and hazardous substances.

5.2.5 Part 5 outlines the generic impacts that arise from the development of all of the types of energy infrastructure covered by the energy NPSs. It is noted that sufficient and relevant information is crucial to good decision-making, particularly where formal assessments are required, and that any assessment should be based on the most up-to-date data and guidance. Sections of relevance to the Proposed Development comprise:

- Section 5.2 Air Quality and Emissions.
- Section 5.3 GHG Emissions.
- Section 5.4 Biodiversity and Geological Conservation.
- Section 5.5 Civil and Military Aviation and Defence Interests.
- Section 5.7 Dust, Odour, Artificial Light, Smoke, Steam and Insect Infestation.
- Section 5.8 Flood Risk.
- Section 5.9 Historic Environment.
- Section 5.10 Landscape and Visual.
- Section 5.11 Land Use, Including Open Space, Green Infrastructure and Green Belt.
- Section 5.12 Noise and Vibration.
- Section 5.13 Socio-Economic Impacts.
- Section 5.14 Traffic and Transport.
- Section 5.15 Resource and Waste Management.
- Section 5.16 Water Quality and Resources.

5.2.6 Further details on NPS EN-1 will be provided in the ES.

5.3 NPS EN-3

5.3.1 NPS EN-3 sets out the national policy for renewable energy development in England and Wales. NPS EN-3 has effect alongside NPS EN-1 in respect of examining and determining applications for development consent for renewable energy infrastructure.

5.3.2 Part 2 outlines general assessment and technology specific information, including the relationship of the NPS with English and Welsh renewables policies, overarching factors influencing site selection and design (including national

designations[2] and other locational considerations), climate change adaptation and resilience, consideration of good design for energy infrastructure and flexibility in the project details.

5.3.3 Section 2.10 specifically relates to solar photovoltaic generation and sets out the aspects to be considered as part of an applicant's assessment, comprising:

- Factors influencing site selection and design, including:
  - Irradiance and site topography, network connection, proximity of a site to dwellings, agricultural land classification and land type, accessibility, public rights of way, and security and lighting.
- Technical considerations, including:
  - Capacity of a site, site layout design and appearance, project lifetime, decommissioning and flexibility in the project details.
- Impacts, including but not limited to the following:
  - Biodiversity, ecological, geological conservation and water management, landscape, visual and residential amenity, glint and glare, historic environment and construction, including traffic and transport noise and vibration.

5.3.4 Further details on NPS EN-3 will be provided in the ES.

5.4 NPS EN- 5

5.4.1 NPS EN-5 sets out the national policy for electricity networks infrastructure in England and Wales. NPS EN-5 has effect alongside NPS EN-1 in respect of examining and determining applications for development consent for energy network infrastructure.

5.4.2 Part 2 outlines general assessment and technology specific information, including factors influencing site selection and design, climate change adaptation and resilience, consideration of good design for energy infrastructure, environmental and biodiversity net gain, land rights and land interests, holistic planning and strategic network planning.

[2] Including Sites of Special Scientific Interest (SSSIs), National Nature Reserves, National Parks, the Broads, National Landscapes, Registered Parks and Gardens, Listed Buildings and Scheduled Monuments, designated Marine Protected Areas (MPAs) and World Heritage Sites.

5.4.3 Section 2.9 sets out the aspects to be considered as part of an applicant's assessment, comprising:

- Impacts, including but not limited to the following:
  - Biodiversity and geological conservation, landscape and visual impact, undergrounding and subsea cables, noise and vibration, EMF and sulphur hexafluoride.

5.4.4 Section 2.10 also notes that applicants should consider and address routing of electricity network infrastructure and avoidance / minimisation of environmental impacts onshore at an early stage in the development process, including good design in accordance with the Holford and Horlock rules.

5.4.5 Further details on NPS EN-5 will be provided in the ES.

5.5 National Planning Policy

5.5.1 The NPPF sets out the overarching planning policies for England and how these are expected to be applied. The NPPF does not contain specific policies for NSIPs, as DCO applications are determined in accordance with the decision-making framework in the Planning Act 2008 and any relevant NPSs. Nonetheless, the NPPF may be considered to be an important and relevant matter for the purposes of the decision-making by a SoS when determining a DCO application.

5.5.2 The NPPF sets out relevant planning policy for healthy and safe communities, sustainable transport, design, climate change, flood risk, natural environment and historic environment. Details of these policies will be provided in the ES.

5.6 Local Planning Policy

5.6.1 The Site lies within an area with two tiers of local government: KL&WNBC (a borough-level authority) and NCC (a county-level authority). KL&WNBC is responsible for the majority of planning matters, other than highways / transport, education, minerals and waste planning, flood risk, archaeology and rights of way matters, which are the responsibility of NCC. Under the Planning Act 2008, both authorities are defined as the 'host' authorities.

5.6.2 The relevant local policy context set by the Development Plan is outlined below. The Development Plan does not contain specific policies for NSIPs, as DCO applications are determined in accordance with the decision-making framework in

the Planning Act 2008 and any relevant NPSs. Nevertheless, local Development Plans may be considered to be an important and relevant matter for the purposes of the decision-making by a SoS when determining a DCO application.

King's Lynn and West Norfolk Planning Policy

5.6.3 The primary component of the KL&WNBC Development Plan is the Local Plan 2021 – 2040 adopted in March 2025[25] ('King's Lynn and West Norfolk Local Plan 2021 – 2040'), which contains a number of Borough-wide planning policies to help shape new development and provides the spatial strategy for growth within the Borough.

5.6.4 The policy of particular relevance to the Proposed Development within the King's Lynn and West Norfolk Local Plan 2021 – 2040 is Policy LP24 – Renewable Energy, which states:

> *"1. Proposals will be supported and considered in the context of contributing to the achievement of sustainable development and adapting to climate change. Proposals made by a local community and through neighbourhood plans for the development of renewable and low-carbon sources of energy, in scale with their community's requirements, including supporting infrastructure for renewable energy projects will be supported.*
>
> *2. Proposals for renewable energy (other than proposals for wind energy development) and associated infrastructure, including the landward infrastructure for offshore renewable schemes, will be assessed to determine whether or not the benefits they bring in terms of the energy generated are outweighed by the impacts, either individually or cumulatively, upon:*
>
> *a) sites of international, national or local nature or landscape conservation importance, whether directly or indirectly, such as the Norfolk Coast, National Landscapes;*
>
> *b) the surrounding landscape and townscape;*
>
> *c) designated and un-designated heritage assets, including the setting of assets;*
>
> *d) ecological interests (species and habitats);*

> *e) amenity (in terms of noise, overbearing relationship, air quality and light pollution);*
>
> *f) contaminated land;*
>
> *g) water courses (in terms of pollution);*
>
> *h) public safety (including footpaths, bridleways and other non-vehicular rights of way in addition to vehicular highways as well as local, informal pathway networks); and*
>
> *i) tourism and other economic activity.*
>
> *3. In addition to the above factors, the Borough Council will seek to protect productive agricultural land and best and most versatile land. Applications for other uses which would adversely affect these are likely to be refused, unless the material benefits associated with its approval outweigh its loss.*
>
> *4. Development may be permitted where any adverse impacts can be satisfactorily mitigated against and such mitigation can be secured either by planning conditions or by legal agreement.*
>
> *5. In line with Policy LP27 [– Habitats Regulation Assessment (HRA)] proposals that would lead to adverse impacts on international nature conservation sites will not be permitted."*

5.6.5 There is a suite of planning policies within the King's Lynn and West Norfolk Local Plan 2021 – 2040 related to transport and access, landscape character, biodiversity, geodiversity, historic environment, amenity, design and flood risk. Further details of these policies will be provided within the ES.

5.6.6 There are a number of other documents that form part of the Development Plan for KL&WNBC, including the Walpoles Neighbourhood Plan[26] and the Minerals and Waste Local Plan prepared by NCC (see further details below). Other relevant documents include Supplementary Planning Documents, Community Infrastructure Levy, Statement of Community Involvement, Authority Monitoring Reports, Sustainability Appraisal and Habitat Regulations Assessments and Design Codes. Where relevant, further details on these documents as part of the Development Plan will be provided in the ES.

Norfolk-wide Planning Policy

5.6.7 NCC, as Minerals and Waste Planning Authority for Norfolk, adopted the Norfolk Minerals and Waste Local Plan[27] in May 2025, the aim of which is to ensure the provision of a steady and adequate supply of minerals and sufficient waste management facilities across the County. Mineral Safeguarding Areas (MSAs) are identified to protect economically important mineral resources from unnecessary sterilisation. Based on a review of the adopted Policies Map, the Proposed Development appears to have limited interaction with MSAs, with the only relevant section on part of the Eastern Cable Route. Where relevant, further details of the planning policies set out in this document will be provided in the ES.

6 Transport and Access

6.1 Introduction

6.1.1 This Scoping Chapter presents the scope and methodology for the assessment of environmental effects related to transport and access. This Scoping Chapter has been informed by relevant legislation, policy and guidance, baseline conditions and mitigation measures identified to date.

6.1.2 This Scoping Chapter should be read in conjunction with **Chapter 4: Initial Description of the Proposed Development**, **Chapter 16: Socio-economics and Population** and 'Human Health' and 'Major Accidents and Disasters' in **Chapter 17: Technical Aspects to be 'Scoped Out'**.

6.2 Summary of Relevant Legislation, Policy and Guidance

6.2.1 A list of legislation, policy and guidance relating to transport and access relevant to the Proposed Development is as follows:

Legislation

- None specifically identified.

Policy

- NPS EN-1.
- NPS EN-3.
- NPS EN-5.
- NPPF.
- NCC's Local Transport Plan 2021 – 2036[28].
- King's Lynn and West Norfolk Local Plan 2021 – 2040.

Guidance

- NPPG: Travel Plans, Transport Assessments and Transport Statements[29].
- ISEP (formerly IEMA) Guidelines: Environmental Assessment of Traffic and Movement (2023) ('ISEP Traffic and Movement Guidelines')[30].
- Department for Transport (DfT) Strategic Road Network (SRN) and the delivery of sustainable development (2022)[31].
- National Highways Planning for the Future (2023)[32].

- National Highways (formerly Highways England) Design Manual for Roads and Bridges (DMRB) LA 104 – Environmental assessment and monitoring (2020)[33].

6.3 Engagement to Date

6.3.1 The engagement undertaken to date is summarised in **Table 6-1**.

Table 6-1: Summary of engagement undertaken to date

Stakeholder	Date and type of engagement	Summary of key comments
National Highways (NH)	April 2026 – e-mail correspondence	Introductions made and correct points of contact established.

6.4 Baseline Conditions

6.4.1 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and provides an overview of the relevant baseline conditions for transport and access.

Baseline Data Collection Activities to Date

6.4.2 Baseline data has been collected using the following sources and methods:

- Desktop survey, including reviews of the following:
  - Public Rights of Way (PRoW) from the Definitive Map and Definitive Statement.
  - Personal injury collision data.
  - Highway boundary information.
  - OS mapping.
  - Topographical surveys.
- Site visits.

6.4.3 DfT data is available along several relevant links within an initial transport study area identified at this stage (refer to **Figure 6-1: Transport Study Area**). The traffic count data points will be considered in conjunction with other traffic data available from public sources, such as NCC, and any additional traffic surveys which may be commissioned for the Proposed Development. The DfT count point within the initial transport study area is provided in **Table 6-2**.

Table 6-2: DfT count points within the initial transport study area

Count Point ID	Road name	Year of most recent manual count
81060	A47 (exit from Church Road eastbound)	2023
81061	A47 (exit to Church Road eastbound)	2024
80910	A47 (exit to Church Road westbound)	2023
80911	A47 (exit from Church Road westbound)	2023
81048	A47 (west of Church Road)	2024
26509	A47 (A17 / Pullover Road)	2025
26508	A47 (east of Swaffham Road)	2023
46697	Lynn Road	2021
37599	Downham Road	2022
16170	A1122 / A10	2024
27964	A17	2023

Baseline Conditions

6.4.4 The Western Site is in proximity to the villages of Tilney St Lawrence, Terrington St John and Tilney-cum-Islington. The Eastern Site is located in proximity to the villages of Marham, Barton Bendish and Fincham. There are traffic generating uses within the Site, including Walpole NGET GSP, Walpole Bank Solar Farm and agricultural buildings / farmland. However, the volume of vehicle movements associated with such uses is low.

6.4.5 There are a number of National Cycle Network Routes (NCR) and / or Local Cycle Routes (designated by NCC) in the vicinity of the Western Site, Eastern Site and Eastern Cable Route. There are no NCRs or Local Cycle Routes in the vicinity of Walpole Substation or the Western Cable Route.

6.4.6 Cycle routes in proximity to the Western Site include:

- NCR 1.

6.4.7 Cycle routes that cross / are in proximity to the Eastern Cable Route include:

- NCR 11.
- NCR Link Route (Link 11).
- Fen Rivers Way Cycle Route (designated by NCC).
- Nar Valley Way (designated by NCC).

6.4.8 Cycle routes in proximity to the Eastern Site include:

- NCR Link Route (Link 30).

6.4.9 The locations of the national and local cycle routes in relation to the Site are shown on **Figure 6-2: Cycle Routes**.

6.4.10 There are no National Trails within the vicinity of the Site. The King Charles III Coastal Path (Hunstanton to Sutton Bridge) is located approximately 2.5km to the north-east of the Site. There are a number of PRoWs in the vicinity of the Site, including Fincham FP2b and Tilney St Lawrence FP1A. The PRoWs in the vicinity of the Site are illustrated in **Figure 6-3a – c: PRoW Routes**.

6.4.11 The majority of the roads within the initial transport study area are a suitable width for two-way traffic and of satisfactory quality. Roads are typically relatively lightly trafficked, with the exception of the A47, which is part of the SRN and runs from Birmingham to Lowestoft. The A47 has relatively high traffic flows. DfT count point ID 26509 (manual count undertaken in 2025), which is located A47 (A17 / Pullover Road) as noted in **Table 6-2**, shows that this area of the A47 accommodates 40,613 vehicles in both directions (in terms of Average Annual Daily Traffic (AADT)). 75% of the total traffic was recorded at this count point as cars and taxis, with 15% recorded as Light Goods Vehicles (LGVs), 8% as Heavy Goods Vehicles (HGVs), and 2% as other types of vehicles. There are a number of other A-roads within the initial transport study area, including the A17, A10, A134 and A1122, alongside a number of B and C class and unclassified roads.

6.4.12 There are no areas within the initial transport study area where congestion is particularly notable, other than the approaches to the A17 / A47 roundabout near King's Lynn during typical morning (AM) and afternoon (PM) weekday periods, where some queuing is observed.

6.4.13 All above mentioned roads are within the initial transport study area (refer to **Figure 6-1: Transport Study Area**).

6.5 Mitigation Measures Identified to Date

6.5.1 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the initial description of the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Construction

6.5.2 Construction traffic movements will be managed by the following measures:

- Restrictions on times during which deliveries and worker movements can take place (including start and end times of construction staff shifts and HGV delivery hours to avoid peak traffic periods, if necessary).
- Prescribed routes for vehicle movements to / from the Site.
- All vehicles to be prohibited from waiting within or in the vicinity of the Site with their engines running.

6.5.3 The management plan that will secure control measures for transport and access during the construction phase includes the following, as set out in the Initial Commitments Register (**Appendix B**):

- Outline Construction Traffic Management Plan (oCTMP).

6.5.4 An Outline Rights of Way Access Strategy (oROWAS) may also be required as part of the DCO Application. Further details will be provided in the ES.

6.5.5 It is likely that limited and localised highway works may be needed to enable access to the Main Site and Cable Routes.

Operation and Maintenance

6.5.6 Design measures during the operation and maintenance phase will comprise:

- Cycle access to the Data Centre Campus.
- Cycle parking at the Data Centre Campus.
- Adequate shower, changing facilities and storage lockers for staff commuting by active travel modes to the Data Centre Campus.

6.5.7 The above will be secured through design principles.

6.5.8 Measures to reduce single car occupancy and encourage use of sustainable modes of transport will be developed for the ES and set out in an Outline Travel Plan (oTP).

Decommissioning

6.5.9 It is anticipated that effects during the decommissioning phase of the Proposed Development will not exceed those set out in the construction phase. Therefore, it is proposed that any mitigation measures that are planned for construction (see **Paragraphs 6.5.2 – 6.5.5**) are reviewed and the opportunity to utilise these in the decommissioning phase can be explored at an appropriate stage ahead of decommissioning.

6.5.10 The management plan that will secure control measures for transport and access during the decommissioning phase includes the following, as set out in the Initial Commitments Register (**Appendix B**):

- Outline Decommissioning Traffic Management Plan (oDTMP).

6.6 Proposed Scope of Assessment

6.6.1 The proposed scope of assessment is based on an understanding of the characteristics of the Site boundary, initial transport study area and the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Potential Likely Environmental Effects which are Not Significant

6.6.2 No potential likely environmental effects have been identified to date as not significant.

Potential Likely Significant Environmental Effects

6.6.3 Where potential likely significant effects have been identified at this stage and are proposed to be 'scoped in', these are set out in **Table 6-3**. These environmental effects will be assessed within the EIA and reported on in the ES.

Table 6-3: Potential likely significant environmental effects 'scoped in'

Potential likely significant effect	Receptor(s)	Phase(s)
Severance	Drivers and passengers of motorised vehicles and non-motorised users (i.e. pedestrians, cyclists, equestrians) on roads, PRoW, and cycle routes within the transport study area	Construction, operation and maintenance and decommissioning

Potential likely significant effect	Receptor(s)	Phase(s)
Road vehicle driver and passenger delay	Drivers and passengers of motorised vehicles within the transport study area	Construction, operation and maintenance and decommissioning
Non-motorised user delay	Non-motorised users on roads, PRoW, and cycle routes within the transport study area	Construction, operation and maintenance and decommissioning
Non-motorised amenity	Non-motorised users on roads, PRoW, and cycle routes within the transport study area	Construction, operation and maintenance and decommissioning
Fear and intimidation	Drivers and passengers of motorised vehicles and non-motorised users on roads, PRoW, and cycle routes within the transport study area	Construction, operation and maintenance and decommissioning
Road user and pedestrian safety	Drivers and passengers of motorised vehicles and non-motorised users on roads, PRoW, and cycle routes within the transport study area	Construction, operation and maintenance and decommissioning
Hazardous / large loads	Drivers and passengers of motorised vehicles and non-motorised users on roads, PRoW, and cycle routes within the transport study area	Construction, operation and maintenance and decommissioning

6.6.4 The potential for cumulative effects arising from the potential likely significant environmental effects identified in **Table 6-3**, both in terms of inter-project and intra-project effects, will be considered within the ES. The approach to the cumulative effects assessment in the ES is set out in **Chapter 18: Cumulative Effects Assessment Methodology**.

6.7 Proposed Approach to Detailed Assessment in the ES

Further Baseline Data Collection

6.7.1 Traffic volume and speed surveys at key links and junctions on the local highway network will be undertaken across the transport study area. It is the intention to

seek to agree on all survey location points with NCC and NH in advance of collecting data.

6.7.2 An assessment of suitable routes to / from the transport study area and potential access points for AIL will be undertaken to inform the proposed routeing strategy for such vehicles.

Study Area

6.7.3 The extent of the initial transport study area identified for this Scoping Chapter is subject to discussion with NH, who are the highway authority for the SRN, and NCC, who are responsible for the local highway network. The initial transport study area within this Scoping Chapter has been defined by identifying the likely routes that may be used by traffic and workers travelling to the Site (as shown in **Figure 6-1: Transport Study Area**). Possible routes from the major roads and the SRN have been considered when defining the initial transport study area.

6.7.4 The initial transport study area encompasses the Site within which the Proposed Development will be located. The initial transport study area also extends to the sections of the strategic and local highway network anticipated to accommodate traffic associated with the construction, operation and maintenance and decommissioning phases of the Proposed Development. The roads which are likely to be utilised by traffic are as follows.

- A47 (70mph dual carriageway road with one-two lanes in each direction depending on section, part of the SRN).
- A10 (single carriageway road with one lane in each direction, the majority of which is subject to the National Speed Limit, lowering to 40mph through villages in the vicinity of the Site).
- A134 (single carriageway road with one lane in each direction, the majority of which is subject to the National Speed Limit, lowering to 40mph through villages in the vicinity of the Site).
- A1122 (Downham Road / Swaffham Road (single carriageway road with one lane in each direction, the majority of which is subject to the National Speed Limit, lowering to 40mph through villages in the vicinity of the Site).
- Eau Brink Road (single carriageway local access road with restricted width, which is subject to the National Speed Limit in the vicinity of the Site).
- Fitton Road /Lynn Road / High Road (single carriageway local access roads, which are subject to a 50mph Speed Limit in the vicinity of the Site).

- Church Road (single carriageway local access road, subject to the National Speed Limit or 40mph through villages in the vicinity of the Site).
- Wiggenhall Road (single carriageway local access road, which is subject to the National Speed Limit in the vicinity of the Site).
- St John's Road / Magdalen Road (single carriageway local access road which is mostly residential in nature and is subject to the 30mph speed limit in the vicinity of the Site).
- Lynn Road (Fincham) (single carriageway local access road with restricted width, which is subject to the National Speed Limit in the vicinity of the Site).
- Oxborough Road / Stoke Road / Eastmoor Road (single carriageway local access road with restricted width, which is subject to the National Speed Limit in the vicinity of the Site).
- West Drove North (single carriageway local access road, which is subject to the National Speed Limit in the vicinity of the Site).
- Lynn Road / Fitton Road (single carriageway local access road with restricted width, which is subject to the National Speed Limit, dropping to 30mph through villages, in the vicinity of the Site).

6.7.5 The initial transport study area has been identified on the assumption that the majority of traffic related to the Proposed Development would travel to the nearest connection to a major A-road or the SRN, these being the most suitable roads for traffic (particularly during construction).

6.7.6 It should be noted that the roads may be subject to change as the design of the Proposed Development continues to be developed and further technical modelling and analysis is completed. It is intended to seek to agree the final transport study area extents with NCC and NH prior to detailed technical assessment within the ES, following the agreement of the proposed access locations and traffic routeing. The final Transport Study Area will be set out in the ES.

6.7.7 Within the final transport study area, specific links or points on the highway will be identified that will form the basis of the assessment. From here, changes in character arising from identified receptors or changes in traffic volumes will be the key determining factors in subdividing roads into links.

Detailed Assessment Methodology

Overview

6.7.8 The assessment methodology has regard to the guidance provided in the ISEP Traffic and Movement Guidelines. The detailed assessment within the ES will be informed by a Transport Assessment (TA), which will present the relevant baseline conditions (including existing and future predicted baseline conditions), junction and highway link performance with and without the Proposed Development traffic. The TA will form an appendix to the ES.

6.7.9 It is noted that for traffic-related effects, a predicted future baseline will be used, drawing upon existing baseline flows and the inclusion of other developments (aligned with those identified through the process set out in **Chapter 18: Cumulative Effects Assessment Methodology**) / growth factors subject to discussions with NH and NCC. Full details of the methodology applied to determine the future baseline conditions will be provided in the ES.

6.7.10 Traffic movements associated with the construction phase will include HGV deliveries, LGV deliveries and vehicle movements associated with construction worker arrivals and departures. Traffic forecasts associated with these movements will be provided in the ES. At this stage, it is anticipated that no alternative transport, such as canal or railway, will be used given the limited options available in the vicinity of the Site. Potential likely significant environmental effects are expected to be temporary, though potentially medium to long-term.

6.7.11 During the operation and maintenance phase, traffic movements associated with the Solar PV Panels, BESS Units, Substations and Cable Routes are expected to be low. However, the operation and maintenance of the Data Centre Campus is likely to generate greater numbers of transport movements. Potential likely significant environmental effects will be assessed in the ES.

6.7.12 The number of vehicles associated with the decommissioning phase is not anticipated to exceed those generated in the construction phase. Additionally, industry standard traffic forecasting tools do not provide data that would extend to provide a reasonable forecast that reflects the forecast decommissioning of the Proposed Development in 60 years. Transport and access effects for the decommissioning phase are expected to be less than those associated with the construction phase on the basis of elements such as that some of the site accesses and internal routes will already be in place for the decommissioning

phase. The decommissioning phase will therefore be assessed qualitatively based on the assessment of the construction phase.

Initial Sifting

6.7.13 Following the determination of the final transport study area, an initial sifting exercise will be used to 'screen out' highway links where the potential environmental effects of the Proposed Development in relation to transport and access are considered to be not significant.

6.7.14 Within the ISEP Traffic and Movement Guidelines, two broad rules are suggested that can be used as criteria to assist in limiting the scale and extent of the detailed technical assessment. These are as follows:

- Rule 1: Include highway links where traffic flows would increase by more than 30% (or the number of HGVs would increase by more than 30%).
- Rule 2: Include highway links of high sensitivity where traffic flows would increase by 10% or more.

6.7.15 The ISEP Traffic and Movement Guidelines state that, as a starting point, a 30% change in traffic flow (Rule 1) represents a reasonable threshold for including a highway link within detailed technical assessment.

6.7.16 Under Rule 2, the ISEP Traffic and Movement Guidelines state it would not be appropriate to consider highway links of high sensitivity where traffic flows are forecast to change by less than 10%, unless there are significant changes in the composition of traffic (e.g. a large increase in the number of HGVs).

6.7.17 Highway links within the final transport study area that do not meet the thresholds above from the ISEP Traffic and Movement Guidelines will be considered to experience effects that are not significant and no further assessment will be undertaken. Each road link will be assessed in the ES as to whether it meets the thresholds and requirements as set out above and where this occurs, these road links will be taken forward for detailed technical assessment. This information will be provided in the ES.

Assessed Traffic Effects

6.7.18 With regard to the ISEP Traffic and Movement Guidelines, the following methodologies and assumptions will be applied to assess the likely significant environmental effects of the Proposed Development in relation to transport and access and will be applied to the detailed technical assessment reported in the

ES. These will be applied to highway links that meet the ISEP Traffic and Movement Guidelines initial sifting criteria (i.e. Rules 1 and 2), set out above.

Severance

6.7.19 Severance is defined in the ISEP Traffic and Movement Guidelines as:

> *"the perceived division that can occur within a community when it becomes separated by major transport infrastructure. It describes a series of factors that separate people from places and other people. Such division may result from the difficulty of crossing a heavily trafficked road or a physical barrier created by infrastructure".*

6.7.20 The measurement and prediction of severance is difficult, but relevant factors include road width, traffic flow, speed, the presence of crossing facilities and the number of movements across the affected link.

6.7.21 Different groups in a community may be more affected by severance than others. Accordingly, consideration of severance relates to:

- The nature of transport infrastructure on any assessed road link (for example, type and speed of road, availability of crossing facilities).
- The characteristics of movements on that road link (for example, people crossing roads, the speed and volume of traffic).
- The nature of receptors that may travel to facilities on that road link (for example, people travelling to schools or places of employment).

6.7.22 The assessment will also take into consideration the current severance caused by traffic and related factors and the extent to which additional traffic may exacerbate any identified issues.

6.7.23 The ISEP Traffic and Movement Guidelines identify that:

> *"The Department for Transport has historically set out a range of indicators for determining the significance of severance. Changes in traffic flow of 30%, 60% and 90% are regarded as producing 'slight', 'moderate' and 'substantial' changes in severance respectively".*

6.7.24 The thresholds provide a starting point for assessment to consider the potential effects of the Proposed Development alongside specific local conditions and taking account of the factors outlined above.

Road Vehicle Driver and Passenger Delay

6.7.25 Traffic delays to non-development traffic can occur at several points on transport networks. The ISEP Traffic and Movement Guidelines identify that "*delays are only likely to be significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system*". Generally, this relates to junction capacity rather than the capacity of a road link.

6.7.26 Proportional and absolute increases in traffic numbers provide an indication of likely effects upon driver delay. Such assessments help inform the extent of required highway capacity assessments, which will form part of the technical work reported in the TA and focus on conditions in the network during peak periods in the morning (AM) and afternoon (PM).

6.7.27 The assessment of vehicle driver and passenger delay will be undertaken through consideration of proportional and absolute effects and judgments of highway network performance. Further detail will also be provided within the ES and the TA.

Non-motorised User Delay

6.7.28 Changes in the volume, composition and / or speed of traffic may affect the ability of people to cross roads or travel along road links. Typically, increases in traffic levels would be the main cause of increased delays, although increased non-motorised user activity itself can also contribute.

6.7.29 The ISEP Traffic and Movement Guidelines identify that there are a range of factors that can influence delay and that this might vary depending upon whether a location is within an urban or rural environment. Accordingly, the ISEP Traffic and Movement Guidelines do not set down definitive thresholds and instead suggest that "*the competent traffic and movement expert use their judgement to determine whether pedestrian delay constitutes a significant effect*".

6.7.30 The ISEP Traffic and Movement Guidelines state that "*Pedestrian delay and severance are closely related effects and can be grouped together*". Accordingly, the changes in traffic flows identified for severance of communities will be applied when considering non-motorised user delay. Criteria based on calculated pedestrian delay will be used as a robust starting point for narrowing down affected road links within the final transport study area. Thereafter, professional judgements, drawing on the characteristics of the road links, receptor sensitivity and infrastructure provision, will be made.

Non-motorised User Amenity

6.7.31 The ISEP Traffic and Movement Guidelines define non-motorised amenity as "*the relative pleasantness of a journey, and is considered to be affected by traffic flow, traffic composition and pavement width/separation from traffic*".

6.7.32 The ISEP Traffic and Movement Guidelines note that in previous iterations of guidance relevant to the assessment of transport effects in EIA, the tentative thresholds for judging the significance of effects related to changes in pedestrian amenity would be where the traffic flow (or HGVs) is halved or doubled. The ISEP Traffic and Movement Guidelines state that these thresholds have not been superseded by the latest guidance and can therefore continue to be used in any assessment, albeit cautiously and with regard to specific local conditions.

6.7.33 Thresholds based on percentage change from the baseline conditions and the application of professional judgement will be used as a starting point for any assessment of a road link. The defined thresholds will be used alongside professional judgments on local specific conditions and consideration of existing non-motorised user infrastructure.

Fear and Intimidation

6.7.34 The ISEP Traffic and Movement Guidelines identify that fear and intimidation are dependent upon a number of factors, including traffic volumes and speeds, vehicle composition and the proximity of road users to traffic as a factor of infrastructure that is in place. It is stated that "*While most of these factors can be quantified, there will be a need for judgement to be exercised in determining the degree of fear and intimidation*".

6.7.35 The ISEP Traffic and Movement Guidelines set out a weighting system to provide an approximation of the likelihood of fear and intimidation. This relates to non-motorised users. The approach allows the degree of hazard to be assessed, with reference to the established thresholds and a score to be provided for each combination of thresholds (i.e. traffic flow, HGV flow and average speed) for each highway link within the final transport study area.

6.7.36 The degree of hazard score is set out in Table 7.1 of the ISEP Traffic and Movements Guidelines and is reproduced in **Table 6-4**.

Table 6-4: Fear and intimidation degrees of hazard (Table 7.1 of ISEP Traffic and Movement Guidelines)

Average traffic flow over 18-hour all vehicles / hour 2-way (a)	Total 18-hour heavy vehicle flow (b)	Average Vehicle Speed (c)	Degree of hazard score
+1800	+3000	>40	30
1200-1800	2000-3000	30-40	20
600-1200	1000-2000	20-30	10
<600	<1000	<20	0

6.7.37 The total hazard score from all three elements of fear and intimidation is then combined to provide a 'level' of fear and intimidation referenced in Table 3.2 of the ISEP Traffic and Movement Guidelines (small, moderate, great, or extreme), as reproduced in **Table 6-5**.

Table 6-5: Levels of fear and intimidation (Table 3.2 of ISEP Guidelines)

Level of fear and intimidation	Total hazard score (a) + (b) + (c)
Extreme	71+
Great	41-70
Moderate	21-40
Small	0-20

6.7.38 The analysis will be undertaken for the future baseline and future baseline + Proposed Development traffic. Changes in the hazard score will be considered against the criteria in Table 3.3 of the ISEP Traffic and Movement Guidelines to consider where there are 'step changes' in hazard scores, reflecting the changes in traffic flows from the baseline conditions. The changes in step / traffic flows are shown in **Table 6-6**.

Table 6-6: Fear and intimidation magnitude of impact (Table 3.3 of ISEP Guidelines)

Magnitude of impact	Change in step / traffic flows (AADT) from baseline conditions
High	Two step changes in level.

Magnitude of impact	Change in step / traffic flows (AADT) from baseline conditions
Medium	One step change in level, but with >400 vehicle increase in average 18 hour all vehicles two-way all vehicle flow and / or 500 heavy vehicle increase in total 18 hour heavy vehicle flow.
Low	One step change in level, with <400 vehicle increase in average 18 hour all vehicles two-way all vehicle flow and / or <500 heavy vehicle increase in total 18 hour heavy vehicle flow.
Negligible	No change in step changes

6.7.39 The approach outlined in the ISEP Traffic and Movement Guidelines will be used to assess effects relating to fear and intimidation on non-motorised road users as summarised in **Tables 6-4, 6-5**and **6-6**.

Road User and Pedestrian Safety

6.7.40 Collision clusters within the final transport study area will be identified by undertaking a detailed review of the baseline characteristics to determine the road safety sensitivity of the highway network. The assessment will be based on an analysis of personal injury collision data occurring within the most recent five years (i.e. 2020 – 2025).

6.7.41 Patterns or road safety factors that could be exacerbated by traffic or movement will be identified and considered in the context of the vehicle movements, strategies and their management and the nature of effects will be presented in the TA. This analysis will then be used to inform the detailed technical assessment presented in the ES.

Hazardous / Large Loads

6.7.42 The Proposed Development is expected to result in the movement of some hazardous loads, such as fuel for the backup generators for the Data Centre Campus, for example. There will also be limited movements of large or abnormal loads associated with the delivery for installation or replacement of large items of plant, such as transformers.

6.7.43 Paragraph 3.50 of the ISEP Traffic and Movement Guidance states:

> *"The traffic and movement assessment needs to clearly outline the estimated number and composition of such loads. Where the*

> *number of movements is considered to be significant, the assessment should include a risk or catastrophe analysis to illustrate the potential for an accident to happen and the likely effect of such an event. The extent of such analysis should clearly reflect the nature of the load being transported. For instance, much more detail is required for a development that involves the transportation of nuclear products than for one that involves the delivery of petroleum".*

6.7.44 A specific assessment of hazardous loads will be undertaken as part of the ES. Appropriate mitigation strategies to secure safe passage will be identified where appropriate.

6.7.45 Paragraph 3.52 of the ISEP Traffic and Movement Guidance states:

> *"The movement of large (abnormal) loads is regulated by National Highways and will be subject to separate agreement with the relevant highway authorities and police through the Electronic Service Delivery for Abnormal Loads (ESDAL) system. The traffic and movement expert must consider appropriate routes for abnormal load movements and mitigation strategies to secure safe passage. If frequent abnormal load movements are anticipated (e.g. heavy plant movements), the traffic and transport expert should consider if other traffic impacts could be induced (e.g. fear and intimidation, driver delay, etc.)".*

6.7.46 A specific assessment of abnormal loads will be undertaken as part of the TA. Appropriate routes for abnormal load movements and mitigation strategies to secure safe passage will be identified. This will then be used to inform the detailed technical assessment presented in the ES.

Reporting Effects and Significance

6.7.47 The assessment of likely significant effects within the ES will consider the sensitivity of the receptor and the magnitude of impact to determine the level of effect on a scale of major, moderate, minor and negligible based on the matrix in **Chapter 2: EIA Methodology**. Whether the effect is Significant or Not Significant will be determined following this.

6.7.48 The ISEP Traffic and Movement Guidance states that detailed technical assessments within an ES "*should consider the forecast changes to baseline*

(magnitude of change/ impact), the relative value/ sensitivity/ importance of the affected asset/ receptor and the scale, nature and significance of the effect (consequence)". Professional judgement will be applied where appropriate in addition to the consideration of absolute level of traffic in combination with the percentage change in traffic when defining significance.

6.8 Assumptions, Limitations and Uncertainties

6.8.1 The assumptions, limitations and uncertainties that have been identified to date are set out in **Table 6-7**.

Table 6-7: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• Traffic generation will be assessed based on the peak period of the construction phase regardless of the duration of the construction programme. • At this stage, potential routes to be used by AILs have not been identified. This will be included in the ES. • At this stage, the other developments to be considered as part of the cumulative assessment (termed 'Other Developments', refer to **Chapter 18: Cumulative Effects Assessment Methodology**) are not defined and further research and engagement with NCC and NH will be undertaken.

6.9 Summary

6.9.1 A summary of the potential effects 'scoped in' and 'scoped out' for transport and access is provided in **Table 6-8**.

Table 6-8: Summary of potential effects 'scoped in' and 'scoped out' for transport and access

Potential effect	Phase
'Scoped Out'	
n/a	n/a
'Scoped In'	
Severance	Construction, operation and maintenance and decommissioning
Road vehicle driver and passenger delay	Construction, operation and maintenance and decommissioning

Potential effect	Phase
Non-motorised user delay	Construction, operation and maintenance and decommissioning
Non-motorised amenity	Construction, operation and maintenance and decommissioning
Fear and intimidation	Construction, operation and maintenance and decommissioning
Road user and pedestrian safety	Construction, operation and maintenance and decommissioning
Hazardous / large loads	Construction, operation and maintenance and decommissioning

7 Noise and Vibration

7.1 Introduction

7.1.1 This Scoping Chapter presents the scope and methodology for the assessment of environmental effects related to noise and vibration. This Scoping Chapter has been informed by relevant legislation, policy and guidance, baseline conditions and mitigation measures identified to date.

7.1.2 This Chapter should be read in conjunction with **Chapter 4: Initial Description of the Proposed Development** and 'Human Health' in **Chapter 17: Technical Aspects to be 'Scoped Out'**.

7.2 Summary of Relevant Legislation, Policy and Guidance

7.2.1 A list of legislation, policy and guidance relating to noise and vibration relevant to the Proposed Development is as follows:

Legislation

- Control of Pollution Act 1974[34].
- Environmental Protection Act 1990[35].

Policy

- NPS EN-1.
- NPS EN-3.
- NPS EN-5.
- NPPF.
- Noise Policy Statement for England (NPSE) (2010)[36].
- King's Lynn and West Norfolk Local Plan 2021 – 2040.

Guidance

- NPPG: Noise[37].
- ISEP (formerly IEMA) Guidelines for Environmental Noise Impact Assessment (2014)[38].
- British Standard (BS) 7445-1:2003, 'Description and measurement of environmental noise. Guide to quantities and procedures' (2003) ('BS 7445-1')[39].
- BS 5228-1:2009+A1:2014, 'Code of practice for noise and vibration control on construction and open sites – Noise' (2014) ('BS 5228-1')[40].

- BS 5228-2:2009+A1:2014, 'Code of practice for noise and vibration control on construction and open sites – Vibration' (2014) ('BS 5228-2')[41].
- International Organization for Standardization (ISO) 9613-2:2024, 'Acoustics – Attenuation of sound during propagation outdoors – Part 2: Engineering method for the production of sound pressure levels outdoors' (2024) ('ISO 9613-2')[42].
- BS 4142:2014+A1:2019, 'Methods for rating and assessing industrial and commercial sound' (2019) ('BS 4142')[43].
- BS 8233:2014, 'Guidance on Sound Insulation and Noise Reduction for Buildings' (2014) ('BS 8233')[44].
- Department for Transport Welsh Office Calculation of Road Traffic Noise (CRTN) (1988)[45].
- National Highways (formerly Highways England) DMRB LA 111: Noise and Vibration (Revision 2) (2020) ('LA 111')[46].
- National Grid Policy Statement PS(T)134 – Operational Audible Noise Policy for Overhead Lines (2021)[47].
- National Grid Technical Report TR(E)564 – Development of Method for Assessing the Impact of Noise from Overhead Lines (New Build, Reconductoring, Diversion and Uprating) (2021)[48].
- National Grid Technical Guidance Note TGN(E)322 – Operational Audible Noise Assessment Process for Overhead Lines (New Build, Reconductoring, Diversion and Uprating) (2021)[49].
- BS 6472-1:2008 'Guide to evaluation of human exposure to vibration in buildings- Vibration sources other than blasting' (2008) ('BS 6472-1')[50].
- BS 7385-2:1993 'Evaluation and measurement for vibration in buildings - Guide to damage levels from groundborne vibration' (1993) ('BS 7385-2')[51].

7.3 Baseline Conditions

7.3.1 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and provides an overview of the relevant baseline conditions for noise and vibration.

Baseline Data Collection Activities to Date

7.3.2 Baseline data has been collected using the following sources and methods:

- Desk-based review of available strategic noise mapping data in the vicinity of the Site. This dataset provides modelled levels of noise from transportation sources (in the vicinity of the Site, this relates to road[52] and rail[53] traffic

sources) and includes long-term average noise levels for both daytime and night-time periods.

Baseline Conditions

7.3.3 For this Scoping Report, baseline noise levels have been established by reference to strategic noise mapping for the local area, as noted in **Paragraph 7.3.2**. The data is available online and provides information relating to the likely levels of noise from roads and railway lines. This noise contour information is presented in **Figures 7-1: DEFRA R4 Road and Rail - Daytime LAeq, 16h** and **7-2: DEFRA R4 Road and Rail – Night dB LAeq,8h**.

7.3.4 The main sources of noise likely at Walpole Substation and the Western Cable Route include plant and equipment within the existing Walpole NGET GSP and Walpole Bank Solar Farm as well as traffic movements on the A47 (Pullover Road) and on the local road network, including Walpole Bank and Folgate Lane.

7.3.5 The Western Site is in proximity to the villages of Tilney St Lawrence, Terrington St John and Tilney-cum-Islington. The main sources of noise likely at the Western Site and the surrounding area are traffic movements on the A47 (Pullover Road), which runs through the north-western part of the Western Site, and on the local road network, including Magdalen Road that runs through the southern part of the Western Site, Church Road to the west and High Road to the east.

7.3.6 For the Eastern Cable Route, the noise environment is likely to be influenced by traffic movements on the A10 (Lynn Road), A134 (Stoke Road) and the local road network, alongside railway movements on the Fen Railway Line.

7.3.7 The Eastern Site is located in proximity to the villages of Marham, Barton Bendish and Fincham. The main sources of noise that are likely at the Eastern Site and the surrounding area comprise the A1122 (Swaffham Road), which runs through the northern portion of the Eastern Site and the A134 (Downham Road / Lynn Road) to the west. Noise from road traffic on the local road network in and around the Eastern Site, including Lynn Road, Fincham Road and Marham Road, is also likely to contribute to the ambient noise climate. Noise associated with aircraft movements to and from RAF Marham also contributes to the noise climate across the Eastern Site.

7.3.8 Noise associated with surrounding agricultural uses may be audible within all Areas of the Site. However, these activities are likely to be predominantly restricted to hours of daylight.

7.4 Mitigation Measures Identified to Date

7.4.1 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the initial description of the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Construction

7.4.2 The construction works will be carried out following Best Practicable Means (BPM) measures in line with the code of practice in BS 5228-1 and BS 5228-2.

7.4.3 The nature of construction activities means that individual receptors may experience higher noise levels for very short periods of time. For example, during specific construction activities that need to take place close to a particular receptor. Whilst this short-term activity would typically not be sufficient to constitute a significant effect, it is good practice to minimise the noise and vibration during these activities. As such, noise and vibration during construction will be controlled via the following measures:

- Selection of quiet / low vibration equipment where activity is close to noise and vibration receptors and where reasonably practicable to do so.
- Location of noise generating plant and equipment as far as reasonably practicable from noise and vibration sensitive receptors.
- Use of noise reduction measures, such as attenuators / noise screening, if required.
- All plant items to be properly maintained and operated according to manufacturers' recommendations in such a manner as to avoid causing excessive noise.
- All pneumatic tools to be fitted with silencers or mufflers where activity is close to noise and vibration sensitive receptors and where reasonably practicable to do so.

7.4.4 Construction traffic movements (and therefore road traffic noise) will also be managed by the following measures:

- Restrictions on times during which deliveries and worker movements can take place.

- Prescribed routes for vehicle movements to / from the Site.
- All vehicles to be prohibited from waiting within or in the vicinity of the Site with their engines running.

7.4.5 The management plans that will secure control measures for noise and vibration during the construction phase include the following as set out in the Initial Commitments Register (**Appendix B**):

- oCEMP.
- oCTMP.

Operation and Maintenance

7.4.6 The design of the overhead lines within the Cable Routes will minimise noise emissions. The configurations are as follows:

- The 400kV overhead lines within the Western Cable Route are proposed to have a twin-bundle conductor configuration (for example “twin araucaria”) and will be installed in accordance with National Grid Technical Specifications.
- The 132kV overhead lines within the Eastern Cable Route are proposed to have a twin-bundle conductor configuration (for example “twin zebra”) and will be installed in accordance with National Grid Technical Specifications.

7.4.7 The design of the overhead lines will be secured via design principles.

7.4.8 Any plant with moving parts, such as cooling equipment and transformers, would be expected to be mounted on suitable anti-vibration mounts to protect the plant from potential vibration effects and also to attenuate vibration generated by the plant. This measure will be secured through an Outline Operational Environmental Management Plan (oOEMP).

7.4.9 The plant and equipment within the Solar PV Panels (inverters and transformers), BESS Units, Substations and Data Centre Campus Components (for example the chiller infrastructure and, at limited and controlled times each month, testing of the backup generators) of the Proposed Development are likely to be the main sources of operational noise. The design process will seek to locate these Components of the Proposed Development as sources of operational noise away from noise and vibration sensitive receptors to minimise potential likely significant environmental effects. Where required, other noise mitigation measures, for example acoustic louvres, will be used, if needed. Further details will be provided in the ES.

7.4.10 The management plan that will secure control measures for noise from operational plant, such as the backup generator testing regime, during the operation and maintenance phase includes the following as set out in the Initial Commitments Register (**Appendix B**):

- oOEMP.

7.4.11 Design measures comprising:

- Cycle access to the Data Centre Campus.
- Cycle parking at the Data Centre Campus.
- Adequate shower, changing facilities and storage lockers for staff commuting by active travel modes to the Data Centre Campus.

7.4.12 These measures will be secured by design principles.

Decommissioning

7.4.13 The measures are anticipated to be similar to those proposed for the construction phase above in **Paragraphs 7.4.2 – 7.4.4**.

7.4.14 The management plans that will secure control measures for noise and vibration during the decommissioning phase include the following as set out in the Initial Commitments Register (**Appendix B**):

- Outline Decommissioning Environmental Management Plan (oDEMP).
- oDTMP.

7.5 Proposed Scope of Assessment

7.5.1 The proposed scope of assessment is based on an understanding of the characteristics of the Site and technical study areas and the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Potential Likely Environmental Effects which are Not Significant

7.5.2 Where an environmental effect is unlikely to be significant based on baseline data, mitigation identified to date and / or initial analysis and evaluation, this will not be considered further within the EIA nor reported on in the ES. An evidence base is provided to justify the 'scoping out' of these effects below.

7.5.3 Note that vibration effects are 'scoped out' for all phases, with an evidence base provided below.

Construction Phase

Construction Vibration from Mobile Plant and Activities

7.5.4 During construction, a suite of different plant will be used, including excavators, dump trucks, vibratory rollers and plate compactors and piling rigs.

7.5.5 The study area for any construction vibration assessment, including high-energy construction activities and vibratory compaction and piling, is typically assessed at 100m, based on professional experience of similar developments and supported in LA 111 for the assessment of construction vibration. Design evolution to date strongly indicates that the Data Centre Campus / BESS Units / Substation within the Western Site construction will not be expected to be within 100m of any noise and vibration sensitive receptor, but in the unlikely event this is not the position, then this would be assessed within the noise and vibration assessment.

7.5.6 Within the Solar PV Panels, piling for the frames may be undertaken within 100m of the Site boundary, but effects from this activity will be short-term and infrequent as the piling works move across the Site.

7.5.7 Therefore, construction vibration from mobile plant and activities during the construction phase is unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Construction Traffic Vibration

7.5.8 Vibration from traffic on the public highway is caused by irregularities in the road surface. Where the road surface is well maintained and free from irregularities, such as potholes, significant vibration effects would not be expected, even at relatively short distances. The key routes anticipated to be used for construction, including the A47 and the A1122 (Downham Road / Swaffham Road) and other local roads adjacent to the Site, are well maintained.

7.5.9 Therefore, construction traffic vibration during the construction phase is unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Operation and Maintenance Phase

Operation Traffic Vibration

7.5.10 The operation and maintenance of the Proposed Development is likely to require minimal use of HGVs. Vehicle movements generated during the operation and maintenance phase of the Proposed Development will comprise activities

associated with staff, inspection, equipment replacement, monitoring, and general site upkeep and will likely utilise light vehicles.

7.5.11 Therefore, operational traffic vibration during the operation and maintenance phase is unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Operational Noise Associated with Underground Cable Connections

7.5.12 As set out in **Chapter 4: Initial Description of the Proposed Development**, there will be underground cable connections at Walpole Substation and along a small part of the Western Cable Route and part of the Eastern Cable Route. Such connections will produce no airborne noise once operational.

7.5.13 Therefore, operational noise from the underground cable connections during the operation and maintenance phase is unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Operational Noise from Overhead Lines

7.5.14 Operational noise from the 132kV overhead lines that are part of the Eastern Cable Route is not likely to be significant under any weather conditions, as it is proposed that a twin-bundle conductor configuration (for example “twin zebra”) is used with pylon fittings (such as insulators, dampers, spacers and clamps) installed in accordance with National Grid Technical Specifications.

7.5.15 Operational noise from the 400kV overhead lines within the Western Cable Route is not likely to be significant under any weather conditions as it is proposed that a twin-bundle conductor configuration (for example “twin araucaria”) is used with pylon fittings (such as insulators, dampers, spacers and clamps) installed in accordance with National Grid Technical Specifications.

7.5.16 The above measures reduce the potential for audible noise and tones to occur from all types of fittings, including insulators. Where noise does occur, it is likely to be localised, short-term and temporary. If this is due to a fault, action can be taken to rectify it. Where noise from fittings does occur which results in a complaint, appropriate action can be taken to seek to remedy the cause of the noise, usually through cleaning or replacing the relevant fitting.

7.5.17 Therefore, operational noise from the overhead lines during the operation and maintenance phase is unlikely to be significant and will not be considered further within the EIA or reported in the ES.

7.5.18 Should the iterative design process result in alternative conductor types from those set out in **Paragraphs 7.5.14** and **7.5.15** being used, this potential likely significant effect would be subject to detailed technical assessment and presented in the ES. Technical information will be submitted as part of the DCO Application to support 'scoping out' noise associated with overhead lines from the detailed noise and vibration technical assessment.

Operational Noise and Vibration Associated with Maintenance Activities

7.5.19 During the operation and maintenance phase, there will be maintenance activities associated with the Proposed Development, including replacement of hardware within the Data Centre Campus and works to maintain the overhead lines.

7.5.20 Maintenance activities would be infrequent and localised and short-term in duration and will follow standard measures to reduce noise and vibration where required (with regard to BS 5228-1 and BS 5228-2). Therefore, the potential noise levels and effects arising from the maintenance activities associated with the Proposed Development are equivalent to any agricultural works present in the area.

7.5.21 Therefore, operational noise associated with maintenance activities during the operation and maintenance phase is unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Vibration from the Operational Activities of the Proposed Development

7.5.22 The operation and maintenance phase of the Proposed Development will not include significant intrusive groundworks (e.g. excavation or earthwork activities), with the exception of minor replacement / refurbishment works (e.g. relaying of cables or utilities).

7.5.23 The Components of the Proposed Development will not make use of any plant or equipment that generates significant levels of off-site vibration during operation. In addition, any plant with moving parts, such as cooling equipment and transformers, would be expected to be mounted on suitable anti-vibration mounts to protect the plant from potential vibration effects and also to attenuate vibration generated by the plant.

7.5.24 Therefore, vibration from operational activities of the Proposed Development during the operation and maintenance phase is unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Decommissioning Phase

Decommissioning Vibration from Mobile Plant and Activities

7.5.25 During construction, a suite of different plant will be used, including excavators, dump trucks, vibratory rollers and plate compactors and piling rigs.

7.5.26 The study area for any decommissioning vibration assessment, including high-energy construction activities and vibratory compaction, is typically assessed at 100m, based on professional experience of similar developments and supported in LA 111 for the assessment of construction vibration.

7.5.27 During decommissioning, no piling works are anticipated, with limited vibration-generating activities proposed. Effects from limited vibration-generating activities will be short-term and infrequent as the decommissioning works move across the Site.

7.5.28 Therefore, decommissioning vibration from mobile plant and activities during the decommissioning phase is unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Decommissioning Traffic Vibration

7.5.29 Vibration from traffic on the public highway is caused by irregularities in the road surface. Where the road surface is well maintained and free from irregularities, such as potholes, significant vibration effects would not be expected, even at relatively short distances. The key routes anticipated to be used for decommissioning, including the A47 and the A1122 (Downham Road / Swaffham Road) and other local roads adjacent to the Site, are well maintained.

7.5.30 Therefore, decommissioning traffic vibration during the decommissioning phase is unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Potential Likely Significant Environmental Effects

7.5.31 Where potential likely significant effects have been identified at this stage and are proposed to be ‘scoped in’, these are set out in **Table 7-1**. These environmental effects will be assessed within the EIA and reported on in the ES.

Table 7-1: Potential likely significant environmental effects 'scoped in'

Potential likely significant effect	Receptor(s)	Phase(s)
Construction noise from mobile plant and activities	Sensitive receptors within 300m of the proposed construction work areas (refer to 'Study Areas' below)	Construction
Construction traffic noise	Sensitive receptors within 50m of the proposed construction traffic routes (refer to 'Study Areas' below)	Construction
Operational plant noise	Sensitive receptors within 500m of the Walpole Substation, Data Centre Campus, BESS Units and Substation in the Western Site and BESS Units and Substation in the Eastern Site Sensitive receptors within 300m from Solar PV Panels (inverters, transformers and switchgear) (refer to 'Study Areas' below)	Operation and maintenance
Operational traffic noise	Sensitive receptors within 50m of roads where there is an expected change of 1 dBA (refer to 'Study Areas' below)	Operation and maintenance
Decommissioning noise from mobile plant and activities	Sensitive receptors within 300m of the proposed decommissioning work areas (refer to 'Study Areas' below)	Decommissioning
Decommissioning traffic noise	Sensitive receptors within 50m of roads where there is an expected change of 1 dBA (refer to 'Study Areas' below)	Decommissioning

7.5.32 The potential for cumulative effects arising from environmental effects identified in **Table 7-1**, both in terms of inter-project and intra-project effects, will be considered within the ES. The approach to the cumulative effects assessment in the ES is set out in **Chapter 18: Cumulative Effects Assessment Methodology**.

7.6 Proposed Approach to Detailed Assessment in the ES

Study Areas

7.6.1 The spatial extents of the construction noise and operational noise assessments are informed by pertinent standards and guidance, including LA 111, BS 5228-1 and ISO 9613-2. Details of the study areas, alongside figures showing their locations and extents, will be provided in the ES. These figures will also identify the receptors assessed.

Construction Phase

Construction Noise from Mobile Plant and Activities

7.6.2 The study area for the construction noise assessment has been defined as 300m from the boundary of the proposed construction works, as per the guidance outlined in BS 5228-1. As the location of the proposed construction works is not confirmed at this stage, a construction noise study area of 300m from the Site boundary is proposed for the construction noise assessment and is presented in **Figure 7-3: Construction Noise Assessment Study Area**.

Construction Traffic Noise

7.6.3 The study area for noise effects from construction vehicle movements to and from the Site is within 50m of any road link likely to experience a change of 1 dB $L_{A10,18h}$ or greater as a result of construction traffic, with regard to the guidance outlined in LA 111.

Operation and Maintenance Phase

Operational Traffic Noise

7.6.4 The study area for noise effects from operational vehicle movements to and from the Site is within 50m of any road link likely to experience a change of 1 dB $L_{A10,18h}$ or greater as a result of operational and maintenance traffic, with regard to the guidance outlined in LA 111.

Operational Plant Noise

7.6.5 The study area for the operational plant noise assessment has been defined as 500m from the Data Centre Campus / BESS Units / Substation and 300m from inverters, transformers and switchgear within the Solar PV Panels. This distance is based on professional judgement and experience of similar developments, and beyond this distance operational noise effects from Data Centre Campus / BESS Units / Substation and plant within the Solar PV Panels are unlikely to be significant.

7.6.6 Based on **Figure 1-3: Layout Plan** and accounting for the distances set out above, the study area has been set to 500m from Walpole Substation, Data Centre Campus / BESS Units / Substation (including the Export Substation) in the Western Site and the BESS Units and Substation (including the Export Substation) in the Eastern Site. A study area has been set to 300m from the inverter, transformer and switchgear location areas within the Solar PV Panels. The resultant operational noise study area is presented in **Figure 7-4: Operational Noise Assessment Study Area**. Once the location of the proposed plant is finalised at the ES stage, the operational noise study area will be refined.

Decommissioning Phase

7.6.7 The activities undertaken during the decommissioning phase are likely to be similar to those proposed during the construction phase, with the exception of piling works within the Solar PV Panels, which will not be required. Therefore, the study area for the decommissioning noise assessment is 300m in line with the construction noise assessment study area and is presented in **Figure 7-3: Construction Noise Assessment Study Area**.

Further Baseline Data Collection

7.6.8 A baseline noise survey will be undertaken to characterise the existing ambient noise environment at nearby noise sensitive receptors within the operational noise assessment study areas (as this is where the long-term effects will occur). This will include unattended measurements of the existing ambient noise levels at locations representative of noise sensitive receptors. The monitoring locations will be discussed with KL&WNBC prior to the survey.

7.6.9 The baseline noise survey will be undertaken in accordance with BS 7445-1. Unattended measurements will be undertaken for a period of 4 – 7 days, inclusive of typical weekday and weekend periods, to capture a representative snapshot of baseline noise conditions.

7.6.10 Monitoring locations will include positions that are representative of baseline conditions at noise sensitive receptor positions that have the potential to experience noise from fixed plant and equipment associated with the operation and maintenance phase of the Proposed Development. Monitoring locations will be at appropriate positions within the Main Site, based on receptor sensitivity and proximity to potential sources, and confirmed following further design development.

Detailed Assessment Methodology

Construction Phase

Construction Noise from Mobile Plant and Activities

7.6.11 The assessment of noise from on-site construction activities (e.g. piling, trenching, etc.) will be carried out with reference to the criteria set out in BS 5228-1. The criteria that will be adopted for the detailed technical assessment will be based upon methodologies presented within Annex E of BS 5228-1.

Construction Traffic Noise

7.6.12 The assessment of noise effects from construction traffic will be carried out with reference to the criteria set out in LA 111 and will consider the change in Background Noise Level (BNL) as a result of construction traffic on the road network. The impact magnitude criteria that will be adopted for the assessment will be based upon that presented in Table 3.17 of LA 111.

Operation and Maintenance

Operational Traffic Noise

7.6.13 The assessment of noise effects from operational traffic will be carried out with reference to the criteria set out in LA 111 and will consider the change in BNL as a result of operational traffic on the road network. The impact magnitude criteria that will be adopted for the assessment will be based upon that presented in Table 3.17 of LA 111.

Operational Plant Noise

7.6.14 BS 4142 is used to rate and assess sound of an industrial nature, including but not limited to assessing sound from proposed, new, modified, or additional sources of industrial sound. BS 4142 contains guidance on the monitoring and assessment methodology for industrial and commercial sound sources (including fixed installations comprising mechanical and electrical plant and equipment) affecting noise sensitive receptors.

7.6.15 The methodology relies on comparing the operational rating level $L_{Ar,Tr}$, with the background sound level, $L_{A90,T}$ (i.e. the level that would be present without a proposed development) over a representative time period. BS 4142 provides guidance on the measurement of background sound, the determination of specific sound and the calculation of the rating level.

7.6.16 Certain acoustic features can increase the significance of the effect over that expected from a basic comparison between the Specific Sound Level and the background sound level. A character correction should be added to the Specific Sound Level to obtain the rating level, where such features are present at the receptor. BS 4142 states that the Specific Sound Level should be corrected if a tone, impulse or other characteristic occurs, or is expected to be present for new sound sources. The subjective method set out in BS 4142 is considered to be appropriate for the detailed technical assessment. BS 4142 states that the Specific Sound Level should be corrected if a tone, impulse or other characteristic occurs, or is expected to be present for new sound sources.

7.6.17 BS 4142 assessment methodology also states that:

> *"Typically, the higher the rating level is above the background sound level the greater the magnitude of impact;*
>
> *A difference of around +10 dB or more is likely to be an indication of significant adverse impact, depending on the context;*
>
> *A difference of around +5 dB or more is likely to be an indication of an adverse impact, depending on the context;*
>
> *The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context."*

7.6.18 To determine the impact threshold levels for the assessment of operational industrial sound, the difference between the rating level and background sound level will be considered, as advocated by the methodology within BS 4142.

Decommissioning

7.6.19 As discussed above, the activities undertaken during the decommissioning phase are likely to be similar to those proposed during the construction phase, with the exception of piling works within the Solar PV Panels, which will not be required. Therefore, the results of the construction phase assessments will be used as a 'proxy' for the assessment of the decommissioning phase.

Reporting Effects and Significance

7.6.20 The assessment of likely significant effects within the ES will consider the sensitivity of the receptor and the magnitude of impact to determine the level of effect on a scale of major, moderate, minor and negligible based on the matrix in **Chapter 2: EIA Methodology**. Whether the effect is Significant or Not Significant will be determined following this, considering whether there are Significant adverse effects on health and quality of life, as identified through UK Government noise policy set out by the NPSE and NPPG: Noise.

7.6.21 NPSE and NPPG: Noise establish effect levels relating to the likelihood of significant adverse effects on health and quality of life. Notably:

- LOAEL – Lowest Observed Adverse Effect Level.
- SOAEL – Significant Observed Adverse Effect Level.
- UAEL – Unacceptable Adverse Effect Level.

7.6.22 The NPSE states that a 'single objective' noise-based measure applicable to all sources and receptors that defines the onset of LOAEL and SOAEL is not possible. However, the NPSE notes that thresholds can be defined based upon relevant policy, available standards and technical guidance.

7.6.23 Significant effects on health and quality of life are considered to have occurred should noise exposure from the Proposed Development result in a noise-sensitive receptor newly exceeding the SOAEL, taking into account any mitigation measures that are proposed. A significant effect is not deemed to occur where noise exposure from the Proposed Development is below LOAEL. Where noise exposure from the Proposed Development falls between LOAEL and SOAEL, the NPSE requires that the Proposed Development should include measures, where it is sustainable to do so, to 'mitigate and minimise' adverse effects.

7.6.24 Determining whether a Significant effect occurs where noise exposure lies between the LOAEL and SOAEL thresholds will include the consideration of quantitative and qualitative factors, including:

- Noise exposure.
- Receptor sensitivity.
- Change in noise level.
- Type and magnitude of impact.
- Existing ambient acoustic environment.
- Additional metrics such as (LAmax).
- How effective the measures employed to mitigate the effect are likely to be, based on professional judgement (including BPM).
- The duration of effect (short, medium or long-term, which will be defined in the ES).

7.7 Assumptions, Limitations and Uncertainties

7.7.1 The assumptions, limitations and uncertainties that have been identified to date are set out in **Table 7-2**.

Table 7-2: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• The construction phase noise assessments will rely on assumed outline plant details which may be subject to change when a contractor is appointed for the works. Reasonable endeavours will be made to ensure that similar plant from BS 5228 is adopted for the assessments. A worst-case closest working position will be used in the assessment, which in practice is unlikely to occur for extended periods of time. • The operational phase plant noise assessment will rely on assumed plant specifications which may be subject to change through the detailed design stage. However, an appropriate and suitable plant selection will be used to inform the detailed technical assessment based on information provided by the design team.

7.8 Summary

7.8.1 A summary of the potential effects ‘scoped in’ and ‘scoped out’ for noise and vibration is provided in **Table 7-3**.

Table 7-3: Summary of potential effects ‘scoped in’ and ‘scoped out’ for noise and vibration

Potential effect	Phase
‘Scoped Out’	

Potential effect	Phase
Construction vibration from mobile plant and activities	Construction
Construction traffic vibration	Construction
Operational traffic vibration	Operation and maintenance
Operational noise associated with underground cable connections	Operation and maintenance
Operational noise from overhead lines	Operation and maintenance
Operational noise and vibration associated with maintenance activities	Operation and maintenance
Vibration from the operational activities	Operation and maintenance
Decommissioning vibration from mobile plant and activities	Decommissioning
Decommissioning traffic vibration	Decommissioning
'Scoped In'	
Construction noise from mobile plant and activities	Construction
Construction traffic noise	Construction
Operational plant noise	Operation and maintenance
Operational traffic noise	Operation and maintenance
Decommissioning noise from mobile plant and activities	Decommissioning
Decommissioning road traffic noise	Decommissioning

8 Air Quality

8.1 Introduction

8.1.1 This Scoping Chapter presents the scope and methodology for the assessment of environmental effects related to air quality. This Scoping Chapter has been informed by relevant legislation, policy and guidance, baseline conditions and mitigation measures identified to date.

8.1.2 This Chapter should be read in conjunction with **Chapter 4: Initial Description of the Proposed Development**, **Chapter 9: Biodiversity** and 'Human Health' in **Chapter 17: Technical Aspects to be 'Scoped Out'**.

8.1.3 The effects of emissions generated by the Proposed Development from traffic and the backup generators on concentrations of nitrogen oxides (NOx), ammonia and nitrogen and acid deposition at sensitive designated ecological sites along the local road network are addressed within **Chapter 9: Biodiversity**.

8.2 Summary of Relevant Legislation, Policy and Guidance

8.2.1 A list of legislation, policy and guidance relating to air quality relevant to the Proposed Development is as follows:

Legislation

- EU Directive 2008/50/EC on ambient air quality and cleaner air for Europe 2008[54].
- Environmental Protection Act 1990.
- Part IV of the Environment Act 1995[55].
- The Environment Act 2021[56].
- The Clean Air Act 1993[57].
- The Air Quality (England) Regulations 2000[58].
- The Air Quality Standards Regulations 2010[59].
- The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023[60].

Policy

- NPS EN-1.
- NPS EN-3.
- NPS EN-5
- NPPF.

- DEFRA Environmental Improvement Plan (2025)[61].
- Department for Energy Security and Net Zero (DESNZ) Clean Air Strategy (2019)[62].
- DEFRA Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007)[63].
- DEFRA Air Quality Strategy (2023)[64].
- DfT Reducing Emissions from Road Transport: Road to Zero Strategy (2018)[65].
- DEFRA National Air Quality Plan (2017)[66] and Supplement (2018)[67].
- DEFRA $PM_{2.5}$ Targets: Interim Planning Guidance[68].
- NCC Strategic Planning Framework[69].
- NCC's Local Transport Plan 2021 – 2036.
- King's Lynn and West Norfolk Local Plan 2021 – 2040.
- KL&WNBC Air Quality Action Plan 2024-2029[70].

Guidance

- NPPG: Air Quality[71].
- Environmental Protection UK (EPUK) & Institute of Air Quality Management (IAQM) Guidance on Land-Use Planning & Development Control: Planning for Air Quality (2017) ('EPUK / IAQM Guidance')[72].
- IAQM Guidance on the Assessment of Dust from Demolition and Construction (2024) ('IAQM Construction Dust Assessment Guidance')[73].
- Environment Agency Guidance on Best Available Techniques for Emergency Backup Diesel (2023)[74].
- DEFRA Local Air Quality Management ('LAQM') Technical Guidance (TG22) (2025) ('LAQM.TG(22)')[75].

8.3 Baseline Conditions

8.3.1 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and provides an overview of the relevant baseline conditions for air quality.

Baseline Data Collection Activities to Date

8.3.2 Baseline data has been collected using the following sources and desk-based methods:

- Industrial and waste management sources that may affect the area have been identified using DEFRA's Pollutant Release and Transfer Register[76].

- Local sources of air pollution have been identified through examination of KL&WNBC's Air Quality Review and Assessment reports.
- Information on existing air quality has been obtained by collating the results of monitoring for key pollutants (including nitrogen dioxide (NO_2) and particulate matter (PM_{10} and $PM_{2.5}$)) carried out by KL&WNBC.
- Background concentrations have been defined using DEFRA's 2021-based background maps[77]. These cover the whole of the UK on a 1x1 km grid.
- Whether or not there are any exceedances of the annual mean limit value for NO_2, PM_{10} and $PM_{2.5}$ has been identified using DEFRA's Compliance data[78].

Baseline Conditions

Air Quality Management Areas

8.3.3 KL&WNBC has investigated air quality within its area as part of its responsibilities under the LAQM regime. In November 2003, an Air Quality Management Area (AQMA) was declared for exceedances of the annual mean NO_2 objective at Railway Road, approximately 5.5km to the north-east of the Western Site. The declared AQMA is shown in **Figure 8-1: AQMAs at Railway Road, King's Lynn**.

8.3.4 In May 2001, three AQMAs were declared in Wisbech by Fenland District Council for exceedances of the 15-minute mean SO_2 objective, 24-hour mean PM_{10} objective and annual mean NO_2 objective. These AQMAs are located approximately 4.9km to the south-west of Walpole Substation and are shown in **Figure 8-2: AQMAs at Wisbeach**.

Industrial Sources

8.3.5 A search of the UK Pollutant Release and Transfer Register[79] has not identified any significant industrial or waste management sources within 5km of the whole Site that are likely to affect the prevailing air quality conditions that would not otherwise be captured within background concentrations.

Local Air Quality Monitoring

8.3.6 KL&WNBC operates two automatic monitoring stations within its area. These are located in the centre of King's Lynn and are not in proximity to the Site but have been included here for context. Automatic monitoring stations CM_SG and CM_GW are located approximately 4.6km and 6.5km to the north-east of the Site at the closest point, respectively. The locations of the automatic monitoring stations are shown in **Figure 8-3a – b: Local Air Quality Monitoring Sites**.

8.3.7 KL&WNBC operates 76 nitrogen dioxide (NO_2) monitoring sites using diffusion tubes prepared and analysed by Socotec (using the 50% Triethanolamine (TEA) in acetone method), the large majority of which are not in proximity to the Site but have been included to represent air quality conditions in the wider study area. The diffusion tube monitoring sites consist of 71 deployed within King's Lynn itself, three deployed within Wisbech, and one each in West Walton and in West Winch. Monitoring diffusion tube site 99 is likely to be the most representative of conditions at the Site as it is in a similar environment and is the closest tube to the Site.

8.3.8 Results of the NO_2 monitoring for the years 2019 to 2025 are summarised in **Table 8-1** for the diffusion tube sites in King's Lynn reporting the highest concentrations (eight sites), the sites in Wisbech, West Walton and West Winch, and the two automatic monitoring sites (CM_GW and CM_SG). The monitoring sites recorded no exceedances of the NO_2 short-term mean objective (40 µg/m^3) in the years reported. The monitoring locations are shown in **Figure 8-3a – b: Local Air Quality Monitoring Sites**. Due to the resolution, monitoring stations 3 and 1 are shown in **Figure 8-3b**.

8.3.9 Data for these monitoring sites have been obtained from KL&WNBC's 2024 Air Quality Annual Status Report (ASR)[80] for the 2019 and 2020 data and the 2026 ASR[81] was used for the 2021 – 2025 data.

Table 8-1: Summary of annual mean NO_2 monitoring (2019 – 2025) (µg/m^3)

Monitoring site no.	Monitoring site type	Location	2019	2020	2021	2022	2023	2024	2025
Automatic monitoring									
CM_GW	Roadside	A148 (Lynn Road), King's Lynn	21.0	14.2	17.6	14.0	14.8	13.6	14.0
CM_SG	Roadside	A148 (London Road), King's Lynn	37.0	26.7	26.4	24.0	24.8	22.6	22.5
Non-automatic monitoring									
2	Roadside	No. 4, A148	**42.4** [a]	33.2	33.7	32.9	32.5	31.2	28.5

Monitoring site no.	Monitoring site type	Location	2019	2020	2021	2022	2023	2024	2025
		(Railway Road), King's Lynn							
3	Roadside	No.5, A148 (Railway Road), King's Lynn	37.5	26.4	30.1	29.1	28.5	26.3	25.3
10	Roadside	No.1, A148 (London Road), King's Lynn	35.5	26.6	29.0	27.8	26.2	27.1	27.4
15	Roadside	Ford Building, South Gate, A148, King's Lynn	36.7	27.0	29.6	28.2	26.9	25.6	26.2
44	Roadside	No. 2, A148 (Lynn Road), King's Lynn	34.6	26.3	27.0	27.8	27.4	25.2	26.9
101	Roadside	No.2, A1101 (Elm High Road), Wisbech	-	-	27.8	28.3	26.5	26.4	23.6
102	Roadside	No.6, A148 (Railway Road), King's Lynn	-	-	-	32.1	29.7	29.2	29.1
103	Roadside	No.7, A148 (Railway Road),	-	-	-	30.7	29.3	26.9	26.8

Monitoring site no.	Monitoring site type	Location	2019	2020	2021	2022	2023	2024	2025
		King's Lynn							
62	Roadside	Burney Rd, South Lynn, King's Lynn	14.1	9.9	10.9	10.4	10.0	7.9	8.9
73	Roadside	West Winch Spar Shop, A10 (Main Road), West Winch	22.1	16.2	16.5	16.6	15.5	15.9	16.8
99	Suburban	West Walton High School, School Road, West Walton	-	-	7.8	7.4	6.5	5.6	8.5
100	Suburban	Chapnall Road, Wisbech	-	-	9.5	9.2	8.3	6.7	8.3
110	Roadside	No.1, A1101 (Elm High Road), Wisbech	-	-	-	-	14.6	14.3	12.2
Objective			**40**						

Notes to **Table 8-1**:

[a] Where exceedances of the objectives were recorded, these are shown in **bold**.

8.3.10 The results presented in **Table 8-1** show that NO_2 concentrations are well below the objectives at all monitoring sites, with the exception of diffusion tube monitoring site 2 in 2019. However, as with the other monitoring sites, concentrations have been generally decreasing in recent years, with

concentrations recorded well below the objectives at all sites after 2020, including at diffusion tube monitoring site 2.

8.3.11 With regard to the IAQM Position Statement on 2020 and 2021 Monitoring Datasets[82], the 2020 – 2021 results have been presented in this section for completeness, although they are not relied upon as they will not be representative of 'typical' air quality conditions due to the considerable impact of the COVID-19 pandemic on traffic volumes and thus air pollutant concentrations (including NO_2).

8.3.12 Indicative monitoring of PM_{10} and $PM_{2.5}$ concentrations is undertaken by KL&WNBC. These monitoring sites are not in proximity to the Site and are non-reference standard and therefore inappropriate for assessment of compliance with Air Quality Objectives. The results have therefore been considered for context only. Industrial monitoring site types have been excluded as these are non-representative of baseline conditions.

8.3.13 The EZ1 indicative roadside monitoring site for particulate matter is located at Railway Road, King's Lynn, with data for the years 2024 and 2025 only. The annual mean PM_{10} concentration (12.6 µg/m^3 in 2024 and 13.1 µg/m^3 in 2025) did not exceed the annual mean objective (40µg/m^3) and there was one exceedance of the 24-hour mean objective in 2025 (50µg/m^3, not to be exceeded more than 35 times per year). The annual mean $PM_{2.5}$ concentrations (8.3µg/m^3 in 2024 and 8.7µg/m^3 in 2025) did not exceed the annual mean objective (20 µg/m^3), which is not in regulations (listed above in **Paragraph 8.2.1**) and not required to be met, nor did they exceed the Annual Mean Concentration Target (AMCT; 10 µg/m^3 2021).

Background Concentrations

8.3.14 Estimated background concentrations for NO_2, PM_{10} and $PM_{2.5}$ at the Site have been determined for 2024 using DEFRA's background maps. The background concentrations for these pollutants are set out in **Table 8-2**. The background concentrations are all well below the objectives. A range of values is presented as the study area covers multiple 1x1 km grid squares.

Table 8-2: Estimated Annual Mean background pollutant concentrations in 2024 (µg/m^3)

Year	NO_2	PM_{10}	$PM_{2.5}$
2024	5.0 - 6.5	10.9 - 13.3	5.5 - 6.0

Year	NO_2	PM_{10}	$PM_{2.5}$
Objective	**40**	**40**	**20[a]**
AMCT	-	-	**10[b]**

Notes to **Table 8-2**:

[a] The 20 µg/m^3 $PM_{2.5}$ objective, which was to be met by 2020, is not in regulations (listed in **Paragraph 8.2.1**) and there is no requirement for it to be met.

[b] To be met by 2040.

Summary of Baseline Conditions

8.3.15 Local air quality monitoring results from across the nearest monitoring locations within King's Lynn, Wisbech, West Walton and West Winch show that NO_2 concentrations are well below the objectives across the area. As the Site is located well away from road sources and industrial sources, baseline conditions are expected to be well represented by the background concentrations for NO_2, PM_{10} and $PM_{2.5}$ shown in **Table 8-2**. Background concentrations of NO_2, PM_{10} and $PM_{2.5}$ across the Site are all well below the relevant objectives.

8.4 Mitigation Measures Identified to Date

8.4.1 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the information set out in **Chapter 4: Initial Description of the Proposed Development**.

Construction

8.4.2 The measures to manage dust and particulate matter during construction include (but are not limited to):

- Undertaking daily on-site and off-site inspections where receptors (including roads) are nearby, to monitor dust**.**
- Erecting solid screens or barriers around dusty activities or the boundaries of the working areas that are at least as high as any stockpiles on-site.
- Ensuring all vehicles switch off their engines when stationary – no idling vehicles.
- Using enclosed chutes, conveyors and covered skips.

8.4.3 A complete set of measures will be determined following the approach set out in the IAQM Construction Dust Assessment Guidance.

8.4.4 The measures to manage emissions from Non-Road Mobile Machinery during construction include:

- Locating machinery with air emissions as far as practicable from sensitive receptors.
- Avoiding unnecessary idling of engines.
- Ensuring high-efficiency plant and equipment are utilised on-site, including hybrid or electric plant where available and feasible. Control of combustion emissions through adherence to the appropriate emission standards from EU Regulation 2016/1628[83].

8.4.5 Construction traffic movements (and therefore road traffic emissions) will also be managed by the following measures:

- Restrictions on times during which deliveries and worker movements can take place.
- Prescribed routes for vehicle movements to / from the Site.
- All vehicles to be prohibited from waiting within or in the vicinity of the Site with their engines running.

8.4.6 The management plans that will secure control measures for air quality during the construction phase include the following as set out in the Initial Commitments Register (**Appendix B**):

- oCEMP.
- oCTMP.

Operation and Maintenance

8.4.7 The EPUK / IAQM Guidance advises that good design and best practice measures should be considered whether or not more specific mitigation is required.

8.4.8 Design measures which will be delivered as part of the Proposed Development comprise:

- Cycle access to the Data Centre Campus.
- Cycle parking at the Data Centre Campus.
- Adequate shower, changing facilities and storage lockers for staff commuting by active travel modes to the Data Centre Campus.

8.4.9 These measures will be secured via design principles for the Proposed Development.

Decommissioning

8.4.10 The measures for the decommissioning phase are the same as those identified above for the construction phase.

8.4.11 The measures above will be delivered through the following management plans:

- oDEMP.
- oDTMP.

8.5 Proposed Scope of Assessment

8.5.1 The proposed scope of assessment is based on an understanding of the characteristics of the Site and technical study areas and the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

8.5.2 It is important to differentiate between the terms impact and effect with respect to the assessment of air quality. The term impact is used to describe a change in pollutant concentration at a specific location. The term effect is used to describe an environmental response resulting from an impact, or series of impacts.

Potential Likely Environmental Effects which are Not Significant

8.5.3 Where an environmental effect is unlikely to be significant based on baseline data, mitigation identified to date and / or initial analysis and evaluation, this will not be considered further within the EIA nor reported on in the ES. An evidence base is provided to justify the 'scoping out' of these effects below.

Construction Phase

Dust and Particulate Matter

8.5.4 Construction activities have the potential to cause dust soiling (and associated nuisance) and impact the human health of sensitive receptors within 250m of the Site and within 50m of roads used by construction vehicles and 250m from the Site entrances / exits. In addition, ecological habitats sensitive to fugitive dust situated within 50m of the Proposed Development can be impacted.

8.5.5 With the implementation of good practice dust management measures, delivered by the oCEMP, the IAQM Construction Dust Assessment Guidance states there will be no likely significant effects.

8.5.6 Therefore, dust and particulate matter during the construction phase are unlikely to be significant and will not be considered further within the EIA or reported in

the ES. Separately from the ES, however, for completeness, a complete set of measures will be determined within a Construction Dust Risk Assessment (CDRA) following the approach set out in the IAQM Construction Dust Assessment Guidance. The assessment will focus on determining the appropriate level of mitigation to be applied. The CDRA will be included in the DCO Application as an appendix to the oCEMP.

Non-Road Mobile Machinery (NRMM) Plant Emissions

8.5.7 Exhaust emissions of NOx and fine particulate matter (PM_{10} and $PM_{2.5}$) from NRMM associated with construction sites can influence local air quality.

8.5.8 Emissions from NRMM associated with construction will not be explicitly modelled or assessed, as the IAQM Construction Dust Assessment Guidance states that "*Experience of assessing the exhaust emissions from on-site plant (NRMM) […] suggests that they are unlikely to make a significant impact on local air quality, and in the vast majority of cases they will not need to be quantitatively assessed*."

8.5.9 Operation of NRMM will be controlled via the oCEMP and follow good practice measures. These include locating machinery as far as practicable from sensitive receptors, avoiding unnecessary idling of engines and ensuring high-efficiency plant and equipment are utilised on-site, including hybrid or electric alternatives where available and feasible.

8.5.10 It is also anticipated that combustion emissions from NRMM during construction activities would be controlled through adherence to the appropriate emission standards from EU Regulation 2016/1628[84] and secured as part of the oCEMP.

8.5.11 Therefore, NRMM emissions during the construction phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Operation and Maintenance Phase

Abnormal Emissions Associated with Fires from BESS Units

8.5.12 Potential effects could arise in respect of any unplanned emissions from the BESS Units, such as those that could arise from a fire. However, there is unlikely to be any significant effects from this source as the likelihood of a fire is so low and the effects of any fire unlikely to be significant given the commitment to locate the BESS Units at least 300m from any residential receptors (as well as other amenity sensitive receptors). In 2025, a literature review of the potential impacts of fires at BESS facilities was published on behalf of The American

Clean Power Association[85]. This reviewed 35 documented large-scale BESS fire incidents in the United States (2012 – 2024).

8.5.13 The report found that despite concerns about fire hazards, historical data and scientific studies show BESS remains a relatively safe technology. Many past fire events involved older, legacy BESS installations designed before the adoption of modern safety standards, with regard to guidance (e.g. NFPA 855[86]) and test methods (e.g. UL 9540A) which the Proposed Development will commit to as part of the Outline Battery Safety Management Plan (oBSMP).

8.5.14 One of the main findings is that environmental and public health impacts are minimal. Across all reviewed fire cases where environmental sampling was performed, no contaminant concentrations were found at levels posing public health concerns or requiring remediation. Studies show that:

- Air emissions from BESS fires tend to be short-lived and localised.
- Soil and water contamination risks are minimal.

8.5.15 Therefore, abnormal emissions associated with fires from the BESS Units during the operation and maintenance phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES. Separately from the ES, however, for completeness, the DCO Application will include an assessment of abnormal emissions associated with fires from the BESS Units during the operation and maintenance phase as an appendix to the oBSMP.

Decommissioning Phase

Dust and Particulate Matter

8.5.16 As for construction, decommissioning activities have the potential to cause dust soiling (and associated nuisance) and impact the human health of sensitive receptors within 250m of the Site and within 50m of roads used by construction vehicles and 250m from the site entrances / exits. In addition, ecological habitats sensitive to fugitive dust situated within 50m of the Proposed Development can be affected.

8.5.17 With the implementation of good practice dust management measures, delivered by the oDEMP, the IAQM Construction Dust Assessment Guidance (which is also applicable for the decommissioning phase) states there will be no likely significant effects. The measures are anticipated to be the same as those identified for the construction phase and will be set out in the separate CDRA that will be an appendix to the oCEMP.

8.5.18 Therefore, dust and particulate matter during the decommissioning phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

NRMM Plant Emissions

8.5.19 Exhaust emissions of NOx and PM_{10} and $PM_{2.5}$ from NRMM associated with decommissioning sites can influence local air quality.

8.5.20 Emissions from NRMM associated with decommissioning will not be explicitly modelled or assessed, as the IAQM Construction Dust Assessment Guidance states that "*Experience of assessing the exhaust emissions from on-site plant (NRMM) […] suggests that they are unlikely to make a significant impact on local air quality, and in the vast majority of cases they will not need to be quantitatively assessed*."

8.5.21 Operation of NRMM will be controlled via the oDEMP and follow good practice measures, as noted for the construction phase.

8.5.22 Therefore, NRMM emissions during the decommissioning phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Potential Likely Significant Environmental Effects

8.5.23 Where potential likely significant effects have been identified at this stage and are proposed to be 'scoped in', these are set out in **Table 8-3**. These environmental effects will be assessed within the EIA and reported on in the ES.

Table 8-3: Potential likely significant environmental effects 'scoped in'

Potential likely significant effect	Receptor(s)	Phase(s)
Increased NO_2, PM_{10} and $PM_{2.5}$ emissions from road traffic (where these exceed EPUK / IAQM Guidance levels)	Sensitive receptors relevant to human health within the study area[a]	Construction, operation and maintenance and decommissioning
Increased NO_2, PM_{10} and $PM_{2.5}$ emissions due to routine testing of the backup generators	Sensitive receptors relevant to human health in proximity to the Data Centre Campus	Operation and maintenance

Notes to **Table 8-3**:

[a] The study area for road traffic emissions modelling is determined by the extent of the road network upon which Proposed Development-generated traffic is expected to be above screening thresholds presented in the EPUK / IAQM guidance and as such will be defined once traffic volumes are confirmed.

8.5.24 The potential for cumulative effects arising from the potential likely significant environmental effects identified in **Table 8-3**, both in terms of inter-project and intra-project effects, will be considered within the ES. The approach to the cumulative effects assessment in the ES is set out in **Chapter 18: Cumulative Effects Assessment Methodology**.

8.6 Proposed Approach to Detailed Assessment in the ES

Further Baseline Data Collection

8.6.1 Further baseline pollutant concentrations in the peak year of construction and / or opening year of the Data Centre Campus at existing receptors will be predicted using the Atmospheric Dispersion Modelling System model for Roads (ADMS-Roads) dispersion model. These will be used in the air quality assessment to contextualise the impacts of the Proposed Development and determine the significance of any effects. Details of the model inputs, assumptions and the verification method are set out below. Where assumptions are made, a realistic worst-case approach will be adopted.

Detailed Assessment Methodology

Road Traffic Emissions Assessment

8.6.2 During the construction phase, the number of Heavy Duty Vehicles (HDVs) and LDVs that will be used will be considered in the context of the EPUK / IAQM Guidance. Where the number of HDVs or LDVs is greater than the relevant screening criteria[3] on roads with relevant exposure, the potential for impacts on concentrations of NO_2, PM_{10} and $PM_{2.5}$ at sensitive receptor locations will be modelled explicitly, following the approach below. The study area will be determined once construction traffic volumes are confirmed, with details of the construction traffic routing and receptor locations provided in the ES.

8.6.3 During the operation and maintenance phase, the study area will be defined as the road network extent upon which Proposed Development-generated traffic is

[3] The screening thresholds inside an AQMA are a change in flows of more than 25 HDVs or 100 LDVs per day; outside of an AQMA the thresholds are 100 HDVs or 500 LDVs.

above the EPUK / IAQM screening thresholds[3]. Where these criteria are exceeded, a detailed assessment is likely to be required, although the EPUK / IAQM Guidance advises that *"the criteria provided are precautionary and should be treated as indicative"* and *"it may be appropriate to amend them on the basis of professional judgement"*. The study area will be determined once operational and maintenance traffic volumes are known, with details of the operational and maintenance traffic routing and receptor locations provided in the ES.

8.6.4 The dispersion model ADMS-Roads will be used to quantitatively assess the impacts that construction and / or operational and maintenance road traffic emissions (associated with existing and Proposed Development-generated road traffic) will have on air quality at existing receptor locations within the study area (which will be defined through the determination of the vehicle routing). Vehicle emissions will be derived using DEFRA's latest Emission Factor Toolkit (EFT)[4].

8.6.5 Due to improving air quality and road transport emissions into the future, it is assumed that impacts from decommissioning will be the same as or less than those of construction and will not be specifically assessed further, with the results from the construction phase assessment to be used as an appropriate 'proxy' within the detailed technical assessment.

8.6.6 The dispersion model will be used to predict annual mean concentrations of NO_2, PM_{10} and $PM_{2.5}$ at representative receptors based on those likely to be most affected, which will in turn also be used to assess the likelihood of exceedances of the 1-hour mean NO_2 objective and 24-hour mean PM_{10} objective according to the methodology set out in LAQM.TG(22).

8.6.7 The scenarios that will be considered as part of the detailed technical assessment reported in the ES include:

- Current baseline scenario (the year 2025 will be considered to correspond to the most recent year of data available, with confirmation of the year to be provided within the ES).
- Peak year of construction and / or opening year of the Data Centre Campus and Solar PV Panels – without the Proposed Development but including traffic associated with relevant short-listed projects (see **Chapter 18: Cumulative Effects Assessment Methodology** for further details) (i.e. the future predicted baseline).

[4] The current version of the EFT is Version 14.1; should this be superseded at the point of assessment for the ES, then the most recent EFT version will be used.

- Peak year of construction and / or opening year of the Data Centre Campus and Solar PV Panels – with the Proposed Development and including traffic associated with relevant short-listed projects (see **Chapter 18: Cumulative Effects Assessment Methodology** for further details) (i.e. the assessment case).

8.6.8 An important element of the dispersion modelling study will be to verify the model output against measured results. This will be undertaken using an existing nearby monitor operated by KL&WNBC and an adjustment factor will be determined with regard to the methodology set out in LAQM.TG(22). Further details will be provided within the ES.

8.6.9 Meteorological data will be taken from the Marham meteorological monitoring station, which is the nearest and most representative meteorological site to the Proposed Development. Meteorological data corresponding to the latest year of suitable local monitoring data will be used. Further details of the meteorological data used will be provided within the ES.

8.6.10 Background pollutant concentrations for receptors will be determined using data derived from the DEFRA background maps.

Backup Generators' Emissions Assessment

8.6.11 The Data Centre Campus will incorporate backup generators. It is anticipated that the backup generators will be HVO compatible, though the fuel source will be assumed to be diesel for the assessment as this provides a 'worst-case' in terms of emissions. The process contribution (PCs) of the backup generators' emissions to pollutant concentrations at sensitive receptors at nearby locations will be considered. The contribution will initially be compared to screening criteria in the EPUK / IAQM Guidance. Where necessary, the contribution will then be added to baseline concentrations (including road traffic contributions) to determine total concentrations.

8.6.12 The impacts of emissions generated by the Proposed Development in the earliest year of operation from the backup generators will be predicted using the Atmospheric Dispersion Modelling System model for point sources (ADMS-6) dispersion model. The quantitative assessment will consider NO_2, PM_{10} and $PM_{2.5}$ as these are the pollutants of concern from the combustion of diesel (as a worst-case for the assessment as noted in **Paragraph 8.6.11**). Pollutant emissions, exhaust parameters and emission rates will be determined based on available information and provided in the ES.

8.6.13 The assessment will consider the testing and maintenance regime as the primary source of emissions, with emergency loss of power considered to be a highly unlikely / unusual event. This is expected to follow the Environment Agency Guidance on Best Available Techniques for Emergency Backup Diesel, with controls in place to minimise the impacts of backup generator emissions.

8.6.14 To account for uncertainty in model predictions, sensitivity tests will be carried out to account for building downwash and terrain effects following the assessment guidance outlined above. The assessment will use five years of meteorological data from Marham meteorological station to account for any variation in meteorological conditions.

Reporting Effects and Significance

8.6.15 The assessment of likely significant effects within the ES will consider the magnitude of impacts on sensitive receptors. For air quality, all receptors are considered to be highly sensitive receptors. Whether the effect is Significant or Not Significant will be determined following this, using professional judgement alongside the application of relevant legislation, policy and guidance.

8.7 Assumptions, Limitations and Uncertainties

8.7.1 The assumptions, limitations and uncertainties that have been identified to date are set out in **Table 8-4**.

Table 8-4: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• The road traffic emissions dispersion model to be used in the detailed technical assessment is dependent upon the traffic data. There are then additional uncertainties, as models are required to simplify real-world conditions into a series of algorithms. Further details will be provided within the ES. • Model verification, which involves comparing the model output with measured concentrations, will reduce uncertainty. • Predicting pollutant concentrations in a future year will always be subject to greater uncertainty. The model cannot be verified in the future, and it is necessary to rely on a series of projections provided by the DfT and DEFRA as to what will happen to traffic volumes, background pollutant concentrations and vehicle emissions using good practice guidance and tools available (such as the EFT). • The Marham meteorological monitoring station is assumed to represent conditions in the study area.

8.8 Summary

8.8.1 A summary of the potential effects 'scoped in' and 'scoped out' for air quality is provided in **Table 8-5**.

Table 8-5: Summary of potential effects 'scoped in' and 'scoped out' for air quality

Potential effect	Phase(s)
'Scoped Out'	
Dust and particulate matter	Construction and decommissioning
NRMM plant emissions	Construction and decommissioning
Abnormal emissions associated with fires from BESS Units	Operation and maintenance
'Scoped In'	
Increased NO_2, PM_{10} and $PM_{2.5}$ emissions from road traffic (where these exceed EPUK / IAQM Guidance levels)	Construction, operation and maintenance and decommissioning
Increased NO_2, PM_{10} and $PM_{2.5}$ emissions due to routine testing of the backup generators	Operation and maintenance

9 Biodiversity

9.1 Introduction

9.1.1 This Scoping Chapter presents the scope and methodology for the assessment of environmental effects related to biodiversity. This Scoping Chapter has been informed by relevant legislation, policy and guidance, baseline conditions and mitigation measures identified to date.

9.1.2 This Scoping Chapter should be read in conjunction with **Chapter 4: Initial Description of the Proposed Development**, **Chapter 8: Air Quality** and **Chapter 10: Landscape and Visual**.

9.2 Summary of Relevant Legislation, Policy and Guidance

9.2.1 A list of legislation, policy and guidance relating to biodiversity and relevant to the Proposed Development is as follows:

Legislation

- Conservation of Habitats and Species Regulations 2017 ('the Habitats Regulations')[87].
- Wildlife and Countryside Act 1981 (as amended) ('WCA')[88].
- The Invasive Alien Species (Enforcement and Permitting) Order 2019[89].
- Protection of Badgers Act 1992[90].
- Hedgerow Regulations 1997[91].
- Countryside and Rights of Way Act 2000 ('the CRoW Act')[92].
- The Environment Act 2021[93].
- Natural Environment and Rural Communities Act 2006 ('the NERC Act')[94].

Policy

- NPS EN-1.
- NPS EN-3.
- NPS EN-5.
- NPPF.
- King's Lynn and West Norfolk Local Plan 2021 – 2040.
- Norfolk Minerals and Waste Local Plan 2023 – 2038.

Guidance

- NPPG: Natural Environment[95].

- Charted Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland (2018, updated 2022) (the 'CIEEM EcIA Guidelines')[96].
- CIEEM Guidelines for Preliminary Ecological Appraisal (2018, updated 2022)[97].
- BS 42020:2013 Biodiversity — Code of Practice for Planning and Development (2013) ('BS 42020:2013')[98].
- Norfolk Local Nature Recovery Strategy (NLNRS) Together we can recover nature in Norfolk (2025)[99].
- Norfolk Biodiversity Partnership Norfolk Biodiversity Action Plan (1999)[100].

9.3 Engagement to Date

9.3.1 The engagement undertaken to date is summarised in **Table 9-1**.

Table 9-1: Summary of engagement undertaken to date

Stakeholder	Date and type of engagement	Summary of key comments
Natural England	Microsoft Teams meeting 14th May 2026 and follow up email correspondence in summer 2026	An introductory meeting was held in May 2026 with Natural England to provide an overview of the current status of the Proposed Development, proposed approach and scope of baseline surveys and assessments, with responses subsequently received on baseline survey scope for the Main Site. Approach to Biodiversity Net Gain (BNG) and mitigation were discussed.

9.4 Baseline Conditions

9.4.1 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and of the relevant baseline conditions for biodiversity.

Baseline Data Collection Activities to Date

9.4.2 This section summarises the baseline data collected to date, both desk based and field survey, including all the relevant baseline conditions for biodiversity.

9.4.3 The Site has been split into the following five Areas as described in **Chapter 3: Location and Context of the Site** and shown in **Figure 1-2a: Areas of the Site**:

- Walpole Substation.
- Western Cable Route.
- Western Site.
- Eastern Cable Route.
- Eastern Site.

9.4.4 The focus of baseline data collection activities completed at the time of writing has been on the Main Site (Western Site and Eastern Site). Further baseline data collection activities are expected to be undertaken both for the Main Site, the Cable Routes (Western Cable Route and Eastern Cable Route) and Walpole Substation, based on the nature of the habitats and locations likely to be impacted and will be proportionate to the ecological features likely to be present and the nature of the proposed activities.

Desk Study

9.4.5 A desk study was undertaken to gather existing information on statutory (including Special Protection Area (SPAs), Special Areas of Conservation (SACs), Ramsar Sites – collectively referred to as 'European sites' – as well as other sites, such as Sites of Special Scientific Interest (SSSI)) and non-statutory sites (including County Wildlife Sites (CWS) or Local Wildlife Sites (LWS)) designated for nature conservation reasons, Habitats of Principal Importance (HPI) and Species of Principal Importance (SPI) and legally protected, controlled or otherwise notable species within the Site or in the area over which effects of the Proposed Development on ecological features could be realised (referred to as the Ecological Zone of Influence (EZoI)).

9.4.6 Desk study information has been gathered from freely available sources, including:

- Natural England Designated Sites View (https://designatedsites.naturalengland.org.uk)[101].
- Data Records from Norfolk Biodiversity Information Service (NBIS), Greater Lincolnshire Nature Partnership (GLNP) and Cambridgeshire and Peterborough Environmental Records Centre (CPERC).
- Multi-Agency Geographic Information for the Countryside website (Magic.defra.gov.uk).

9.4.7 **Table 9-2** describes the ecological features for which desktop data were collected, the relevant EZoI for each ecological feature and the sources of the information.

Table 9-2: Ecological features, EZoIs and information sources

Ecological feature	EZoI Eastern Site, Western Site and Walpole Substation (km)	EZoI Western Cable Route (km)	EZoI Eastern Cable Route (km)	Data sources
European Sites – SPAs and Ramsar sites[5]	20	20	20	Magic.gov.uk Natural England designated sites website
European Sites – SACs[6]	15	15	15	Magic.gov.uk Natural England designated sites website
SSSI and National Nature Reserves (NNR)	5 10* *sites only with bat interest	5 10* *sites only with bat interest	5	Magic.gov.uk Natural England designated sites website
Local Nature Reserves	2	1	1	Magic.gov.uk Natural England designated sites website
CWS / LWS	2	1	1	GLNP, NBIS and CPERC
HPI	1	1	1	Priority Habitat Inventory – provided on Magic.gov.uk and Forestry Commission Map Browser

[5] Following UK Government advice, this includes SPAs, potential SPAs, Ramsar sites and proposed Ramsar sites. SPAs are protected via legislation, whilst the other sites are treated comparatively through policy. This is set out in: https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site#European-sites. [Accessed 27/07/2026].
[6] Following UK Government advice, this includes SAC and proposed SAC. SACs are protected via legislation, whilst the other sites are treated comparatively through policy. This is set out in: https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site#European-sites.[Accessed 27/07/2026].

Ecological feature	EZoI Eastern Site, Western Site and Walpole Substation (km)	EZoI Western Cable Route (km)	EZoI Eastern Cable Route (km)	Data sources
Ancient Woodland	1	1	1	Ancient Woodland Inventory – provided on Magic.gov.uk and Forestry Commission Map Browser
Legally protected and notable species – bats and aquatic mammals (otter and water vole)	2	1	1	GLNP, NBIS and CPERC European Protected Species licence returns - provided on Magic.gov.uk
Legally protected and notable species – all other species	2	1	1	GLNP and NGBRC European Protected Species licence returns - provided on Magic.gov.uk
Waterbodies (ponds, wet ditches, lakes) inside or within 500m of the Site	0.5	0.5	0.5	Satellite imagery and OS mapping
Veteran trees	0.5	0.5	0.5	Ancient Tree Inventory[102], NCC mapping[103]

Extended Habitat (UKHAB) Survey and Habitat Condition Assessment

9.4.8 An extended UKHab[104] survey identifies, classifies and maps the habitats present using the UKHab system. The survey at the point of writing has been partially completed over summer 2026, with the residual parts of the Main Site being completed in autumn 2026. The survey recorded broad and, where appropriate, more detailed habitat types, together with relevant secondary codes, target notes and features of ecological interest. Habitat condition assessments were completed alongside the UKHab survey to support BNG calculations.

9.4.9 The survey was extended to record the suitability of habitats to support legally protected and otherwise notable species, including HPI and SPI, species relevant to national and local policy, and invasive non-native species (INNS). The findings

of the survey have been used to identify the relevant baseline conditions and ecological constraints, inform habitat retention and enhancement opportunities and scope the need for further protected and notable species-specific surveys.

Badger Survey

9.4.10 An initial badger survey has been partially completed concurrently with the extended UKHAB survey, with the surveys at the Main Site being completed in autumn. The further badger surveys will include a visual search for signs include latrines, setts, paths between setts and feeding areas, scratching posts at the base of tree trunks, snuffle holes, day nests, hair traces or footprints in line with Scottish Badgers Surveying for Badgers – Good Practice Guidelines, version 1[105], which though Scottish guidance, is the latest comprehensive guidance for badger surveys and applicable to England.

Riparian Mammal Survey (Otter and Water Vole)

9.4.11 Searches for riparian mammals have been undertaken within the Main Site and in a 250m buffer zone. Surveys included searches for signs of activity that are described for water vole in the 'Water Vole Mitigation Handbook''[106] and for otter in 'Monitoring the Otter'[107]. Taking account of likely distance of travel away from suitable watercourses, areas up to 250m away from water, where suitable habitat exists, were also investigated for potential to support otter natal holts.

Great Crested Newts

9.4.12 Great crested newt surveys were undertaken between April and June 2026 at 35 waterbodies located within the Main Site and a 250m buffer. These waterbodies were subject to a Habitat Suitability Index[108] assessment and sampling for environmental DNA (eDNA). The eDNA samples were collected using testing kits that were sent to SureScreen Scientifics Ltd for laboratory analysis. The sampling procedure followed the method developed by Biggs et al. (2014)[109] and additional instructions provided with the sampling kits.

Breeding Bird Survey

9.4.13 A territory mapping survey following an amended version of the British Trust for Ornithology's (BTO) common bird census (CBC) methodology[110] was undertaken across a number of visits between late March and July 2026 across the Main Site. Given the intensive farming nature of the Site limiting the habitat value, the numbers of visits was limited to 6 in line with methodology recommended for development projects by the Bird Survey & Assessment Steering Group[111]. The location of each bird detected (visually and / or aurally) was mapped using the

standard two-letter BTO codes, and bird activity was recorded using standard behaviour codes[112].

Non-Breeding Bird Survey

9.4.14 Non-breeding bird surveys were completed in winter 2024 / 2025. These surveys were completed across the Main Site, with attention paid to species that are cited within nearby SPAs (e.g. Breckland SPA and The Wash SPA) that may use the arable fields for foraging, loafing or roosting. In addition, other target species of interest such as flocks of wintering thrushes or aggregations of gulls were also recorded. The method followed the non-breeding walkover survey method as described by the Bird Survey & Assessment Steering Group[113]. It used transects and the scanning (visual observations) of habitats to record the type, number and behaviour of birds seen using the survey area. These surveys began in September 2024 and continued through to March 2025.

Bat Surveys

9.4.15 The approach to bat surveys was devised following the Bat Conservation Trust's Bat Surveys for Professional Ecologists Good Practice Guidelines[114]. Prior to surveys beginning, an experienced bat surveyor determined that the Site comprised habitats that were generally of low suitability for bats. Following this, six transects were devised to sample bat activity across the Main Site for features most likely to be suitable for bats to provide an understanding of the bats present and general levels of activity.

9.4.16 A full survey of every field across the Site was not considered necessary, taking account of the design principles for the Proposed Development that will be secured by DCO Requirement that seek to retain, enhance and create habitats that are used most frequently by bats (e.g. linear features). The designed transect routes have been subject to bat activity surveys in spring (April / May), summer (June / July / August) and autumn (September) 2026. On each transect, two static bat detectors were also installed and left in situ to record for a period of five nights per season. In addition, a preliminary ground-level roost assessment of trees and buildings within and close to the Site was undertaken over summer 2026.

Reptiles

9.4.17 Reptile surveys are being undertaken within the Main Site, which started in August 2026, in order to establish the presence or likely absence of any reptile species within this area and, if present, where they occur and an estimate of population size. Initially, a desk study of existing records for the Site and adjacent

land was completed, which informed the survey effort for reptiles. The Main Site has been assessed to determine which parts might be suitable for reptiles based on direct experience of the habitats in the area and the use of a habitat suitability assessment.

Baseline Conditions

Designated Sites

European and Nationally Ecological Designated Sites

9.4.18 The European and nationally ecological designated sites within the EZoIs from the Site boundary (defined in **Table 9-2**) are summarised in **Table 9-3**, with a summary description from the relevant citations. The locations of these European and nationally ecological designated sites are shown in **Figure 9-1: European and Nationally Ecological Designated Sites**.

9.4.19 It is noted that there are four SSSIs within the EZoIs which are designated for geological purposes (Setchey SSSI, Wiggenhall St Germans SSSI, Blackborough End Pit SSSI and Wretton SSSI). Therefore, these are not included in **Table 9-3**. However, these SSSIs are shown on **Figure 9-1: European and Nationally Ecological Designated Sites** for context.

Table 9-3: European and national ecological designated sites within the EZoIs

Name (ID)	Distance	Summary description
Islington Heronry SSSI (1000618)	Within the Site (Western Site)	The site features a small, isolated stand of mature oak trees surrounded by fenland which supports the largest breeding colony of Grey Herons *Ardea cinerea* in Norfolk, with about 80 occupied nests each year and the adjacent dykes provide ideal feeding conditions for the birds. Several species of woodland birds, such as the Great Spotted Woodpecker, are also present in the wood and represent isolated populations separated from nearby woods by farmland.
Boughton Fen SSSI (1001725)	Circa 25m	Boughton Fen is situated on shallow fen peats in the valley of a tributary of the River Wissey. A tall fen community covers much of the site and several interesting plants are present. Scrub is well represented and is used by breeding birds. The site is of entomological interest. There are many uncommon

Name (ID)	Distance	Summary description
		species of moths, including the rare *Perizoma sagittaria.*
River Nar SSSI (1001790)	0.5km	This site consists of a large area of unimproved grazing marsh on the banks of the River Nar. The grassland communities are exceptionally diverse and make this the most important valley grassland site in west Norfolk. Many different grassland types are present and these reflect underlying variations in soil acidity and wetness. Acidic flush communities are an unusual feature and occur where springs emerge from sands at the base of the valley sides. The marshy conditions provide suitable nesting sites for several species of wetland birds.
Breckland SPA (UK9009201)	2.1km	The Breckland of Norfolk and Suffolk lies in the heart of East Anglia on largely sandy soils of glacial origin. The site qualifies under article 4(1) of the Birds Directive (2009/147/EC) as it is used regularly by 1% or more of the Great Britain populations of the following species listed in Annex I in any season: • Stone curlew *Burhinus oedicnemus* 115 pairs – breeding 5 year mean (1994 – 98). • Nightjar *Caprimulgus europaeus* 415 males – breeding count as at 1998. • Woodlark *Lullula arborea* 430 pairs – breeding count as at 1997. Non-qualifying species of interest: The SPA regularly supports small numbers (less than 1% of the Great Britain population) of wintering hen harrier *Circus cyaneus* and breeding goshawk *Accipiter gentilis*, both of which are listed in Annex I to the Birds Directive (2009/147/EC).
Breckland Forest SSSI (1008292)	2.1km	The forest has breeding woodlark and nightjar in internationally important numbers, and several nationally rare vascular plants and invertebrates on the International Union for Conservation of Nature (IUCN) Red List of Threatened Species.
Foulden Common SSSI (1001748)	2.6km	A large site which displays a wide range of habitats, from open water and rich fen through both acidic and calcareous grassland to birch woodland. This habitat mosaic, reflecting variation in topography, spoil type

Name (ID)	Distance	Summary description
		and water regime supports a large number of plant and animal species including many national rarities.
Norfolk Valley Fens SAC (UK0012892)	2.6km	This site comprises a series of valley-head spring-fed fens. Such spring-fed flush fens are very rare in the lowlands. Qualifying habitats: The site is designated under article 4(4) of the Habitats Directive (92/43/EEC) as it hosts the following habitats listed in Annex I: • Alkaline fens. (Calcium-rich springwater-fed fens). • Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae). (Alder woodland on floodplains). • Calcareous fens with Cladium mariscus and species of the Caricion davallianae. (Calcium-rich fen dominated by great fen sedge (saw sedge)). • European dry heaths. • Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae). (Purple moor-grass meadows). • Northern Atlantic wet heaths with Erica tetralix. (Wet heathland with cross-leaved heath). • Semi-natural dry grasslands and scrubland facies: on calcareous substrates Festuco Brometalia. (Dry grasslands and scrublands on chalk or limestone). Qualifying species: The site is designated under article 4(4) of the Habitats Directive (92/43/EEC) as it hosts the following species listed in Annex II: • Narrow-mouthed whorl snail *Vertigo angustior* • Desmoulin's whorl snail *Vertigo moulinsiana*
Breckland Farmland SSSI (1008291)	2.6km	The site is notified as an SSSI for its internationally important population of stone curlew *Burhinus oedicnemus*.
Narborough Railway Embankment SSSI (1000284)	3.7km	The elevated, disused embankment creates a rare and internationally important chalk grassland habitat, featuring chalk and flinty soil.

Name (ID)	Distance	Summary description
Breckland SAC (UK0019865)	5.2km	Breckland in the heart of East Anglia is a gently undulating plateau underlain by bedrock of Cretaceous Chalk, covered by thin deposits of sand and flint. Qualifying habitats: The site is designated under article 4(4) of the Habitats Directive (92/43/EEC) as it hosts the following habitats listed in Annex I: • Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae). (Alder woodland on floodplains). • European dry heaths. • Inland dunes with open *Corynephorus* and *Agrostis* grasslands. (Open grassland with grey-hair grass and common bent grass of inland dunes). • Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition*-type vegetation. (Naturally nutrient-rich lakes or lochs which are often dominated by pondweed). • Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco Brometalia*). (Dry grasslands and scrublands on chalk or limestone). Qualifying species: The site is designated under article 4(4) of the Habitats Directive (92/43/EEC) as it hosts the following species listed in Annex II: • Great crested newt *Triturus cristatus*
The Wash SPA (UK9008021)	7.2km	The Wash is numerically the most important area in Britain for wintering waterfowl, taking waders and wildfowl together. It is also the most important area in Britain in early autumn for moulting waders. The Wash is important also to certain wintering passerines, to breeding waders and terns, and to certain seabirds. The Wash qualifies under article 4(1) of the Birds Directive (2009/147/EC) because it supports 30 breeding pairs of little terns *Sterna albifrons* and 220 pairs of common terns *Sterna hirundo*; and because it supports 130 Bewick's swans *Cygnus cygnus* in winter.

Name (ID)	Distance	Summary description
		The Wash qualifies under article 4(2) of the Birds Directive (2009/147/EC) as an internationally important wetland by supporting in winter an average of 163,000 waders and also 51,000 wildfowl; and because it supports on average the following internationally important numbers of individual species: • 17,000 darkbellied brent geese *Branta bernicla bernicla.* • 7,300 pinkfooted geese *Anser brachyrhynchus.* • 16,000 shelducks *Tadorna tadorna.* • 1,700 pintails *Anas acuta.* • 24,000 oystercatchers *Haematopus ostralegus.* • 5,500 grey plovers *Pluvialis squatarola*. • 500 sanderlings *Calidris alba.* • 7,500 knots *Calidris canutus*. • 29,000 dunlins *Calidris alpina*. • 8,200 bar-tailed godwits *Limosa lapponica*. • 3,700 curlews Numenius Arquata. • 4,331 redshanks *Tringa tetanus.* • 980 turnstones Arenaria interpres. In addition, the site qualifies because of its national importance to other migratory birds. Wintering birds include: • 3,900 wigeon *Anas penelope*. • 220 goldeneye Bucephala clangula. • 130 gadwall *Anas strepera*. • 830 common scoters *Melanitta nigra*. • 260 black-tailed godwits *Limosa limosa.* Important populations of wintering passerines are also supported. The salt-marshes support a diverse breeding bird population, including over 4,000 pairs of black-headed gulls *Larus ridibundus*, shelducks and numerous wader species. Breeding redshanks occur at exceptionally high densities, and the breeding population of this species is undoubtedly of national importance, although its exact size is still being assessed.

Name (ID)	Distance	Summary description
The Wash & North Norfolk Coast SAC (UK0017075)	7.2km	The Wash is the largest embayment in the UK. It is connected via sediment transfer systems to the north Norfolk coast. Together, the Wash and North Norfolk Coast form one of the most important marine areas in the UK and European North Sea coast, and include extensive areas of varying, but predominantly sandy, sediments subject to a range of conditions. The site is designated under article 4(4) of the Habitats Directive (92/43/EEC) as it hosts the following habitats listed in Annex I: • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*). • Coastal lagoons. • Large shallow inlets and bays. • Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*) (Mediterranean saltmarsh scrub). • Mudflats and sandflats not covered by seawater at low tide. (Intertidal mudflats and sandflats). • Reefs. • Salicornia and other annuals colonising mud and sand. (Glasswort and other annuals colonising mud and sand). • Sandbanks which are slightly covered by sea water all the time. (Subtidal sandbanks). The site is designated under article 4(4) of the Habitats Directive (92/43/EEC) as it hosts the following species listed in Annex II: • Common seal *Phoca vitulina.* • Otter Lutra Lutra.
The Wash Ramsar (UK11072)	7.2km	The Wash is the largest estuarine system in Britain. It is fed by the rivers Witham, Welland, Nene and Great Ouse. There are extensive saltmarshes, major intertidal banks of sand and mud, shallow water and deep channels. Ramsar criterion 1 The Wash is a large shallow bay comprising very extensive saltmarshes, major intertidal banks of sand and mud, shallow water and deep channels.

Name (ID)	Distance	Summary description
		Ramsar criterion 3 Qualifies because of the inter-relationship between its various components including saltmarshes, intertidal sand and mud flats and the estuarine waters. The saltmarshes and the plankton in the estuarine water provide a primary source of organic material which, together with other organic matter, forms the basis for the high productivity of the estuary. Ramsar criterion 5 Species with peak counts in winter: 292541 waterfowl (5 year peak mean 1998/99-2002/2003). Ramsar Criterion 6 – Species / populations occurring at levels of international importance. Species with peak counts in spring / autumn: • Eurasian oystercatcher, *Haematopus ostralegus* Europe & NW Africa – wintering 15616 individuals, representing an average of 1.5% of the population (5 year peak mean 1998/9 – 2002/3) • Grey plover, *Pluvialis squatarola* E Atlantic/W Africa -wintering 13129 individuals, representing an average of 5.3% of the population (5 year peak mean 1998/9 – 2002/3 - spring peak) • Red knot, *Calidris canutus islandica* W & Southern Africa (wintering) 68987 individuals, representing an average of 15.3% of the population (5 year peak mean 1998/9 – 2002/3) • Sanderling, *Calidris alba* Eastern Atlantic 3505 individuals, representing an average of 2.8% of the population (5 year peak mean 1998/9 –2002/3) • Eurasian curlew, *Numenius arquata arquata* N. a. arquata Europe (breeding) 9438 individuals, representing an average of 2.2% of the population (5 year peak mean 1998/9 – 2002/3) • Common redshank *Tringa tetanus tetanus* 6373 individuals, representing an average of 2.5% of the population (5 year peak mean 1998/9 – 2002/3) • Ruddy turnstone *Arenaria interpres interpres* NE Canada, Greenland/W Europe & NW Africa 888 individuals, representing an average of 1.7% of the Great Britain population (5 year peak mean 1998/9 – 2002/3)

Name (ID)	Distance	Summary description
		Species with peak counts in winter: • Pink-footed goose, *Anser brachyrhynchus* Greenland, Iceland/UK 29099 individuals, representing an average of 12.1% of the population (5 year peak mean 1998/9 – 2002/3) • Dark-bellied brent goose, *Branta bernicla bernicla* 20861 individuals, representing an average of 9.7% of the population (5 year peak mean 1998/9 – 2002/3) • Common shelduck *Tadorna tadorna* Europe 9746 individuals, representing an average of 3.2% of the population (5 year peak mean 1998/9 – 2002/3) • Northern pintail *Anas acuta* NW Europe 431 individuals, representing an average of 1.5% of the Great Britain population (5 year peak mean 1998/9 – 2002/3) • Dunlin *Calidris alpina alpina* W Siberia/W Europe 36600 individuals, representing an average of 2.7% of the population (5 year peak mean 1998/9 – 2002/3) • Bar-tailed godwit *Limosa lapponica lapponica* W Palearctic 16546 individuals, representing an average of 13.7% of the population (5 year peak mean 1998/9 – 2002/3) Species/populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in spring/autumn • Ringed plover *Charadrius hiaticula* Europe/Northwest Africa 1500 individuals, representing an average of 2% of the population (5 year peak mean 1998/9 – 2002/3) • Black-tailed godwit *Limosa limosa islandica* Iceland/W Europe 6849 individuals, representing an average of 19.5% of the population (5 year peak mean 1998/9 – 2002/3) Species with peak counts in winter • European golden plover *Pluvialis apricaria* P. a. altifrons Iceland & Faroes/E Atlantic 22033 individuals, representing an average of 2.3% of the population (5 year peak mean 1998/9 – 2002/3)

Name (ID)	Distance	Summary description
		• Northern lapwing *Vanellus Vanellus* Europe breeding 46422 individuals, representing an average of 1.3% of the population (5 year peak mean 1998/9 – 2002/3)
Ouse Washes SAC (UK0013011)	9.2km	The Ouse Washes is one of the country's few remaining areas of extensive washland habitat. The associated dykes and rivers hold a great variety of aquatic plants; the pondweeds *Potamogeton spp.* are particularly well represented. The associated aquatic fauna is similarly diverse and includes spined loach Cobitis taenia. The Counter Drain, with its clear water and abundant aquatic plants, is particularly important, and a healthy population of spined loach is known to occur. Qualifying species: The site is designated under article 4(4) of the Habitats Directive (92/43/EEC) as it hosts the following species listed in Annex II: • Spined loach *Cobitis taenia*
Ouse Washes Ramsar (UKUK11051)	9.2km	This site is an area of seasonally-flooded washland habitat managed in a traditional agricultural manner. The washlands support nationally and internationally important numbers of wintering waterfowl and nationally important numbers of breeding waterfowl. The site is also of note for the large area of unimproved neutral grassland communities which it holds, and for the richness of the aquatic flora within the associated watercourses. Ramsar criterion 1 The site is one of the most extensive areas of seasonally-flooding washland of its type in Britain. Ramsar criterion 2

Name (ID)	Distance	Summary description
		The site supports several nationally scarce plants, including small water pepper Polygonum minus, whorled water-milfoil *Myriophyllum verticillatum*, greater water parsnip *Sium latifolium*, river waterdropwort *Oenanthe fluviatilis*, fringed water-lily *Nymphoides peltata,* long-stalked pondweed *Potamogeton praelongus*, hair-like pondweed *Potamogeton trichoides*, grass-wrack pondweed *Potamogeton compressus*, tasteless water-pepper *Polygonum mite* and marsh dock *Rumex palustris*. Invertebrate records indicate that the site holds relict fenland fauna, including the British Red Data Book species large darter dragonfly Libellula fulva and the rifle beetle *Oulimnius major*. The site also supports a diverse assemblage of nationally rare breeding waterfowl associated with seasonally-flooding wet grassland. Ramsar criterion 5 Assemblages of international importance: Species with peak counts in winter: 59133 waterfowl (5 year peak mean 1998/99 – 2002/2003. Ramsar Criterion 6 – species / populations occurring at levels of international importance Qualifying Species / populations (as identified at designation): Species with peak counts in winter: • Tundra swan, *Cygnus columbianus bewickii*, NW Europe 1140 individuals, representing an average of 3.9% of the population (5 year peak mean 1998/9 – 2002/3) • Whooper swan, *Cygnus cygnus*, Iceland/UK/Ireland 653 individuals, representing an average of 3.1% of the population (5 year peak mean 1998/9 – 2002/3) • Eurasian wigeon, *Anas penelope*, NW Europe 22630 individuals, representing an average of 1.5% of the population (5 year peak mean 1998/9 – 2002/3) • Gadwall, *Anas strepera strepera*, NW Europe 438 individuals, representing an average of 2.5% of the

Name (ID)	Distance	Summary description
		Great Britain population (5 year peak mean 1998/9 – 2002/3) • Eurasian teal, *Anas crecca*, NW Europe 3384 individuals, representing an average of 1.7% of the Great Britain population (5 year peak mean 1998/9 – 2002/3) • Northern pintail, *Anas acuta*, NW Europe 2108 individuals, representing an average of 3.5% of the population (5 year peak mean 1998/9 –2002/3) • Northern shoveler, *Anas clypeata*, NW & C Europe 627 individuals, representing an average of 1.5% of the population (5 year peak mean 1998/9 – 2002/3) Species/populations identified subsequent to designation for possible future consideration under criterion 6 Species with peak counts in winter: • Mute swan, *Cygnus olor*, Britain 722 individuals, representing an average of 1.9% of the population (5 year peak mean 1998/9 –2002/3) • Common pochard, *Aythya ferina*, NE & NW 4678 individuals, representing an average of 1.3% of the population (5 year peak mean 1998/9 – 2002/3) • Black-tailed godwit, *Limosa limosa islandica* Iceland/W Europe 2647 individuals, representing an average of 7.5% of the population (5 year peak mean 1998/9 – 2002/3)
Roydon Common & Dersingham Bog SAC (UK0012801)	9.8km	Roydon Common and Dersingham Bog represent the largest and best examples of cross leaved heath – bog-moss (Erica tetralix – Sphagnum compactum) wet heath in East Anglia. This vegetation community is part of a lowland mixed valley mire, a complex series of plant communities grading from wet acid heath through valley mire to calcareous fen. This gradation is of outstanding interest. The mire is extremely diverse and supports many rare plants, birds and insects, including the black darter dragonfly *Sympetrum scoticum*, a northern species with a very local distribution in south-east England. The site also contains an area of dry heathland, which is dominated by heather *Calluna vulgaris*, gorse *Ulex europaeus* and young silver birch *Betula pendula*, and has areas of bracken around the margins.

Name (ID)	Distance	Summary description
		There are examples of depressions on peat substrates in natural bog pools of patterned valley mire, in flushes on the margins of valley mire and locally in disturbed areas associated with trackways and paths in mire and wet heath. Mosaics containing this habitat type are important for bog orchid *Hammarbya paludosa*. Qualifying habitats: The site is designated under article 4(4) of the Habitats Directive (92/43/EEC) as it hosts the following habitats listed in Annex I: • Depressions on peat substrates of the Rhynchosporion • European dry heaths • Northern Atlantic wet heaths with Erica tetralix. (Wet heathland with cross-leaved heath).
Roydon Common Ramsar (UK11061)	9.8km	Roydon Common is an area of lowland mixed valley mire surrounded by heathland. It sits on the Cretaceous greensand of west Norfolk, within a broad south-west-facing valley basin. It has a classic sequence of vegetation types associated with valley mires of this type. The dry heath of the upper slopes is hydrologically linked with wetter lower slopes, which experience seasonal waterlogging and are colonised by wet heath. This grades into the valley bottom, which is permanently waterlogged, and comprises acid bog and nutrient-poor fen communities, blending into more base-rich fen and carr woodland in the valley bottom. Ramsar criterion 1 The site is the most extensive example of valley mire-heathland biotope within East Anglia. It is a mixed valley mire holding vegetation communities which reflect the influence of both base-poor and base-rich water. Ramsar criterion 3 The vegetation communities have a restricted distribution within Britain. It also supports a number of acidophilic invertebrates outside their normal geographic range and six British Red Data Book invertebrates.

Name (ID)	Distance	Summary description
Ouse Washes SPA (UK9008041)	12.2km	The Ouse Washes SPA is a wetland of major international importance comprising seasonally flooded washlands which are agriculturally managed in a traditional manner. It provides breeding and winter habitats for important assemblages of wetland bird species, particularly wildfowl and waders. The Ouse Washes qualifies under article 4(1) of the Birds Directive (2009/147/EC) by supporting, in summer, a nationally important breeding population of ruff *Philomachus pugnax* an Annex 1 species. In recent years an average of 57 individuals have been recorded lekking, a significant proportion of the British population. The site also qualifies under article 4(1) by regularly supporting internationally or nationally important wintering populations of three Annex 1 species. During the five year period 1986/87 – 1990/91, the following average peak counts were recorded: 4,980 Bewick's swan *Cygnus cohtnrbarius bewictii* (29% of the north-west European wintering population, 70% of the British wintering population), and 590 whooper swans *Cygnus cygnus* (3% of the international population, 10% of the British population). In addition, between 1982-87 an average of 12 wintering hen harrier *Circus cyaneus* was recorded, representing 2% of the British wintering population. The Ouse Washes qualifies under article 4(2) by supporting, in summer, in recent years, nationally important breeding populations of five migratory species. 111 pairs of gadwall *Anas strepera* (20% of the British breeding population); 850 pairs of mallard *Anas platyrhynchus* (2% of the British breeding population); 14 pairs of garganey *Anas querquedula* (20% of the British breeding population). 155 pairs of shoveler *A. clypeata* (12% of the British breeding population), and 26 pairs of black-tailed godwits *Limosa limosa* (44% of the British breeding population). The site further qualifies under article 4(2) as a wetland of international importance by virtue

Name (ID)	Distance	Summary description
		of regularly supporting over 20,000 waterfowl, with an average peak count of 60,950 birds recorded in the five year winter periods 1986/7 – 1990/91. This total included internationally or nationally important wintering populations of the following migratory waterfowl (figures given are average peak counts for the five year winter periods 1986/87 – 1990/91): 270 cormorant *Phalacroconax carbo* (296 of the British wintering population); 490 mute swan *Cygnus olor* (3% of the British wintering population); 38,000 wigeon *Arias penelope* (5% of the north-west European population, 15% of the British wintering population); 320 gadwall *Anas strepera* (5% of the British wintering population); 4,100 teal *A. crecca* (1% of the North West European wintering population, 4% of the British wintering population); 1,450 pintail *Anas acuta* (2% of the North West European wintering population, 6% of the British wintering population); 750 shoveler *Anas cyvpeata* (2% of the North West European wintering population, 8% of the British wintering population); 2,100 pochard *Aythya ferina* (4% of the British wintering population); 860 tufted duck *Aythya fuligula* (1% of the British wintering population); and 2,320 coot *Fulica atra* (1% of the British wintering population). The site also qualifies under article 4(2) of the Birds Directive (2009/147/EC) by virtue of regularly supporting, in summer, a diverse assemblage of the breeding migratory waders of lowland wet grassland, including: oystercatcher *Haematopus ostralegus*, redshank Tringa totanus, snipe *Gallinago gallinago*, ruff *Philomachus pugnax*, lapwing *Vanellus vanellus*, and blacktailed godwit *Limosa limosa* and a diverse assemblage of breeding wildfowl with mute swan *Cygnus olor*, shelduck *Tadorna tadorna*, gadwall *Anas strepera*, teal *A. crecca*, mallard *A. platyrhynchus* pintail *A. acuta*, garganey *A. querquedula*, shoveler *A. clypeata*, pochard *Aythya ferina*, tufted duck *Aythya fuligula*, moorhen *Gallinula chloropus* and coot *Fulica atra* occurring regularly. Many of these species are rare and much restricted in Britain and the European Community owing to habitat loss and degradation. The site thus has an important role in maintaining the ranges of several of these species which have been affected by changes in habitat elsewhere in Britain.

Name (ID)	Distance	Summary description
		During severe winter weather elsewhere, the Ouse Washes can assume even greater national and international importance as wildfowl and waders from many other areas arrive, attracted by the relatively mild climate, compared with continental European areas and the abundant food resources available.
Dersingham Bog Ramsar (UK11019)	14.2km	Dersingham Bog is East Anglia's largest remaining example of a pure acid valley mire, and supports extensive bog, wet heath and transition communities over peat. These are sustained by groundwater, fed via springs and seepage, from the underlying greensand, which in places has caused the development of iron pans. The mire grades into dry heathland along the greensand scarp slope. The scarp slope is a former sea cliff, and the bog habitats are a remnant of the transition mires that formerly existed between this former shoreline and the now mostly land-claimed saltmarshes around The Wash. In addition to its internationally important plant communities, the site also supports important assemblages of birds and British Red Data Book invertebrates. Ramsar criterion 2 Supports an important assemblage of invertebrates - nine British Red Data Book species have been recorded.
The Nene Washes SPA (UK9008031)	15.3km	The site qualifies under article 4(1) of the Birds Directive (2009/147/EC) by regularly supporting, in winter, an internationally important wintering population of Bewick's swan *Cygnus columbarius bewickii* (1,300 individuals: over 7% of the north-west European wintering population: average of peak counts for the five year period 1987/88 – 1991/92).

Name (ID)	Distance	Summary description
		Nene Washes qualifies also under article 4(2) by supporting, in summer, in recent years, nationally important breeding populations of regularly occurring migratory species: 25 pairs of gadwall *Anas strepera* (5% of the British population): five pairs of garganey *Anas querquedula* (10% of the British population), 36 pairs of shoveler *A. clypeata* (3% of the British population), and 16 pairs of black-tailed godwits *Limosa limosa* (30% of the British population), as well as several other rare birds. The site further qualifies under article 4(2) by supporting, in winter, nationally important wintering populations of five migratory species (average peak counts for the most recent five year period for which data is available (1984/5 - 1985/86 and 1988/89 – 1990/91): 3,640 wigeon *Anas penelope* (over 1% of the British wintering population): 980 teal *A. crecca* (1% of the British wintering population), 95 gadwall *A. strepera* (over 1% of the British wintering population): 440 Pintail *A. acuta* (over 1% of the British wintering population) and I10 shoveler *A. clypeata* (over 1% of the British wintering population). The Nene Washes is also of importance for a diverse assemblage of breeding birds of wet grasslands, including: redshank *Tringa totanus*, snipe *Gallinago gallinago*, lapwing *Vanellus vanellus*, mute swan *Cygnus olor*, sedge warbler *Acrocephalus shoenobaenus* and yellow wagtail *Motacilla flava*. The site has an important role in maintaining the range of several of these species which have been affected by changes in habitat elsewhere in Britain. Also notable is an assemblage of wintering waterfowl including, in addition to species listed above, mute swan, whooper swan *C. cygnus*, mallard *Anas platyryhnchus*, pochard *Aythya ferina*, tufted duck *Aythya fuligula*, shelduck *Tadorna tadorna* and coot *Fulica atra*. A wide range of raptors occur through the year on the Nene Washes, including merlin *Falco columbarius*, hobby F. *subbuteo*. peregrine *F. peregrinus*, marsh harrier Circus aeruginosus, hen harrier *C. cyaneus*, sparrowhawk *Accipiter nisus*, short-eared owl *Asio flammeus*, long eared owl *A. otus*, and barn owl *Tyto alba*.

Name (ID)	Distance	Summary description
		During severe winter weather elsewhere, the Nene Washes can assume even greater national and international importance as wildfowl and waders from many other areas arrive, attracted by the relatively mild climate, compared with continental European areas, and the abundant food resources available. It can also assume greater importance at times of deep flooding on the nearby Ouse Washes when it holds displaced birds. The continued international importance of this site is dependent on the maintenance of a winter flooding regime and a high, but controlled summer water table.
Nene Washes Ramsar (UK11046)	15.3km	This site is an extensive area of seasonally-flooding wet grassland (washland) of importance for national and international populations of breeding and wintering waders and wildfowl. During severe winter weather elsewhere, the site can attract waterfowl from other areas due to its relatively mild climate (compared with continental Europe) and abundant food resources available. The site is also notable for the diversity of plant and associated animal life within its network of dykes. Ramsar criterion 2 The site supports an important assemblage of nationally rare breeding birds. In addition, a wide range of raptors occur through the year. The site also supports several nationally scarce plants, and two vulnerable and two rare British Red Data Book invertebrate species have been recorded. Ramsar criterion 6 – species / populations occurring at levels of international importance. Qualifying Species / populations (as identified at designation): Species with peak counts in winter: • Tundra swan, *Cygnus columbianus* bewickii, NW Europe 694 individuals, representing an average of 2.3% of the population (5 year peak mean 1998/9 – 2002/3)

Ancient Woodland

9.4.20 There is no Ancient Woodland within the Site. However, there are a number of ancient woodlands in the vicinity of the Site. The closest of these is Birch Wood, adjacent to the Site boundary (in the Eastern Site).

Non-Statutory sites

9.4.21 There are no CWS or LWS within the Site. However, there are a number of CWS and LWS adjacent to and near the Site, particularly the Western Cable Route, Eastern Cable Route and Eastern Site. Further details will be provided in the ES.

9.4.22 There is one Roadside Nature Reserve (RNR) within the Site, no. 229 off Wiggenhall Road in the northern part of the Western Site.

Ornithology

9.4.23 The desk study returned records of 45 species of notable and protected bird species within the Site search areas in the past 10 years. This includes:

- 19 species listed as Schedule 1 on the WCA.
- 18 species listed on Section 41 NERC list of SPI[7].
- 12 listed as red species on the Birds of Conservation Concern[115].

9.4.24 Breeding bird surveys have been undertaken across the Main Site. Preliminary analysis indicated a range of common and widespread farmland species using the Site, including sightings of notable species including breeding turtle dove, Cetti's warbler, yellow wagtails, yellowhammer, quail and hobby, and foraging barn owl and marsh harrier (species were within the Eastern Site, seen hunting within the survey buffer away from the Site). Skylark were also observed breeding within arable fields. Given the majority of the Site boundary is used for intensive farming with limited habitats, the density of breeding birds is generally considered likely to be low.

9.4.25 The non-breeding bird surveys were completed in 2024 into 2025 at the Main Site. These identified a range of common and widespread farmland species using the Site. However, there were also sightings of notable species of raptors, including red kite and marsh harrier, along with common gull, pink-footed goose, barn owl, which were also recorded. Only one species cited in relation to a

[7] Section 41 of the NERC Act 2006 lists Species of Principal Importance for the conservation of biodiversity in England.

European site was recorded, being pink footed goose (flying over the Western Site not utilising the area).

Bat Surveys

9.4.26 The data search returned 354 records of at least 10 bat species, within 2km of the Site in the past 10 years.

9.4.27 At the time of writing, the bat surveys are ongoing on the Main Site and are due to be completed by the end of October 2026. The Main Site (and surrounds) include a number of trees that could be used by roosting bats. Although detailed analysis has not been completed, preliminary data suggest that bat activity levels are typical of expansive farmland habitats being relatively low. Preliminary analysis of data has also identified common and soprano pipistrelle, noctule and myotis species to be present within the Main Site. The majority of activity is focused on existing hedgerows and freshwater habitats. Early results of the bat surveys concur with the type of species identified from the desk study.

Badger Survey

9.4.28 At the time of writing, the badger surveys are ongoing on the Main Site and are due to be completed by the end of October 2026. The desk study returned 14 records of badger within the search areas in the past 10 years, the nearest being circa 1.4km from the Site in 2020, which is also the most recent.

Riparian Mammal Survey (Otter and Water Vole)

9.4.29 At the time of writing, the otter and water vole surveys are ongoing on the Main Site and are due to be completed by the end of October 2026. The desk study returned five records of water vole *Arvicola amphibius* in the past 10 years and 7 records of otter *Lutra lutra*. The nearest record for water vole was 140m from the Main Site in 2019, with the most recent record being from 2022, located circa 1.7km from the Main Site. The nearest record of otter is 400m from the Main Site and dates to 2019, with the most recent record in 2024 located 950m from the Main Site.

Great Crested Newts

9.4.30 After the completion of the great crested newt surveys, two ponds received a positive eDNA return from the lab of the 29 ponds tested within the Main Site (another 6 were dry at survey). Further details of the locations of these ponds will be provided within the ES. No great crested newt specimens were identified from

the eDNA surveys. This accords with the desk study that has very few records of great crested newt, with only two records.

Reptiles

9.4.31 At the time of writing, the reptile surveys are ongoing across the Main Site and are due to be completed by the end of October 2026, with reporting available in Q1 2027. The desk study returned no records of reptile species within 2km of the Site in the past 10 years.

Other Protected and Notable Species

9.4.32 The data search returned 34 records of hedgehog *Erinaceus europaeus* within the past 10 years. The nearest is located on the Site and is dated to 2018; the most recent record is 2022. Additionally, 11 records of European hare *Lepus europaeus* were returned; the closest was located on the Site and dated to 2020; this is also the most recent record.

9.5 Mitigation Measures Identified to Date

9.5.1 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the initial description of the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Approach

9.5.2 The mitigation hierarchy will be applied to biodiversity in line with the CIEEM EcIA Guidelines to ensure the design first seeks to avoid significant harm, to mitigate where it is unavoidable, and, as a last resort, to compensate for residual effects that remain after avoidance and mitigation measures are implemented. The avoidance of significant harm is being considered through the design process (primary mitigation) and commonly occurring mitigation measures associated with conservation notable and legally protected flora and fauna, will also be actively considered and incorporated, as appropriate (tertiary mitigation). These measures include determining the extent and distribution of suitable habitats required within the Site to account for the likely effects on legally protected (e.g. reptiles, bats, etc.) and other conservation notable species, the types of habitats that they require and how these can be incorporated within the emerging design parameters.

9.5.3 Primary and tertiary mitigation measures relevant to biodiversity will be identified and will be considered as part of the assessments (i.e. the assessments of likely

significant effects will be undertaken with the inclusion of these types of mitigation measures). Further additional or site-specific measures (secondary mitigation) will be considered to further prevent or reduce effects. If offset measures are identified, these would be considered separately, following the conclusion of residual effects to accord with the mitigation hierarchy in the CIEEM EcIA Guidelines.

9.5.4 The Proposed Development will provide opportunities for delivering BNG (measured using the Statutory Biodiversity Metric) at a scale in keeping with the Lawton Principles[116] (i.e. more, bigger, better and joined up). The scale of the Proposed Development allows for the opportunity to create ecological links and areas that will be managed in a way to promote biodiversity. There are opportunities to provide a variety of habitats for invertebrates, breeding birds and bats that could be large enough to support notable changes in the size of local populations.

9.5.5 Within the Site boundary there will be three broad opportunities:

- Habitat enhancement and creation outside of areas of development (i.e. land set aside for biodiversity and other green infrastructure) (including the 'Biodiversity Areas' as shown in **Figure 1-3: Layout Plan**, noting that these are subject to further design work).
- Habitat enhancement and creation within areas of development.
- Species-specific opportunities aimed at improving local provision.

9.5.6 The ditches and freshwater within the Site boundary provide an opportunity to seek to create habitats that are of greater biodiversity value than are currently present. This would include the restoration of riparian zones, introduction of high value grassland for farmland birds, creation of scrapes and temporary pools for waders and wildfowl (providing habitat for notable breeding and non-breeding birds), creation of new hedgerows (a HPI) and planting of new stands of woodland.

9.5.7 Within solar farms, there is the opportunity to create a range of habitats dependent on the location of a site. Around tracksides and in the stand-off between infrastructure and field boundaries, wild bird cover and pollinator mixes sown in strips can be established. These provide opportunities for a range of species, including invertebrates, birds and bats, through the provision of greater food resources. In other locations, species-rich grassland can be created. The grassland can have a variety of different characteristics dependent on location

(e.g. meadow-style grasslands adjacent to solar panels, with more shade and drought tolerant communities around the panels) and management type (e.g. different grazing and cutting regimes). The aim will be to ensure a minimum of two distinct grassland types to ensure a varied sward height and species composition which will meet the aims of the Norfolk LNRS.

9.5.8 There is also the opportunity to create species or species group specific features to aid local conservation efforts. This could include reversing historical declines in deciduous woodland, lowland fens, chalk rivers, and enhancing existing wet woodland (a national and local conservation priority), enlarging and expanding existing arable field margins (a national and local conservation priority) and enhancing the existing ditch network for water vole (a national and local conservation priority).

9.5.9 Through the outputs of field survey work and technical engagement with nature conservation stakeholders, the measures likely to be of most conservation benefit and in line with local priorities will be identified. The Ecological Impact Assessment (EcIA) that will be reported in the ES, its appendices and related standalone DCO Application documents will provide information on how BNG and other biodiversity measures will be secured and an outline of the proposed management and monitoring regimes.

Construction

9.5.10 Construction will be undertaken using good practice approaches to avoid and reduce the potential impacts on ecological features including habitats and protected species. The following measures will be implemented during construction:

- Identification of ‘biodiversity protection zones’ and areas.
- Inclusion of details for the implementation of method statements to achieve ecological and ornithological outcomes and mitigation measures.
- Identification of practical measures and sensitive working practices to avoid construction related effects.
- The location and timing of sensitive works to avoid harm to ecological features.
- The times during construction when particular specialists are required to be present to oversee works.
- Responsible persons and lines of communication.
- Defining the role and responsibilities of an Ecological Clerk of Works (ECoW).

- Use of protective barriers and warning signs to avoid and prevent harm to ornithology and biodiversity.
- Minimise working areas to avoid unnecessary habitat removal / alteration and species disturbance.
- Avoidance of unnecessary light pollution on nocturnal species such as bats and otter through sensitively locating lighting installations and using hoods or cowls.

9.5.11 Measures to reduce noise and vibration (see **Chapter 7: Noise and Vibration**), dust and emissions (see **Chapter 8: Air Quality**) and pollution (see **Chapter 13: Water Environment** and 'Land Quality' in **Chapter 17: Technical Aspects to be 'Scoped Out'**) will also be implemented.

9.5.12 The above measures will be delivered through the following management plan that will be secured by DCO Requirement:

- oCEMP.

9.5.13 The oCEMP will include a Precautionary Working Method Statement (PWMS) to include specific measures relating to protected species and habitats. This will be based upon standards set out within the Standards Publication on Biodiversity – code of practice for planning and development (BS 42020:2013).

9.5.14 Construction will also increase the number of vehicle movements within the Proposed Development. The following measures will be implemented during construction:

- Measures to ensure protection of habitats by routeing construction traffic away from sensitive habitats, where practicable.
- Minimisation of risk associated with collisions for protected species through controlling vehicle speeds.

9.5.15 The above measures will be delivered through the following management plan that will be secured by DCO Requirement as set out in the Initial Commitments Register (**Appendix B**):

- oCTMP.

9.5.16 Where necessary, protected species licensing will be obtained (for example for great crested newts or bats). Consideration for licensing requirements will be identified through the completion of baseline surveys, assessment and confirmed as part of the DCO Application. Appropriate pre-construction surveys will be proposed, with the full approach to be discussed with relevant stakeholders.

Operation and maintenance

9.5.17 The operation and maintenance phase of the Proposed Development will include a range of activities, including staff working at the Data Centre Campus and regular visual inspection of the infrastructure, with testing and servicing as required, with engineers using a range of vehicles and machinery. Measures to reduce effects on biodiversity include:

- Maintenance of permanent protective fencing around sensitive ecological areas to prevent vehicle or human encroachment.
- Controlled vegetation maintenance, to avoid nesting / breeding seasons.
- Fencing will contain clearances above ground or use of mammal gates included to permit the passage of wildlife.

9.5.18 These measures will be delivered by the following management plan, which will be secured by DCO Requirement as set out in the Initial Commitments Register (**Appendix B**):

- oOEMP.
- oLEMP.

9.5.19 Habitat design will include measures designed to enhance retained habitats for notable and protected species such that the operation of the Proposed Development delivers an overall benefit for biodiversity. All habitat enhancement and creation will be described in the outline Landscape and Ecology Management Plan (oLEMP) to be included as part of the DCO Application.

9.5.20 A draft Habitat Management and Monitoring Plan (HMMP) will be submitted as part of the BNG Plan and will require ongoing monitoring for 30 years.

9.5.21 All cabling will be installed in line with relevant design standards, including the International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines for Limiting Exposures to Time-Varying Electric, Magnetic and Electromagnetic Fields (up to 300 GHz). An assessment will be undertaken as part of the EMF Report.

Decommissioning

9.5.22 It is assumed that the environmental measures required to support decommissioning will be broadly similar in scope to those required for the construction phase outlined above in **Paragraphs 9.5.10**, **9.5.11**, **9.5.13**, **9.5.14** and **9.5.16**.

9.5.23 These measures will be implemented through the following management plans, secured by DCO Requirement, as set out in the Initial Commitments Register (**Appendix B**):

- oDEMP.
- oDTMP.

9.5.24 The land would be restored to a condition where it could be returned to its current agricultural use.

9.6 Proposed Scope of Assessment

9.6.1 The proposed scope of assessment is based on an understanding of the characteristics of the Site and technical study areas and the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Potential Likely Environmental Effects which are Not Significant

9.6.2 Where an environmental effect is unlikely to be significant based on baseline data, mitigation identified to date and / or initial analysis and evaluation, this will not be considered further within the EIA nor reported on in the ES. An evidence base is provided to justify the 'scoping out' of these effects below.

All Phases

Hazel dormice

9.6.3 There are no records of dormice within the desk study and populations of this species are not known in Norfolk[117].

9.6.4 Therefore, effects on hazel dormice during all phases are unlikely to be significant and will not be considered further as part of the EIA or reported in the ES.

White Clawed Crayfish and Fish

9.6.5 The data search shows there are no records of white clawed crayfish or protected fish species within 2km of the Site boundary. Appropriate buffer zones and precautionary working methods will be deployed, which will prevent effects from occurring to these species.

9.6.6 Therefore, effects on white clawed crayfish and fish species during all phases are unlikely to be significant and will not be considered further as part of the EIA or reported in the ES.

Construction Phase

Direct Land-take from European and Nationally Ecological Designated Sites

9.6.7 Whilst the Islington Heronry SSSI lies within the Site, there will be no direct loss or land-take from within the designation due to the offsets included within the Proposed Development (see **Chapter 4: Initial Description of the Proposed Development**). There are no other European or nationally designated ecological sites within the Site.

9.6.8 Therefore, direct land-take from European or nationally designated ecological sites during the construction phase is unlikely to be significant and will not be considered further as part of the EIA or reported in the ES.

Habitat Degradation caused by Deposition of Dust and Plant Emissions

9.6.9 Construction activities have the potential to result in dust deposition onto adjacent habitats and nearby designated sites, resulting in habitat degradation through reduced availability of sunlight and reduced opportunities for pollination. However, it is anticipated that dust and particulate matter emissions will be managed / controlled through the implementation of measures informed by the IAQM Construction Dust Assessment Guidance, as set out in **Chapter 8: Air Quality**. It is also noted that plant emissions are to be controlled / managed through the application of mitigation measures as set out in **Chapter 8: Air Quality**.

9.6.10 Therefore, habitat degradation caused by deposition of dust and plant emissions during the construction phase is unlikely to be significant and will not be considered further in the EIA or reported in the ES. A CDRA will be provided alongside the ES.

Accidental Spread of Invasive Non-native Species (INNS) due to On-site Activity

9.6.11 The potential for the Proposed Development to result in the introduction or spread of INNS has been considered. Construction activities, including vegetation clearance, earthworks, movement of soil and construction plant, can provide pathways for the spread of INNS where such species are present. However, there are no identified project-specific pathways or activities that are anticipated to result in the transfer of INNS between otherwise unconnected habitats or waterbodies.

9.6.12 Appropriate good practice measures will be implemented during construction to prevent the introduction and spread of INNS, including appropriate biosecurity procedures and, where necessary, the identification and management of INNS

encountered during pre-construction surveys and construction activities. Any relevant requirements will be incorporated into the oCEMP.

9.6.13 Therefore, accidental spread of INNS due to on-site activity during the construction phase is unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Operation and Maintenance Phase

Changes in Habitats and Protected / Notable Species Behaviours due to EMF

9.6.14 EMF from buried cables can result in environmental changes through soil heating (altering habitat composition) and magnetic fields discouraging certain species from moving through the area. However, cabling for solar farms, BESS and data centres is no different to those already in position across the country (e.g. connections for on and offshore wind farms, other solar farms and renewable generation, parts of the national grid and distribution network grid) and there is no evidence to suggest they have an effect on ecological features.

9.6.15 Heating of the soil would occur over a small area only with typical estimates of measurable changes in temperature being at most between 1m and 1.5m from the cable therefore making any potential effect highly localised.

9.6.16 All cabling will be installed in line with relevant design standards, including the International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines for Limiting Exposures to Time-Varying Electric, Magnetic and Electromagnetic Fields (Up to 300 GHz)[118].

9.6.17 Therefore, changes in habitats and protected / notable species behaviours due to EMF during the operation and maintenance phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Increase in Recreational Disturbance on European and Nationally Ecological Designated Sites

9.6.18 Increases in recreational disturbance would only potentially occur during the operation and maintenance phase as no additional residents are likely to be generated during the construction and decommissioning phases. However, due to the non-residential nature of the Proposed Development, it will not generate additional visitors to European or nationally designated sites within the vicinity of the Site.

9.6.19 Whilst the Islington Heronry SSSI lies within the Site, there will be no direct public access provided within or adjacent to the designation within the Proposed

Development (see **Chapter 4: Initial Description of the Proposed Development**). There are no other European or nationally designated ecological sites within the Site.

9.6.20 Therefore, increases in recreational disturbance on European and nationally ecological designated sites during the operation and maintenance phase are unlikely to be significant and will not be considered further as part of the EIA or reported in the ES.

Decommissioning Phase

Direct Land-take from European and Nationally Ecological Designated Sites

9.6.21 Whilst the Islington Heronry SSSI lies within the Site, there will be no direct loss or land-take from within the designation during decommissioning due to the offsets included within the Proposed Development (see **Chapter 4: Initial Description of the Proposed Development**). There are no other European or nationally designated ecological sites within the Site.

9.6.22 Therefore, direct land-take from European or nationally designated ecological sites during the decommissioning phase is unlikely to be significant and will not be considered further as part of the EIA or reported in the ES.

Habitat Degradation caused by Deposition of Dust and Plant Emissions

9.6.23 Decommissioning activities have the potential to result in dust deposition onto adjacent habitats and nearby designated sites, resulting in habitat degradation through reduced availability of sunlight and reduced opportunities for pollination. However, it is anticipated that dust and particulate matter emissions will be managed / controlled through the implementation of measures informed by the IAQM Construction Dust Assessment Guidance, as set out in **Chapter 8: Air Quality**. It is also noted that plant emissions are to be controlled / managed through the application of mitigation measures as set out in **Chapter 8: Air Quality**.

9.6.24 Therefore, habitat degradation caused by deposition of dust and plant emissions during the decommissioning phase is unlikely to be significant and will not be considered further in the EIA or reported in the ES. As noted for the construction phase, CDRA will be provided alongside the ES.

Accidental Spread of INNS due to On-site Activity

9.6.25 The potential for the Proposed Development to result in the introduction or spread of INNS has been considered. Decommissioning activities, including

vegetation clearance, earthworks, movement of soil and plant, can provide pathways for the spread of INNS where such species are present. However, there are no identified project-specific pathways or activities that are anticipated to result in the transfer of INNS between otherwise unconnected habitats or waterbodies.

9.6.26 Appropriate good practice measures will be implemented during decommissioning to prevent the introduction and spread of INNS, including appropriate biosecurity procedures and, where necessary, the identification and management of INNS encountered during pre-decommissioning surveys. Any relevant requirements will be incorporated into the oDEMP.

9.6.27 Therefore, accidental spread of INNS due to on-site activity during the decommissioning phase is unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Potential Likely Significant Environmental Effects

9.6.28 To accord with the approach set out in the CIEEM EcIA Guidelines and provide clarity on the scope of the detailed technical assessment in terms of potential likely significant environmental effects and receptors, the important receptors are identified and then the anticipated activities for each phase with the associated potential likely significant environmental effects are then set out.

Important Receptors Identified

9.6.29 The ecological features[8] identified to date for consideration are based on the desk study, field survey results to date and professional judgement. Dependent on the outcome of further survey and technical engagement, this list may need to be amended prior to detailed assessment work commencing. Ecological features have been identified where potential effects (both adverse and beneficial) may occur through the construction, operation and maintenance or decommissioning phases of the Proposed Development.

9.6.30 A study area for the EcIA has been defined for the Site boundary, plus the EZoIs that are identified in **Table 9-1**. Once further information on construction, operation and maintenance and decommissioning phases are available, these EZoI may be revised. The extent of the EZoIs will be discussed with Natural

[8] 'Ecological features' is the term used within the CIEEM EcIA Guidelines to refer to receptors.

England, KL&WNBC and NCC through engagement. The EZoIs used will be confirmed in the ES.

9.6.31 The ecological features that have been identified as requiring detailed assessment are:

- European and nationally ecological designated sites.
- CWS / LWS adjacent to the Site boundary.
- HPI – in particular hedgerows, deciduous woodland and river / riparian habitats.
- Other freshwater habitats.
- Ancient woodland.
- The breeding bird community – particularly species on the red and amber lists of Birds of Conservation Concern 5[119].
- Non-breeding birds.
- Bats (consideration particularly associated with fragmentation and losses and gains in foraging opportunity).
- Invertebrates (consideration particularly associated with habitat fragmentation and losses).
- Reptiles (consideration particularly associated with habitat fragmentation and losses).
- Badgers (with particular emphasis on legislative compliance and welfare).
- Riparian mammals (consideration particularly associated with fragmentation and losses and gains in habitat quality).

9.6.32 The ongoing design and development of access routes and cable connection options means that it is not currently appropriate to scope out any ecological receptors from assessment with respect to effects associated with the Cable Routes (both underground cabling and overhead lines).

Potential Likely Significant Environmental Effects

9.6.33 Activities during the construction, operation and maintenance and decommissioning phases of the Proposed Development may result in a range of potential likely significant effects that require detailed technical assessment and are to be 'scoped in'. The potential likely significant effects are set out in **Table 9-4**. These environmental effects will be assessed within the EIA and reported on in the ES.

Table 9-4: Potential likely significant environmental effects 'scoped in'

Activity	Potential likely effect	Receptor
Construction		
Change of land use including ground clearance for construction sites (including laydown areas, staff facilities etc.), enabling works and accesses	• Temporary land take and habitat degradation • Permanent land take and habitat loss / degradation associated with the presence of permanent infrastructure • Loss of ecological connectivity through severance of habitats resulting in fragmentation	• Ecologically Designated Sites – International, National and Local. • Ancient woodland. • Habitats, plants and trees. • Ornithology. • Amphibians (including great crested newt). • Bats. • Invertebrates. • Otter. • Water Vole. • Reptiles.
Construction noise, activity and increased human presence	• Disturbance of potentially sensitive species resulting in displacement or a reduction in productivity / survival rates	
Construction / alteration of drainage to facilitate construction works	• Changes to local hydrology resulting in changes or loss of surrounding habitats with subsequent effects on fauna that they support	
Use of chemicals (e.g. fuels, solvents etc.) and liberation of pollutants and fine material through excavation, demolition or surface water flows during rainfall events	• The introduction of toxic pollutants or sediments into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species / species groups they support	

Activity	Potential likely effect	Receptor
Vehicle movements to facilitate construction	• Emissions from traffic resulting in habitat change through nutrient deposition, acidification and direct toxicity • Collision with protected / notable species resulting in mortality	
Increases in temporary lighting	• Disturbance of potentially sensitive species resulting in displacement or a reduction in productivity / survival rates	
Operation and maintenance		
Operational and maintenance activities and increased human presence	• Disturbance of potentially sensitive species resulting in displacement or a reduction in productivity / survival rates	• Ecologically designated sites – International, National and Local. • Ancient woodland. • Habitats, plants and trees. • Ornithology. • Amphibians (including great crested newt). • Bats. • Invertebrates. • Otter. • Water Vole. • Reptiles
Use of chemicals (e.g. fuels, solvents etc.) associated with operational activities and maintenance work including potential presence of vehicles and heavy plant	• The introduction of toxic pollutants into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species / species groups they support	
Increases in permanent lighting	• Disturbance of potentially sensitive species resulting in displacement or a reduction in productivity / survival rates	

Activity	Potential likely effect	Receptor
Vehicle movements to facilitate operational and maintenance activities	• Emissions from traffic resulting in habitat change through nutrient deposition, acidification and direct toxicity • Collision with protected / notable species resulting in mortality	
Routine testing of backup generators for the Data Centre Campus	• Emissions from backup generators resulting in habitat change through nutrient deposition, acidification and direct toxicity	
Presence of overhead lines	• Death / injury through collision or interaction with overhead lines	
Decommissioning		
Change of land use including ground clearance for decommissioning sites (including laydown areas, staff facilities etc.)	• Temporary land take and habitat degradation • Loss of ecological connectivity through severance of habitats resulting in fragmentation	• Ecologically designated sites – International, National and Local. • Ancient woodland. • Habitats, plants and trees. • Ornithology. • Amphibians (including great crested newt). • Bats. • Invertebrates. • Otter.
Decommissioning noise, activity and increased human presence	• Disturbance of potentially sensitive species resulting in displacement or a reduction in productivity / survival rates	

Activity	Potential likely effect	Receptor
Alteration of drainage to facilitate decommissioning works	• Changes to local hydrology resulting in changes or loss of surrounding habitats with subsequent effects on fauna that they support	• Water Vole. • Reptiles.
Increases in temporary lighting	• Disturbance of potentially sensitive species resulting in displacement or a reduction in productivity / survival rates	
Use of chemicals (e.g. fuels, solvents etc.) and liberation of pollutants and fine material through excavation, demolition or surface water flows during rainfall events	• The introduction of toxic pollutants or sediments into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species / species groups they support	
Vehicle movements to facilitate decommissioning	• Emissions from traffic resulting in habitat change through nutrient deposition, acidification and direct toxicity • Collision with protected / notable species resulting in mortality	

9.6.34 The potential for cumulative effects arising from the potential likely significant environmental effects identified in **Table 9-4**, both in terms of inter-project and intra-project effects, will be considered within the ES. The approach to the cumulative effects assessment in the ES is set out in **Chapter 18: Methodology for Cumulative Effects Assessment**.

9.7 Proposed Approach to Detailed Assessment in the ES

Further Baseline Data Collection

9.7.1 As set out under 'Baseline Conditions' above, baseline data collection is ongoing. Requirements for additional baseline surveys are dependent on the design. For example, the locations of the pylons for the overhead lines within the Western Cable Route and Eastern Cable Route are being considered. Once the preferred designs for the Cable Routes are agreed, additional baseline surveys will be designed based on the nature of the habitats and locations they are likely to cross and will be designed to be proportionate to the ecological features likely to be present and the nature of development activities. The survey scope will be discussed with stakeholders (including Natural England, KL&WNBC and NCC).

Detailed Assessment Methodology

9.7.2 The approach to detailed technical assessment will follow the CIEEM EcIA Guidelines. The assessment will largely be qualitative in nature, although quantitative elements will be undertaken, including:

- Habitat loss / creation or enhancement calculations.
- Air quality dispersion modelling outputs for road traffic during all phases and backup generator emissions from the Data Centre Campus, where required, following the approach set out in **Chapter 8: Air Quality**. These will then be subject to ecological interpretation and detailed technical assessment in the context of the sensitivities of the affected designated sites / habitats.
- Collision risk modelling for the overhead lines (if required).

9.8 Reporting Effects and Significance

9.8.1 The first stage in the assessment is to determine the importance of the ecological features identified within the Site boundary or within the EZoI. The CIEEM EcIA Guidelines require that each ecological feature is conferred importance against a geographic scale. The level of importance is conferred by the relation of the

ecological feature to UK legislation and policy. The geographical levels that will be considered for the assessment of the Proposed Development are:

- International.
- National (i.e. UK / England).
- County (i.e. Norfolk).
- District (i.e. King's Lynn and West Norfolk).
- Local (i.e. the Site and immediate surrounds).
- Negligible.

9.8.2 This level of importance will also be qualified with a secondary geographic scale (using the same terminology) to highlight where a project-level effect may operate on a smaller scale only (e.g. effects that could alter the status of a local population but remain negligible at a regional or national level). This judgement will be informed by information on the extent and population size, population trends and distribution of the ecological features in question.

9.8.3 All ecological features determined to be of negligible importance will automatically be excluded from detailed technical assessment, with the exception of legally protected species for which mitigation measures may be required to ensure compliance with legislation.

9.8.4 Ecological features of local importance or above will then be considered individually for inclusion within the detailed technical assessment. Through an understanding of the activities associated with the Proposed Development and the resulting environmental changes, it is possible to identify ecological features that may be subject to potentially significant effects. Where no potential for significant effects is identified, following the imposition of primary or tertiary mitigation measures, ecological features will be 'scoped out' of further detailed assessment.

9.8.5 Those ecological features taken forward for detailed technical assessment will be considered in line with CIEEM EcIA Guidelines, which define a significant effect as one *"that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general*".

9.8.6 When considering potential likely significant effects on ecological features, whether these are negative (adverse) or positive (beneficial), the following characteristics of environmental change will be taken into account:

- Extent – the spatial or geographical area over which the environmental change may occur.
- Magnitude – the size, amount, intensity or volume of the environmental change.
- Duration – the length of time over which the environmental change may occur.
- Frequency – the number of times an environmental change may occur.
- Timing – the periods of the day / year / season during which an environmental change may occur.
- Reversibility – whether the environmental change can be reversed through restoration actions or regeneration.

9.8.7 Both negative (adverse) and positive (beneficial) effects are assessed as being significant if the favourable conservation status of an ecological feature would be altered as a result of the Proposed Development. Conservation status is defined in CIEEM EcIA Guidelines (in paragraph 5.3.2) as follows:

"habitats - conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area'; and

'species - conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area".

9.8.8 Professional judgement will be used, in light of the available evidence, to determine whether the conservation status of an ecological feature will be altered either negatively or positively.

9.8.9 When considering designated sites, it is their integrity, as well as qualifying features and conservation status, that is considered. This is defined within the CIEEM EcIA Guidelines as "*the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified*".

9.8.10 The consideration of integrity will draw upon the detailed technical assessment of effects on the conservation status of the features for which the site has been designated.

9.8.11 Where likely significant adverse effects are identified, and additional, secondary mitigation is required, this will be set out. All mitigation measures will be described in detail, including providing information on how they will be secured and their expected efficacy.

9.8.12 Each ecological feature will be considered across all phases of the Proposed Development to ensure potential outcomes are considered realistically.

9.8.13 The likely significance (or otherwise) of identified effects is defined as follows:

- Not significant: No significant effect to the ecological feature.
- Significant beneficial: Advantageous or positive effect on an ecological feature
- Significant adverse: Detrimental or negative effect to an ecological feature.

9.9 Assumptions, Limitations and Uncertainties

9.9.1 The assumptions, limitations and uncertainties that have been identified at this stage are set out in **Table 9-5**.

Table 9-5: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• The desk study includes data on habitats and species that have been collected by both professional ecologists and members of the public both as part of focused survey efforts and as a result of incidental observations. The desk study information therefore only provides contextual data and does not fully rule out the presence of habitats and species for which records have not been provided. • An extended habitat survey does not constitute a detailed account of the presence or potential presence of protected and / or notable species, or comprise a detailed botanical survey, but it does provide sufficient information to enable a competent ecologist to identify an appropriate scope for detailed assessment. • At this stage, the design and layout of the Proposed Development, particularly the Eastern Cable Route and Western Cable Route, remain under refinement. A precautionary approach has therefore been taken in identifying ecological receptors for inclusion within the ES. • As there is still data collection ongoing for the Site boundary in several disciplines, therefore the conclusions within this document have been made on a precautionary approach.

9.10 Summary

9.10.1 A summary of the potential effects ‘scoped in’ and ‘scoped out’ for biodiversity is provided in **Table 9-6**.

Table 9-6: Summary of potential effects 'scoped in' and 'scoped out' for biodiversity

Potential effect	Phase
Scoped out	
Effects on hazel dormice	All phases
Effects on white clawed crayfish and fish	All phases
Direct land-take from European and nationally ecological designated sites	Construction and decommissioning
Habitat degradation caused by deposition of dust and plant emissions	Construction and decommissioning
Changes in habitats and protected / notable species behaviours due to EMF	Operation and maintenance
Increase in recreational disturbance on European and nationally ecological designated sites	Operation and maintenance
Accidental spread of INNS due to on-site activity	Construction and decommissioning
Scoped in	
Temporary land take and habitat degradation	Construction and decommissioning
Permanent land take and habitat loss / degradation associated with the presence of permanent infrastructure	Construction
Loss of ecological connectivity through severance of habitats resulting in fragmentation	Construction and decommissioning
Disturbance of potentially sensitive species resulting in displacement or a reduction in productivity / survival rates	Construction, operation and maintenance and decommissioning
Changes to local hydrology resulting in changes or loss of surrounding habitats with subsequent effects on fauna that they support	Construction and decommissioning

Potential effect	Phase
The introduction of toxic pollutants or sediments into the environment resulting in changes, loss or damage to terrestrial or freshwater environments and the species / species groups they support	Construction, operation and maintenance and decommissioning (noting that sediments are only applicable to the construction and decommissioning phases)
Emissions from traffic resulting in habitat change through nutrient deposition, acidification and direct toxicity	Construction, operation and maintenance and decommissioning
Collision with protected / notable species resulting in mortality	Construction, operation and maintenance and decommissioning
Emissions from generators resulting in habitat change through nutrient deposition, acidification and direct toxicity	Operation and maintenance
Death / injury through collision or interaction with overhead lines	Operation and maintenance

10 Landscape and Visual

10.1 Introduction

10.1.1 This Scoping Chapter presents the scope and methodology for the assessment of environmental effects related to landscape character and visual amenity. This Scoping Chapter has been informed by relevant legislation, policy and guidance, baseline conditions and mitigation measures identified to date.

10.1.2 This Scoping Chapter should be read in conjunction with **Chapter 4: Initial Description of the Proposed Development**.

10.1.3 The Landscape and Visual Impact Assessment (LVIA) will be presented with separate sections dealing with effects on landscape character and effects on visual amenity. This Scoping Chapter is accompanied by the following figures in **Appendix A**:

- **Figure 10-1a – d: Location Plans**.
- **Figure 10-2a – b: Designations Historical and Cultural**.
- **Figure 10-2c – d: Designations Landscape and Ecology**
- **Figure 10-3a – b: Public Access.**
- **Figure 10-4: National Landscape Character Areas**.
- **Figure 10-5a – b: Local Landscape Character Areas**.
- **Figure 10-6: Topography**.
- **Figure 10-7a – j: Zone of Theoretical Visibility (ZTV) Plans**.

10.2 Summary of Relevant Legislation, Policy and Guidance

10.2.1 A list of legislation, policy and guidance relating to landscape character and visual amenity relevant to the Proposed Development is as follows:

Legislation

- None specifically identified.

Policy

- NPS EN-1.
- NPS EN-3.
- NPS EN-5.
- NPPF.

- King's Lynn and West Norfolk Local Plan 2021 – 2040.

Guidance

- NPPG[120].
- The Landscape Institute and IEMA (now ISEP) Guidelines for Landscape and Visual Impact Assessment 3rd Edition (2013) ('GLVIA3')[121].
- Landscape Institute Technical Guidance Note 2024-01 Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment Third Edition (2024)[122].
- Landscape Institute Technical Guidance Note 08/15 Landscape Character Assessment (2015)[123].
- Landscape Institute Technical Guidance Note 06/19 Visual Representation of Development Proposals (2019)[124].
- Landscape Institute Technical Guidance Note 02/21 Assessing landscape value outside national designations (2021)[125].
- Landscape Institute Technical Guidance Note Residential Visual Amenity Assessment (2019)[126].
- Natural England An Approach to Landscape Character Assessment (2014)[127].

10.3 Baseline Conditions

10.3.1 This section provides an overview of the study area, baseline data collection activities undertaken to date to inform this Scoping Chapter and an overview of the relevant baseline conditions for landscape character and visual amenity.

Study Area

10.3.2 For the purposes of assessing the landscape and visual effects of the Proposed Development, the following study areas have been defined:

- The Site extends to the redline boundary, as shown in **Figure 10-1a – d: Location Plans**.
- The wider landscape context (the landscape study area) extends to within 3km of the Site boundary, as shown in **Figures 10-4: National Landscape Character Areas** and **10-5a – b: Local Landscape Character Areas**.
- The visual study area extends to 3km from the Site boundary, as shown in **Figure 10-7a – j: Zone of Theoretical Visibility (ZTV) Plans**.

10.3.3 The extent of the study area is proportionate to the scale and nature of the Proposed Development, based on the extent of the area which may be

significantly affected and informed by baseline data collected to date. For landscape and visual, the cumulative study area will consider a study area of up to 7km from the Site boundary, where there is identified intervisibility or sequential effects with Other Developments (aligning with the approach set out in **Chapter 18: Cumulative Effects Assessment Methodology**).

Baseline Data Collection Activities to Date

10.3.4 Baseline landscape and visual assessments are undertaken in parallel, informed by a combination of desk studies and field surveys, with subsequent analysis. Baseline data has been collected using the following sources and methods:

- Baseline desktop studies, including a review of the following information:
  - OS mapping and aerial photography relating to landscape features such as land cover, landform, landscape pattern, settlements and residential properties, transport routes, PRoWs, etc.
  - A review of landscape designations, planning policies and planning guidance relevant to the area at national and local level.
  - A review of published Landscape Character Assessments, including National Landscape Character Areas (NCAs), as defined by Natural England, and Local Character Areas relevant to the area, along with any other landscape studies relevant to the area.
  - Geographic Information Systems and data, including the Multi-Agency Geographic Information for the Countryside (MAGIC) interactive map and datasets[128].
- Analysis of topographical mapping such as Digital Terrain Modelling (DTM) for the area.
- A review of whether or how views may be affected by seasonal or weather variations, as established by Met Office climate averages.
- Preparation of initial ZTV mapping, using high-level data and project information. Initial screening ZTV plans have been generated by computer to identify the graphic extents within which views may be available of the Proposed Development. **Figure 10-7a – j: Zone of Theoretical Visibility (ZTV) Plans** shows the predicted extent of the ZTV for the Proposed Development, based on the 'worst-case scenario' of the Proposed Development parameters. The ZTVs have been produced for the Components of the Proposed Development as follows, based on **Figure 1-3: Layout Plan**:

  - Walpole Substation (height 8m).
  - Cable Routes (overhead lines) (height 50m for Western Cable Route and 35m for Eastern Cable Route).
  - Data Centre Campus / BESS Units / Substation (Western Site) (height 25m).
  - Solar PV Panels (Main Sites) (height 4.5m)
  - BESS Units and Substation (Eastern Site) (height 8m).

  The ZTVs have been modelled using a Light Imaging Detection and Ranging (LiDAR) Digital Surface Model (DSM) with a spatial resolution of 2m, which takes into account the screening effect of vegetation, buildings and other structures. The screening effects of other surface features such as individual trees and hedgerows may not be picked up by the data.
- Baseline field surveys, including the following:
  - A survey of the Site and landscape context study areas and inspection of views of the Site from publicly accessible viewpoints, including a photographic survey.
  - Initial surveys and winter photography were carried out on 25th and 26th February 2026, during dry weather and good visibility.
  - Photography was obtained from proposed representative viewpoints. This included winter photography, obtained during the initial site visit in February 2026.
  - Further survey work and summer photography were carried out on 8th and 9th September 2026 to determine how seasonality would affect views of the Proposed Development.

Baseline Conditions

Designations

10.3.5 Designations provide an indication of landscape value. They are areas that have been recognised for the scenic beauty and recreational potential of the landscape. Designations are shown on **Figure 10-2a – b: Designations Historical and Cultural** and **Figure 10-2c – d: Designations Landscape and Ecology**.

National Parks and National Landscapes

10.3.6 There are no National Parks or National Landscapes within the Site or 3km study area. The Norfolk Coast National Landscape lies circa 10km north-east of the Site at its closest point.

Ancient Woodland

10.3.7 There is no Ancient Woodland inside the Site. However, there are several small areas in the wider landscape including:

- Ancient Replanted Woodland at Chiswicks Wood, circa 1.4km south-west of the Site.
- Ancient & Semi-Natural Woodland at Bowl Wood, approximately 0.75km north of the Site.
- Ancient Replanted Woodland at Kippers Wood, circa 0.75km south.
- Ancient & Semi Natural Woodland at Boughton Wood, approximately 1.2km west.
- Ancient & Semi Natural Woodland at Birch Wood, abutting the Site.

Historic and cultural landscape designations

10.3.8 The setting of historic and cultural designations is a consideration during the preparation of this assessment because these features inform the overall landscape character, quality and value of the area. This assessment does not address the effects on heritage assets. However, it considers the contribution these features make to landscape value and scenic quality.

10.3.9 Relevant historic and cultural designations are shown on **Figure 10-2a – b: Designations Historical and Cultural**.

Conservation areas and Listed Buildings

10.3.10 There are no Conservation Areas within the Site. However, there are a number of Conservation Areas within 3km, including those at:

- Fincham, which abuts a part of the Site boundary.
- Shouldham Thorpe, circa 150m north-west of the Site.
- Shouldham, circa 1km to the north of the Site.
- Oxborough, circa 1.3km south-east of the Site.
- Beachamwell, approximately 600m west of the Site.
- Boughton, circa 1.5km south-west of the Site.
- Stoke Ferry, approximately 1.85km south-west of the Site.
- Tottenhill Row, circa 600m south of the Site.
- Tydd Gate, circa 2.3km of the Site.
- Tydd St Mary, approximately 2.9km west of the Site.

10.3.11 There are no Listed Buildings inside the Site boundary. However, there are a number of Grade I, II* and II Listed Buildings within 3km. This includes Listed

Buildings that are clustered within Conservation Areas along with farmhouses, dwellings and other structures, generally located within settlements and scattered along local routes.

Scheduled Monuments

10.3.12 There are no Scheduled Monuments inside the Site. However, there are a number of Scheduled Monuments within 3km. Those that lie within 0.5km of the Site boundary include:

- Moated site and medieval field system in Church Field, 60m north of St John's Church, circa 440m to the north of the Site.
- 60m north of Moated site and formal garden remains at Alymer Hall, adjacent to the Site.
- Bowl barrel known as The Mound, 700m north east of Stradsett Hall, approximately 200m south of the Site.
- Remains of Barton Bendish medieval settlement immediately west of Abbey Farm, approximately 140m east of the Site.
- Moated site 160m north-east of Avenue Farm, circa 290km south-east of the Site.

Registered Parks and Gardens

10.3.13 There are no Registered Parks and Gardens within the Site. There are two within the study area:

- Stradsett Hall (Grade II) Registered Parks and Gardens, approximately 0.1km west of the Site.
- Oxburgh Hall (Grade II) Registered Parks and Gardens, circa 1.5km south-east of the Site.

Ecology Designations

10.3.14 Ecological designations, although not specifically related to landscape amenity and not assessed within this report, are an indication of landscape value. Relevant ecological designations are shown on **Figure 10-2c – d: Designations Landscape and Ecology**.

SACs

10.3.15 There are no SACs within the Site. The Norfolk Valley Fens SAC lies circa 2.6km south-east of the Site.

SPAs

10.3.16 There are no SPAs within the Site. The Breckland SPA lies circa 2.1km east of the Site at its closest point, forming part of a significant area of land to the east.

SSSIs

10.3.17 Islington Heronry SSSI lies inside the Site (within the Western Site). There are a number of SSSIs within 3km of the Site, including:

- Setchey SSSI, which is circa 10m from the Site.
- Wiggenhall St Germans SSSI, approximately 0.6km north of the Site.
- River Nar SSSI, circa 0.5km north of the Site.
- Boughton Fen SSSI, which lies circa 25m from the Site, separated by Oxborough Road.
- Breckland Farmland SSSI, approximately 2.6km east of the Site (which is contiguous with the Breckland SPA, forming part of a significant area of land to the east).

Rights of Way and Open Access Land

10.3.18 PRoW and open access land are shown on **Figure 10-3a – b: Public Access**.

PRoW

10.3.19 There are several PRoW within the Site, forming part of the wider network. These include a bridleway that abuts the Site at Walpole Substation and a footpath that runs through the Western Site in an east-west direction along Reeds Drain at a lower level than the surrounding fields. There are several further footpaths that run through the Eastern Site which follow a north-south direction or a west-east direction, with several footpaths terminating at or close to the Eastern Site boundary.

Long Distance Footpaths and National Trails

10.3.20 The Nar Valley Way runs broadly east-west through the landscape, approximately 5km to the north of the Site (Eastern Site) and 560m north of the Eastern Cable route, at its closest point. The route generally follows the course of the River Nar east of King's Lynn.

10.3.21 The Fen Rivers Way runs broadly north-south located circa 1.3km to the east of the Western Site, generally following the course of the River Great Ouse and intersecting the Eastern Cable Route.

Open Access Land

10.3.22 There are no areas of open access land inside the Site. Several areas of open access land are located within the wider landscape, including West Winch Common and Setchey Common, circa 1km and 1.2km north of the Eastern Cable Route respectively, and Boughton Common which lies circa 25m to the south of the Eastern Site, on the southern side of Oxborough Road.

National Cycle Routes

10.3.23 NCR 1 runs north-south to the east and south-east of the Western Site between Wiggenhall St Mary the Virgin and Tilney Fen End. At its closest point, NCR 1 is located 165m from the Western Site, at Thornton's Bridge. NCR 11 runs broadly north-south located circa 3.6km to the east of the Western Site, generally following the course of the River Great Ouse and intersecting the Eastern Cable Route. A further NCR Link Route (Link 30) runs circa 0.78km south of the Eastern Site at its closest point.

Landscape Baseline

10.3.24 The landscape baseline is a description and analysis of the existing landscape against which the effects of the Proposed Development are assessed, first by reference to landscape character assessments for the area in which the Site is located, at national and local levels and then, from site-specific surveys and analysis carried out for the purposes of this assessment.

National Landscape Character Assessment

10.3.25 The desk study has made reference to National Character Areas (NCAs) for England. NCAs divide England into 159 distinct natural areas. Each NCA is defined by a unique combination of landscape, biodiversity, geodiversity and cultural and economic activity. Their boundaries follow natural lines in the landscape rather than administrative boundaries, making them a good decision-making framework for the natural environment. NCAs are illustrated in **Figure 10-4: National Landscape Character Areas**.

10.3.26 Walpole Substation, Western Cable Route, Western Site and western part of the Eastern Cable Route areas fall within National Character Area 46 The Fens[129]. The key characteristics, which are relevant to these Areas of the Site and wider context as identified in the National Character Area 46 profile, are:

> *"Expansive, flat, open, low-lying wetland landscape influenced by the Wash estuary, and offering extensive vistas to level horizons*

and huge skies throughout, provides a sense of rural remoteness and tranquillity.

Jurassic clays are overlain by rich, fertile calcareous and silty soils over the coastal and central fens and by dark, friable fen peat further inland. The soils are important for agriculture, which is hugely significant for the rural economy in the Fens. There are over 4,000 farms in the Fens; enough wheat is grown here annually to produce a quarter of a million loaves of bread and one million tons of potatoes are grown here. In addition to traditional vegetables, exotics such as pak choi are now cultivated. Some 40 per cent of England's bulbs and flowers are also produced in the Fens.

The Wash is the largest estuarine system in Britain, supporting internationally important intertidal and coastal habitats influenced by constant processes of accretion and deposition, forming salt marsh and mudflats and providing habitats for wildfowl, wading birds and other wildlife, including grey seals and approximately 90 per cent of the UK's common seals. It also provides important natural sea defences and plays a key role in climate change regulation. Flood storage areas on the Nene, Cam, Lark and Ouse washes also provide significant biodiversity interest. True fen mainly occurs at remnant conservation sites, such as Baston or Wicken Fen.

Overall, woodland cover is sparse, notably a few small woodland blocks, occasional avenues alongside roads, isolated field trees and shelterbelts of poplar, willow and occasionally leylandii hedges around farmsteads, and numerous orchards around Wisbech. Various alders, notably grey alder, are also used in shelterbelts and roadside avenues.

The predominant land use is arable - wheat, root crops, bulbs, vegetables and market gardening made possible by actively draining reclaimed land areas. Associated horticultural glasshouses are a significant feature. Beef cattle graze narrow enclosures along the banks of rivers and dykes and on parts of the salt marsh and sea banks.

Open fields, bounded by a network of drains and the distinctive hierarchy of rivers (some embanked), have a strong influence on

> *the geometric/rectilinear landscape pattern. The structures create local enclosure and a slightly raised landform, which is mirrored in the road network that largely follows the edges of the system of large fields. The drains and ditches are also an important ecological network important for invertebrates, fish including spined loach, and macrophytes.*
>
> *The area is very rich in geodiversity and archaeology, with sediments containing evidence for past environmental and climate changes and with high potential for well-preserved waterlogged site remains at the fen edge, within some of the infilled palaeo-rivers and beneath the peat.*
>
> *Large, built structures exhibit a strong vertical visual influence, such as the 83 m-high octagonal tower of 'Boston Stump' (St Botolph's Church), Ely Cathedral on the highest part of the Isle of Ely dominating its surrounding fen, wind farms and other modern large-scale industrial and agricultural buildings, while drainage and flood storage structures and embanked rail and road routes interrupt the horizontal fen plain.*
>
> *Settlements and isolated farmsteads are mostly located on the modestly elevated 'geological islands' and the low, sinuous roddon banks (infilled ancient watercourses within fens). Elsewhere, villages tend to be dispersed ribbon settlements along the main arterial routes through the settled fens, and scattered farms remain as relics of earlier agricultural settlements. Domestic architecture mostly dates from after 1750 and comprises a mix of late Georgian-style brick houses and 20th-century bungalows".*

10.3.27 The eastern part of the Eastern Cable Route and most of the Eastern Site areas fall within National Character Area 76 North West Norfolk[130]. The key characteristics, which are relevant to these areas of the Site and wider context as identified in the National Character Area 46 profile, are:

> *"Extensive arable cropping and some areas of mixed farming. Fertile and versatile light soils known as the 'Good Sands' in the east. The arable habitats support nationally important assemblages of farmland birds, including grey partridge and turtle dove.*

The shallow dip slope of a low Chalk escarpment containing important aquifers slopes west to east, separated from the coastal strip along The Wash by a distinctive scarp slope.

Smaller-scale, intimate pastoral character within river valleys.

Significant belts of mixed woodland and plantation and some remnant heath on the Greensand in the west.

Dominant pattern of large-scale rectangular fields, with well-trimmed hawthorn hedges and mature hedgerow trees (predominantly oak and beech) away from the northern area. Scots pine rows are striking field boundary features in the west.

Rivers are prominent in the west and north of the area, where they contribute to a more intimate, pastoral character, with small areas of floodplain grazing marsh.

Evidence of rich archaeological remains and surviving heritage features includes barrows, Roman villas and the Roman fort at Blakeney, and medieval moated sites, as well as the ruins of a significant number of priories or abbeys.

Small villages and outlying farms with flint, usually clay-tiled, buildings but some built from distinctive orange sandstone (carstone) and sometimes chalk on the western escarpment, with clunch - an impure variety of chalk - sometimes used further east.

Large estates and country houses, often concealed by tree belts fringing parkland, bring a unified and well-managed quality to the landscape - such as Holkham, Sandringham, Houghton and Raynham.

There is a dispersed settlement pattern, often clustered around a green, common or pond, and linked by a few roads, straight and often with very wide verges, especially in the northern part of the area. Some of the villages attract large numbers of tourists and, in the case of Walsingham, pilgrims.

> *The Peddars Way and Norfolk Coast Path National Trail is well used by walkers; the adjacent north Norfolk coast attracts many tourists from far and wide"*

10.3.28 The eastern-most part of the Eastern Site is within National Character Area 85 The Brecks[131]. The key characteristics, which are relevant to these areas of the Site and wider context as identified in the National Character Area 46 profile, are:

> *"A largely open, gently undulating landscape with a low-lying, dry plateau that rises to the north. Subtle long slopes lead to alluvial flats containing shallow, meandering wooded river valleys.*
>
> *The chalk solid geology lies close to the surface and is covered by thin deposits of sand and flint. The effects of repeated freeze and thaw in the tundra-like climate of the last ice age have produced intricate ground patterns, with patches of calcium-rich soils interspersed with acidic conditions.*
>
> *Remnants of collapsed pingos and other ground-ice depressions which formed in periglacial conditions are typically found in the valleys, and are characteristic features at SSSI such as Thompson Common, East Walton Common and Foulden Common.*
>
> *Vast commercial conifer plantations form a forest landscape, unique in lowland England. The regular geometric shape and form and the repeated occurrence of plantations and shelterbelts unify the land cover pattern, forming wooded horizons and framing views into adjacent landscapes.*
>
> *Predominantly agricultural land use focused on arable production, with planned courtyard farmsteads and large, regular 18th- and 19th century enclosure fields often clearly defined by Scots pine and beech shelterbelts or neat hawthorn hedges, indicative of large estate enclosure. The regular field layouts combine with long, straight, undulating roads to create a geometric landscape character.*
>
> *Outdoor pigs and intensive indoor and outdoor poultry-rearing units are also characteristic.*

Free-draining geology and soils with naturally low fertility support internationally important lowland heathland and mosaics of lowland acid and calcareous grassland that bring colour and textural variation to the landscape and provide a biodiversity-rich resource.

Narrow and meandering lush shallow river valleys (some of which contain unusually fast-flowing streams) form a marked but limited contrast to the dry, extensively arable upland catchment which they drain. All flow westward and are fed by nutrient-poor calcareous groundwater and support important wetland habitats.

A high concentration of important archaeological features, resulting from a long continuity of human settlement, include Neolithic flint mines, medieval churches, priories and rabbit warrens, 18th- and 19th-century designed parklands and estate villages, Second World War defence features and 20th-century abandoned settlements in the military training area known as the Stanford Training Area (STANTA).

The main population centre is Thetford with road and rail links radiating out from the town. The settlement pattern is sparse, with nucleated villages scattered along the river valleys. Farm buildings and churches have considerable impact, but elsewhere the landscape is very empty. Large military air bases are a feature.

Traditional knapped flint, clunch (a form of impure chalk) and 'white' brick are characteristic building materials.

Away from the main A-road transport corridors where traffic is consistently busy including the A11, A1065 and A134, the area remains still and peaceful. On the approach roads to Swaffham, Watton and Thetford, vertical structures, including communications masts and the Swaffham and North Pickenham wind turbines, dominate the landscape."

Regional Landscape Character Assessment

10.3.29 The most recently published regional landscape character assessment is the East of England Character Assessment published in 2010[132]. The East of England Framework *"comprises a range of information sources aimed at aiding*

the planning and management of landscape, both urban and rural, in the East of England".

10.3.30 The Site extends within a number of areas identified within the Regional Landscape Typology including:

- Lowland village chalklands.
- Lowland village farmlands.
- Settled marsh.
- Wooded Peat Fen.

10.3.31 Further details on these Regional Landscape Typologies will be provided in the ES.

Local Landscape Character Assessments

10.3.32 The most recently published Landscape Character Assessment of relevance is the King's Lynn and West Norfolk Borough Landscape Character Assessment[133], published in March 2007. The study identifies 11 general Landscape Character Types (LCTs) across the borough. The areas of the Site extend within several LCTs, as described below, which are also illustrated in **Figure 10-5a – b: Local Landscape Character Areas**.

10.3.33 Walpole Substation and the Western Cable Route fall within LCT D: The Fens: Settled Inland Marshes. The key characteristics of LCT D from the King's Lynn and West Norfolk Borough Landscape Character Assessment are identified as:

> *"A large scale, low lying landscape offering distant, panoramic views that evoke a sense of openness. This open character is less evident where settlements, shelterbelts and orchards occur.*
>
> *Simplistic terrain characterised by a distinctly flat landform providing wide horizons. Earthworks in the form of rivers and creek embankments bring topographic change and strong, straight lines of contrast.*
>
> *An intensively farmed arable landscape comprising predominantly geometric fields divided by straight drainage channels and dykes and underlain predominantly by silts. Field size is variable in places with small units defining settlement edges.*
>
> *Fruit orchards are a relatively common (yet declining) feature with rectangular plots ordered into rows. These rows often channel*

views, and where orchards occur alongside roads, views across the landscape are more restricted. Conifer planting is also a relatively common feature.

Buildings and storage associated with horticulture and food production industries, as well as power stations, pumping stations and sluices, provide visible human-built elements.

Well served by a network of rural roads that follow an irregular path.

The landscape appears well settled - with villages, town edges, large houses, individual farms and properties generally in view. Settlement is predominantly found aligning secondary roads and has a linear arrangement with villages often merging through ribbon development.

The skyline appears cluttered in places due to the varied heights, forms and textures of vertical elements including trees, pylons and buildings.

Lines of pylons are dominant features slicing diagonally across the field system. The pylons and posts carrying overhead wires are frequently in view.

Views can be gained to the edge of King's Lynn and Wisbech.

The change to the adjacent Coastal Marshes and Open Inland Marsh landscapes is transitional and not always obvious.

Large churches (which are often situated in an elevated position) within villages are key landmark features - visible from long distances.

The main roads - the A17(T) and A47(T) are busy through routes and the operation of farm machinery brings constant movement to the landscape.

The sense of remoteness and tranquillity varies and is largely dependent on proximity to roads and settlement edges."

10.3.34 The Western Site and western part of the Eastern Cable Route fall within LCT E: The Fens Open Inland Marshes. The key characteristics of LCT E from the King's

Lynn and West Norfolk Borough Landscape Character Assessment are identified as:

> *"A large-scale landscape with extensive vistas and wide open skies evoking a strong sense of openness, exposure and isolation.*
>
> *The elevation of the landscape ranges between 1m AOD and -2m AOD, resulting in a strikingly flat, low-lying terrain.*
>
> *Strong geometric and linear landscape patterning defined by large-scale intensive arable farming with extensive field units divided by a regular network of drainage ditches and dykes, long straight roads, large straight rivers and cut-off channels.*
>
> *A largely unsettled landscape with villages and dispersed farmsteads with adjoining outbuildings.*
>
> *Isolated farmsteads are often surrounded by windbreak trees that provide points of focus in a landscape largely devoid of landmarks or strong focal points.*
>
> *A simple but strong skyline - uninterrupted and smooth, with expansive horizons giving way to huge skies.*
>
> *Posts carrying overhead wires are frequently in view.*
>
> *Pylons cross the landscape. These are conspicuous due to the lack of other vertical elements (other than large sheds) and form a strong contrast with the flat open horizontal plane.*
>
> *Drainage channels and dykes flanked with golden rushes and bright green grass banks draw the eye and contrast with the dark predominantly peaty soils.*
>
> *Views into the adjoining Fens landscape - Settled Inland Marshes - are clear; however, the distinction between the landscape types is not obvious - appearing as one continuous landscape type where settlements are not in view.*
>
> *Long straight roads cut through the landscape and are important transport routes. These and the operation of large agricultural machinery bring a constant source of movement to the landscape.*

> *However, these do not dominate the landscape; for the most part, it feels empty and peaceful.*
>
> *The landscape does not feel remote because, although largely unsettled, it is dominated by human influences including the consistent presence of artificial drainage channels, ditches and dykes.*
>
> *Visible landmarks include Denver sluice and the large silos of the Wissington sugar beet factory."*

10.3.35 The eastern part of the Eastern Cable Route and the Eastern Site fall within LCT H: Settled Farmland with Plantations. The key characteristics of LCT H from the King's Lynn and West Norfolk Borough Landscape Character Assessment are identified as:

> *"Medium to large field units interspersed by areas of woodland and belts that offer some degree of enclosure and impart a medium scale to the landscape.*
>
> *Topography gradually ascends inland and appears for the most part very flat but with localised areas of gently sloping land dropping away towards the Rivers Great Ouse and Nar.*
>
> *Arable crop production is the predominant land use and is defined by a variety of field margins. There are some small areas of pasture, but these are limited.*
>
> *Areas of mixed woodland bring textural qualities and offer semi-enclosure in the landscape. Away from the wooded areas, however, the landscape is open with distant views.*
>
> *Field margins range from ditches and dykes, hawthorn hedges, scrubby margins, and lines of poplar to areas where there are no visible boundary divisions.*
>
> *Although fields are geometric in form, due to the inconsistent nature of the field margins and the irregular location and shape of the wooded areas, the regularity of the land cover pattern is diffused.*
>
> *Scattered farm dwellings and small-scale settlements of low density are dispersed throughout this landscape, connected by rural roads.*

Characteristic building materials are buff coloured brick and clay roof tiles.

Suburban development on the edge of Downham Market (abutting the landscape's western edge) influences the character of this landscape type.

The skyline is variable - appearing inconsistent in areas of mixed woodland and scrub, regular where views can be gained of the block plantations within the adjacent landscape, and feeling uncomplicated and open across the Fens.

With the exception of views across and into the Fens, wooded horizons define much of the skyline.

Communication masts at Feltwell, Marham and Bexwell are eye-catching and influence the character of the skyline.

Marham has a very distinctive character, with communication masts at RAF Marham airfield bringing a military influence to the landscape.

Landmark features include churches, located on higher ground, windmills, such as Stoke Ferry and the British Sugar factory occurring within the adjacent Fens landscape type. There are, however, significant areas where there are no obvious landmarks or points of focus.

Slaughterhouses and charcoal industry buildings also contribute to recognisable character.

Due to the predominantly flat landform, vertical elements provide a strong contrast to the horizontal plane. In particular, lines of poplar, Scots pine and beech - marking field boundaries are eye-catching elements.

A number of main routes cross through the landscape, bringing a constant source of movement, but away from these main routes the landscape is, for the most part, still and peaceful."

10.3.36 The King's Lynn and West Norfolk Borough Landscape Character Assessment subdivides LCTs into Landscape Character Areas (LCAs), which reflect

distinctive variations in local character within each LCT. The Site extends to be within multiple LCAs:

- Walpole Substation and Western Cable Route areas of the Site fall within LCA D3: Terrington St John.
- The Western Site falls within LCA E1: Tilney All Saints.
- The western parts of the Eastern Cable Route fall within LCA E3: Wiggenhall St Mary and LCA E2: Saddlebow and Wormegay.
- The eastern part of the Eastern Cable Route falls within LCA H1: Stow Bardolph.
- The Western Site falls within LCA H2: Fincham.

10.3.37 It is noted that there are a number of different land uses within the Site, including agricultural land, woodlands as well as the Walpole NGET GSP and the Walpole Bank Solar Farm.

Visual Baseline

ZTVs

10.3.38 The ZTV for the Solar PV Panels is illustrated in **Figure 10-7a – c: Zones of Theoretical Visibility (ZTV) Plans** and has been produced to a height of 4.5m above existing ground level. The ZTV indicates that theoretical visibility of the Solar PV Panels in the Western Site (refer to **Figure 10-7b: Zones of Theoretical Visibility (ZTV) Plans**) is heavily influenced by surface screening; the topography in the Western Site is broadly flat, and therefore surface screening contributes heavily to the level of potential visibility. The ZTV for Solar PV Panels in the Western Site indicates that theoretical visibility is widely available from within 1km of the Site boundary to the north, east and south. To the west, theoretical visibility beyond the Site boundary is constrained by screening from built forms at close distance within the settlements of Tilney St Lawrence and Terrington St John. The River Great Ouse broadly forms the limit of visibility of the Solar PV Panels within the Western Site at a distance of circa 1.4km to the east (as the closest point from the Solar PV Panel Component of the Proposed Development), where the elevated river embankment interrupts further visibility. To the south, theoretical visibility extends beyond the 3km study area. However, field survey work indicated that beyond 3km, visibility would be further limited by surface screening such as boundaries, trees, hedgerows, etc. that can be missed in the DSM model.

10.3.39 For the Eastern Site, the slightly more varied landform combines with surface screening to shape theoretical visibility (refer to **Figure 10-7c: Zones of Theoretical Visibility (ZTV) Plans**). The ZTV for the Solar PV Panels indicates that the elevated landform south-east of the Site boundary restricts visibility beyond a distance of circa 2.5km. To the east, visibility is limited to patchier areas within 2km – 3km of the Site boundary. To the north of the Site boundary, theoretical visibility is indicated within the RAF Marham area, which is slightly more elevated than the majority of the Eastern Site. However, theoretical visibility elsewhere beyond the northern boundary of the Eastern Site is generally contained at close distance by topography. To the west of the Eastern Site boundary, groups and blocks of trees restrict visibility. To the east, patchy areas of theoretical visibility are potentially indicated to distances of 3km and beyond. However, it is expected that on-the-ground visibility at these distances would be limited further by distance and surface screening features that can be missed in the DSM model.

10.3.40 For the BESS Units and Substation in the Eastern Site (refer to **Figure 10-7c: Zones of Theoretical Visibility (ZTV) Plans**), the ZTV has been produced to a height of 8m above existing ground level. The ZTV indicates that visibility is generally contained to the Site itself and some targeted areas within circa 2.5km to the south, around Marham Airfield to the north-east and fields between the settlements of Shouldham and Marham to the north. This broadly reflects the surrounding landform. The BESS Unit and Substation in the Eastern Site are typically visible in conjunction with the Solar PV Panels in the Eastern Site, and rarely in isolation.

10.3.41 For the Data Centre Campus / BESS Units / Substation in the Western Site, the ZTV has been produced to a height of 25m above existing ground level (refer to **Figure 10-7d – f: Zones of Theoretical Visibility (ZTV) Plans**). Theoretical visibility is indicated to be widely available from within the 3km study area surrounding the Western Site. As distance increases, potential theoretical visibility becomes patchier, generally limited to a moderate part of this Component of Proposed Development beyond the Site boundary to the west and beyond 1km to the north. To the east, the flat landform is interrupted by the River Great Ouse embankment, which forms a limiting feature at circa 2.1km to the east of the Data Centre Campus / BESS Units / Substation in the Western Site. Theoretical visibility extends to greater distances, mostly to the south. However, in reality, visibility of structures within the Data Centre Campus / BESS Units /

Substation in the Western Site would likely be limited beyond the 3km study area as a result of distance and surface screening features that are not included in the DSM model.

10.3.42 For the Walpole Substation (refer to **Figure 10-7g: Zones of Theoretical Visibility (ZTV) Plans**), the ZTV has been produced to a height of 8m above existing ground level. The ZTV indicates that the River Nene embankment limits theoretical visibility to the west of the Site boundary. To the south of Walpole Substation, visibility is restricted to a distance of circa 2km, where settlements such as Walpole Highway and Walton Highway and vegetation along roads linking them generally limit views. Given the low level of the Walpole Bank Solar Farm, this is not considered to restrict visibility to the west. Theoretical visibility is indicated to be potentially available at greater distances to the west and east. However, it is expected that the on-the-ground visibility at these distances would be restricted further by surface screening features that can be missed in the DSM model. A separate figure showing the ZTV for Walpole Substation in the Eastern Extents of the Site has not been prepared as the theoretical visibility is contained to the west of the Western Site (refer to **Figure 10-7g: Zone of Theoretical Visibility (ZTV) Plans**).

10.3.43 For the overhead lines, three ZTVs have been prepared: one for the Western Cable Route; one for the Eastern Cable Route; and one that combines the Cable Routes. The ZTVs have been calculated to the top of pylon towers, with the Western Cable Route assumed at 50m as a worst-case (refer to **Figure 10-7h: Zone of Theoretical Visibility (ZTV) Plans**) and the Eastern Cable Route assumed at 35m (refer to **Figure 10-7i: Zones of Theoretical Visibility (ZTV) Plans**). The combined ZTV is shown in **Figure 10-7j: Zones of Theoretical Visibility (ZTV) Plans**. The ZTVs indicate that theoretical visibility is widely available across a broad geographical area in the west and central parts of the 3km study area, with the eastern part largely outside of theoretical visibility of the overhead lines. Scattered areas in the western part of the study area are also outside theoretical visibility where screening features, such as embankments and buildings, restrict visibility. Whilst the ZTVs are included to establish the maximum area from which the infrastructure could potentially be seen, the visual presence of the overhead lines would be generally less dominant than suggested by the ZTVs. Although pylon towers to a height of 50m and 35m are indicated to be theoretically visible by the ZTV models, the degree to which observers in the landscape would perceive this is expected to be greatly limited by the nature of

the structures, which are visually permeable. The ZTVs therefore represent only the potential for visibility and do not reflect the apparent scale or perceptibility of the structures. As distance increases, the pylons would typically be perceived as fine vertical elements against the skyline or landform, and although they are indicated to be theoretically visible, they would likely have a relatively limited influence on views. It is also noted that there are existing overhead lines in proximity.

10.3.44 Existing overhead electricity infrastructure is also present within the surrounding landscape and forms part of the existing visual baseline. Where relevant to individual viewpoints and visual receptors, the influence of this infrastructure on the existing character and composition of views will be described as part of the LVIA. The assessment will consider the visual change arising from the Proposed Development.

10.3.45 As the design of the Proposed Development progresses, the extent of development and / or the height of the proposals is expected to reduce. No additional areas of development or increases in the height parameters used for the current ZTVs are anticipated. All ZTVs will be re-run to reflect the final design and inform the LVIA.

Viewpoint Study

10.3.46 A photographic survey will be undertaken to identify the potential extent of the visibility of the Proposed Development by locating viewpoints available to sensitive visual receptors. To inform the viewpoint selection, a visual study area from the Site boundary was mapped, showing the surrounding landscape designations, public access, landscape character, and the predicted ZTV for each Component of the Proposed Development. An initial site visit was undertaken in February 2026, with further survey work undertaken in September 2026. Potentially sensitive visual receptors within the visual study area include residents, users of PRoW, users of the Long Distance footpaths (LDFP) and road users.

10.3.47 Based on the collated data, initial representative viewpoint locations have been selected that relate to the ‘receptors’, that is, residents and users of the landscape, and locations from which they may have views towards or of the Site.

10.3.48 For each of the viewpoints, the precise location was chosen during the field studies, where local features such as vegetation, buildings or localised topographic variation were taken into account. From some locations, the ground

level of the Site may not be visible. However, due to the height of some elements of the Proposed Development, which may be taller than surrounding features, viewpoint locations include areas where the Proposed Development may potentially be viewed above existing features.

10.3.49 A total of 40 views have been photographed to illustrate the Proposed Development and its appearance from publicly accessible locations. The locations of the initial viewpoints are shown on **Figure 10-7a – j: Zones of Theoretical Visibility (ZTV) Plans**. **Table 10-1** lists the viewpoint, the location details, receptors represented and the reasons for selection.

Table 10-1: Viewpoint details

Viewpoint ref.	Location	Distance and direction to Site	Receptors and reasons for selection
01	Gunthorpe Road and Nene Way	1.1km south-west	• Road users. • Walkers along Nene Outfall Cut with potential views of Walpole Substation and overhead line connection infrastructure.
02	Walpole Drove North	120m north	• Road users, nearby residents. • Potential views of Walpole Substation and Western Cable Route. Represents several receptors, including sensitive nearby residents.
03	Walpole Drove North	635m south	• Road users, nearby residents. • Potential views of Western Cable Route. Represents several receptors, including sensitive nearby residents.
04	Wiggenhall Road	0m	• Road users, nearby residents. • View of Proposed Development in Western Site.

Viewpoint ref.	Location	Distance and direction to Site	Receptors and reasons for selection
05	Waterlow Road, north of Terrington St John	775m south	• Road users. • Potential views of Western Cable Route and Western Site
06	New Road, south of Tilney High End	18m north	• Road users, nearby residents. • Potential views of Western Cable Route and Western Site. Nearby Listed Building. Represents several receptors, including sensitive nearby residents.
07	Lynn Road, Tilney High End	610m north	• Road users, nearby residents. • Potential views of Western Site and Western Cable Route. Represents several receptors, including sensitive nearby residents.
08	Islington Road bridge over A47, south of Tilney High End	330m north	• Road users. • Potential views of Western Site.
09	Footpath south of Islington Hall and Church of St Mary, east of Tilney High End	520m north	• Users of PRoW • Potential views of Western Site. Nearby listed buildings
10	Footpath at north-east boundary of Western Site	0m	• Users of PRoW • Views of Proposed Development in Western Site.
11	Public access route inside the site	0m	• Users of PRoW. • Views of Proposed Development in Western Site. 360-degree view to be taken.

Viewpoint ref.	Location	Distance and direction to Site	Receptors and reasons for selection
12	Footpath near east boundary of Western Site	155m south	• Users of PRoW • Views of Proposed Development in Western Site. Represents several receptors, including sensitive nearby residents. To assist with sequential assessment.
13	Footpath near east boundary of Western Site	128m south	• Users of PRoW. • Near views of Proposed Development in Western Site and potential views of Eastern Cable Route. To assist with sequential assessment.
14	Footpath inside the south part of Western Site	0m	• Users of PRoW. • Views of Proposed Development in Western Site. 360-degree view to be taken. To assist with sequential assessment.
15	Footpath inside the west part of Western Site	0m	• Users of PRoW. • Views of Proposed Development in Western Site. 360-degree view to be taken. To assist with sequential assessment.
16	Church Road, Tilney St Lawrence	4m north	• Road users, nearby residents. • Views of Proposed Development in Western Site. Represents several receptors, including sensitive nearby residents. To assist with sequential assessment.
17	Magdalen Road, east of Tilney St Lawrence	5m south	• Road users, nearby residents. • Views of Proposed Development in Western

Viewpoint ref.	Location	Distance and direction to Site	Receptors and reasons for selection
			Site. 360-degree view to be taken.
18	Magdalen Road, Tilney St Lawrence	5m south	• Road users, nearby residents. • Near views of Proposed Development in Western Site.
19	National Cycle Route, Gravel Bank ditch, south of the Western Site	580m south	• Users of NCR. • Potential views of Proposed Development in Western Site and Eastern Cable Route.
20	Footpath, Middle Level Main Drain south of the Western Site	1.8km south	• Users of PRoW. • Potential views of Proposed Development in Western Site and Eastern Cable Route.
21	Fen Rivers Way, north of Wiggenhall St Germans	0m	• Users of LDFP. • Views of Western Site and Eastern Cable Route. To assist with sequential assessment.
22	Fen Rivers Way, south of Wiggenhall St Germans	1.45km east	• Users of LDFP. • Potential views of Proposed Development in Western Site and Eastern Cable Route. To assist with sequential assessment.
23	Fen Rivers Way, north of Wiggenhall St Mary Magdalen	960m south	• Users of LDFP. • Potential views of Proposed Development in Western Site and Eastern Cable Route. To assist with sequential assessment.
24	Watlington Road, Tottenhill Row	585m south	• Road users, recreational users.

Viewpoint ref.	Location	Distance and direction to Site	Receptors and reasons for selection
			• Potential views of Eastern Cable Route. Nearby conservation area and CWS.
25	The Avenue, Tilney-Cum-Islington	670m south	• Road users, walkers, nearby residents. • Potential views of Eastern Cable Route. Represents several receptors, including sensitive nearby residents.
26	Lynn Road, west of Fincham	5m east	• Road users, users of PRoW. • Views of Proposed Development in Eastern Site. 360- degree view to be taken. Nearby Conservation Area.
27	Gallow Lane, north boundary of Eastern Site	5m north	• Road users, nearby residents. • Views of Proposed Development in Eastern Site.
28	Footpath, south boundary of Eastern Site	350m south	• Users of PRoW. • Potential views of Proposed Development in Eastern Site.
29	Swaffham Road, north boundary of Eastern Site	5m north	• Road users. • Views of Proposed Development in Eastern Site.
30	Fincham Road, north of Barton Bendish	196m south	• Road users. • Potential views of Eastern Site. 360-degree view to be taken.
31	Footpath west of Barton Bendish	540m east	• Users of PRoW. • Potential views of Proposed Development in

Viewpoint ref.	Location	Distance and direction to Site	Receptors and reasons for selection
			Eastern Site. 360-degree view to be taken. Nearby Listed Building.
32	Mill Hill Road, north of Boughton	2km to the south	• Users of PRoW. • Potential views of Proposed Development in Eastern Site. Represents several receptors, including sensitive nearby residents. Nearby Conservation Area.
33	Footpath, Gibbet Lane, west of Boughton	2.2km to the southwest	• Users of PRoW. • Potential views of Proposed Development in Eastern Site.
34	Footpath, inside the south part of Eastern Site	0m	• Users of PRoW. • Views of Proposed Development in Eastern Site.
35	Footpath north-east of the Eastern Site	500m to the north	• Users of PRoW. • Potential views of the Proposed Development in Eastern Site.
36	Footpath east of the Eastern Site	405m east	• Users of PRoW. • Potential views of the Eastern Site.
37	Norwich Road, Shouldham	1km south	• Nearby residents. • Road users. • Potential views of the Proposed Development in Eastern Site. • Nearby Conservation Area.
38	Gallow Lane	200m south	• Road users. • Proposed Development in Eastern Site, including BESS Units and Substation.

Viewpoint ref.	Location	Distance and direction to Site	Receptors and reasons for selection
39	Eastmoor Road	0m	• Nearby residents. • Road users. • Proposed Development in the Eastern Site.
40	Footpath within the Eastern Site off Churchfarm Walk	0m	• Nearby residents. • Walkers. • Road users.

10.3.50 The initial viewpoint locations will be discussed and agreed with KL&NWBC, and any additional photography that is required will be undertaken. The initial viewpoint selection is also subject to any changes to the design of the Proposed Development, particularly regarding the proposed overhead lines that may be made prior to the submission of the DCO Application.

10.4 Mitigation Measures Identified to Date

10.4.1 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the initial description of the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Construction

10.4.2 Measures during construction for landscape and visual effects include:

- Using existing access routes, where practicable, to avoid unnecessary removal of vegetation.
- Protective measures such as retaining existing vegetation, including Root Protection Areas (RPAs). Appropriate buffers will also be incorporated in relation to watercourses, drainage ditches and ancient woodland.
- Restrict compounds and material storage to designated working areas, positioned with consideration for visual prominence and existing landscape features.
- Temporary screening or hoarding around compounds and storage areas.
- Measures to maintain access to the PRoW network within the Site, including protection and provision of any necessary diversions.

10.4.3 These measures would be delivered by the following management plan:

- oCEMP.

Operation and Maintenance

10.4.4 Measures during the operation and maintenance phase for landscape and visual effects include:

- Design of the layout and siting of the Solar PV Panels, Substations, Data Centre Campus, BESS Units and overhead lines to avoid key sensitive landscape and visual receptors and / or reduce visual prominence, where possible.
- Undergrounding of connection infrastructure in strategic locations to avoid key sensitive landscape, visual and heritage receptors and / or reduce visual prominence, in particular in locations where there is limited existing overhead infrastructure.
- Retention of existing hedgerows, trees and field boundaries, including appropriate buffers where practicable. If removal of hedgerows is required for the Cable Routes, these will be translocated or replanted post-construction where possible.
- Provision of new planting and grassland seeding, strengthening of existing vegetation through supplementary planting and / or management of existing retained vegetation to contribute to visual screening and / or landscape structure and enhancement.

10.4.5 Mitigation measures to avoid or reduce adverse landscape and visual effects during the operation and maintenance phases would be embedded into the Design Principles or Works Plans for the Proposed Development (i.e. primary mitigation) or these measures would be delivered by the following management plans:

- oOEMP.
- oLEMP.

Decommissioning

10.4.6 Mitigation measures to avoid or reduce adverse landscape and visual effects during the decommissioning phase would be similar to those identified for construction.

10.4.7 These measures would be delivered by the following management plan:

- oDEMP.

10.5 Proposed Scope of Assessment

10.5.1 The proposed scope of assessment is based on an understanding of the characteristics of the Site and technical study areas and the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Potential Likely Environmental Effects which are Not Significant

10.5.2 Where an environmental effect is unlikely to be significant based on baseline data, mitigation identified to date and / or initial analysis and evaluation, this will not be considered further within the EIA nor reported on in the ES. An evidence base is provided to justify the 'scoping out' of these effects below.

All Phases

Night-time Effects for Users of ProWs and Local Roads

10.5.3 Night-time visual effects will be considered where the Proposed Development has the potential to introduce perceptible lighting into views experienced by visual receptors. The assessment will have regard to the location, nature and duration of proposed operational and, where relevant, construction / decommssioning lighting and the potential for this to be experienced by users of PRoWs and local roads during hours of darkness. Where no realistic pathway for likely significant effects is identified, receptors or effects will be scoped out with appropriate justification.

Construction Phase

Landscape and Visual Effects Beyond the 3km Study Area

10.5.4 Construction phase landscape and visual effects beyond a distance of 3km from the Site boundary are scoped out because of distance and visual separation.

10.5.5 Therefore, landscape and visual effects beyond 3km during the construction phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Changes to the Special Qualities of Statutory Designations

10.5.6 Construction phase landscape and visual effects on statutory designations are scoped out. The Norfolk Coast National Landscape lies circa 10km from the Site boundary at its closest point and is 'scoped out' of further consideration because of intervening distance and visual separation.

10.5.7 Therefore, changes to the special qualities of statutory designations during the construction phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Effects on Regional Landscape Character Types

10.5.8 Construction phase landscape and visual effects on Regional Landscape Types (from the East of England Landscape Framework) are 'scoped out'. National LCAs and local LCTs are considered appropriate scale units and level of detail for landscape and visual assessment during the construction phase.

10.5.9 Therefore, landscape and visual effects on Regional Landscape Types during the construction phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Operation and Maintenance Phase

Landscape and Visual Effects Beyond 3km Study Area

10.5.10 Operation and maintenance phase landscape and visual effects beyond a distance of 3km from the Site boundary are scoped out because of distance and visual separation.

10.5.11 Therefore, landscape and visual effects beyond 3km during the operation and maintenance phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Changes to Special Qualities of Statutory Designations

10.5.12 Operation and maintenance phase landscape and visual effects on statutory designations are 'scoped out' because of distance and visual separation.

10.5.13 Therefore, changes to special qualities of statutory designations during the operation and maintenance phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Effects on Regional Landscape Character Types

10.5.14 Operation and maintenance phase landscape and visual effects on Regional Landscape Types (from the East of England Landscape Framework) are 'scoped out'. National LCAs and local LCTs are considered appropriate scale units and level of detail for landscape and visual assessment.

10.5.15 Therefore, landscape and visual effects on Regional Landscape Types during the operation and maintenance phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Decommissioning Phase

Landscape and Visual Effects Beyond 3km Study Area

10.5.16 Decommissioning phase landscape and visual effects beyond a distance of 3km from the Site boundary are scoped out because of distance and visual separation.

10.5.17 Therefore, landscape and visual effects beyond 3km during the decommissioning phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Changes to Special Qualities Statutory Designations

10.5.18 Decommissioning phase landscape and visual effects on statutory designations are 'scoped out' because of distance and visual separation.

10.5.19 Therefore, changes to special qualities of statutory designations during the decommissioning phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Effects on Regional Landscape Character Types

10.5.20 Decommissioning phase landscape and visual effects on Regional Landscape Types (from the East of England Landscape Framework) are 'scoped out'. National LCAs and local LCTs are considered appropriate scale units and level of detail for landscape and visual assessment.

10.5.21 Therefore, landscape and visual effects on Regional Landscape Types during the decommissioning phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Potential Likely Significant Environmental Effects

10.5.22 Where potential likely significant effects have been identified at this stage and are proposed to be 'scoped in', these are set out in **Table 10-2**. These environmental effects will be assessed within the EIA and reported on in the ES.

Table 10-2: Potential likely significant environmental effects 'scoped in'

Potential likely significant effect	Receptor(s)	Phase(s)
Landscape effects on NCAs (landscape effects on the elements, features or aesthetic and perceptual aspects that contribute to the character and	NCA 46 The Fens; NCA 76 North West Norfolk; NCA 85 The Brecks	Construction, operation and maintenance and decommissioning

Potential likely significant effect	Receptor(s)	Phase(s)
distinctiveness of the NCAs within 3km study area)		
Landscape effects on local LCTs (landscape effects on the elements, features or aesthetic and perceptual aspects that contribute to the character and distinctiveness of the LCTs within 3km study area)	LCTs within 3km, based on the LCTs within the King's Lynn and West Norfolk Borough Landscape Character Assessment and the Breckland District Landscape Character Assessment	Construction, operation and maintenance and decommissioning
Landscape effects on site-specific landscape features / elements / characteristics identified as important or 'key' to the landscape character of the Site (site-specific landscape effects on the elements, features or aesthetic and perceptual aspects that contribute to the character and distinctiveness of the Site)	Site-specific landscape receptors	Construction, operation and maintenance and decommissioning
Visual effects (on residents, users of PRoW, users of NCRs, LDFPs and local road users at publicly accessible locations within 3km study area)	Representative viewpoint study from publicly accessible locations	Construction, operation and maintenance and decommissioning
Residential Visual Amenity (visual effects on people at their homes)	Scope of future Residential Visual Amenity Assessment to be determined but to apply to the overhead lines within the Cable Routes. Scoped in at this stage as there are properties within proximity of the Proposed Development. Receptors to be determined as the Proposed Development progresses.	Construction, operation and maintenance and decommissioning

10.5.23 The potential for cumulative effects arising from the potential likely significant environmental effects identified in **Table 10-2**, both in terms of inter-project and intra-project effects, will be considered within the ES. The approach to the

cumulative effects assessment in the ES is set out in **Chapter 18: Cumulative Effects Assessment Methodology**. This will use a 7km study area and consider the same landscape receptors and visual receptors as noted in **Table 10-2**.

10.6 Proposed Approach to Detailed Assessment in the ES

Further Baseline Data Collection

10.6.1 The following further baseline data collection activities will be undertaken.

Further baseline desktop studies

Refined ZTV mapping

10.6.2 Further, refined ZTV mapping will be prepared as the Proposed Development progresses, using more detailed project information as it becomes available.

Residential Visual Amenity Assessment

10.6.3 The scope of any Residential Visual Amenity Assessment to be undertaken will be determined as the Proposed Development progresses, using more detailed development design information as it becomes available and informed by the Scoping Opinion and responses to the Scoping Report.

Detailed Assessment Methodology

10.6.4 The methodology used in this assessment will be based upon the recommendations in GLVIA3, alongside the Landscape Institute Technical Guidance Note 2024-01 Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA3), published August 2024, and other relevant guidance (refer to **Section 10.2**).

10.6.5 The detailed technical assessment will provide a qualitative assessment, supported by quantitative information where appropriate. This is in accordance with GLVIA3, which acknowledges professional judgement in LVIA.

10.6.6 The approach for the detailed assessment of the potential likely significant landscape and visual effects will involve the following:

- An understanding of the characteristics of the Proposed Development which are potential sources of effects on landscape character and visual amenity.
- An understanding of the Proposed Development in terms of its main aspects which could potentially affect landscape and / or visual amenity and features that will help to mitigate adverse landscape and visual effects (including, where relevant, mitigation identified for other technical aspects, such as

screening and barriers around construction working areas and stockpiles and attenuators and screening for operational plant).

- Identification of the effects on the landscape of the Site and its surrounding context due to the Proposed Development.
- Identification of effects on visual amenity, arising from changes in the views for people in the surrounding area due to the Proposed Development.
- Identification and description of any primary, secondary or tertiary mitigation measures.
- A conclusion, summarising the residual effects of the Proposed Development remaining after the application of mitigation.
- Identification of cumulative effects of the Proposed Development on landscape character and visual amenity, in respect of additive effects, sequential effects and temporal effects.

Assessment Scenarios

10.6.7 The detailed technical assessment will consider the following scenarios:

- Construction phase, including enabling works, site preparation, earthworks, remedial works and construction activities.
- Operation and maintenance phases, once the Proposed Development is completed and operational, including maintenance activities. Assessment scenarios will be:
  - Operation at year 1 – the fully constructed and operational Proposed Development. Although any mitigation planting would be implemented during the construction phase, operational effects at year 1 assume that it would not yet be fully functioning or established.
  - Operation at year 15 – the operational Proposed Development with established and maturing proposed mitigation planting
- Decommissioning phase and permanent development, including activities associated with dismantling of the relevant Components of the Proposed Development at the end of their lifespan (refer to **Chapter 4: Initial Description of the Proposed Development**), during which time effects are expected to be similar to the construction phase but in reverse and without piling works. This also includes permanent effects once decommissioning is complete and the Components which are assumed to be permanent development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Photography

10.6.8 Photographs have a special role in describing landscape character and illustrating key views. For photographs to be representative and to create an image that is as similar as possible to that which is seen with the human eye, the Landscape Institute (LI) advises using a lens with a focal length equivalent to 50mm for a 35mm Single Lens Reflex (SLR) camera, and a horizontal field of view of a little under 40 degrees. The equipment used for the appraisal photography will include:

- A Canon EOS 5D Mark IV digital SLR camera with a full-frame sensor.
- Canon 50mm EF 1:1.8 II lens.
- Manfrotto tripod and panoramic head.
- Photographs will be taken with a focal length of 50mm.

10.6.9 Landscape photography includes wide-angle or panoramic views requiring a sequence of photographs to be taken across the view. Where this approach is taken, a series of overlapping photographs is digitally spliced together in PTGui using a cylindrical projection to provide a panorama approximating the normal field of view in a landscape context. Where necessary, the contrast and brightness of individual photographs are slightly manipulated in order to create a consistent panorama without visible joins.

10.6.10 The viewpoint locations will be established using a camera-mounted Global Positioning System (GPS) device and verified against Ordnance Survey grid reference and height mAOD.

Visualisations

10.6.11 Whilst visualisations can never show exactly what the Proposed Development will look like in reality due to factors such as different lighting, weather and seasonal conditions which vary through time and the resolution of the image, the visualisation images to be provided will give a reasonable impression of the scale of the Proposed Development and distance. A static image cannot convey potential movement relating to the solar array or glint and glare from the sun. To form the best impression of the impacts of the Proposed Development, visualisations are best viewed at the viewpoint location shown.

10.6.12 Some viewpoints will be selected to illustrate the scale and massing of the Proposed Development as a Type 3 wireline visualisation. The selected viewpoints will represent where the Proposed Development would be most visible from the surrounding landscape and to represent various visual receptors and

compass points. The locations of the viewpoints selected for visualisation are to be agreed with stakeholders through engagement and the formal Scoping process.

10.6.13 For each viewpoint, the camera will be mounted on a tripod, and 360° photographs will be taken. The viewpoint locations will be recorded using a camera GPS receiver. The GPS readings will be plotted in GIS and fine-tuned with reference to aerial photography and LiDAR data to match each photograph location accurately. A 3D model of the Proposed Development will be created in AutoCAD / Revit / 3ds Max based on the Proposed Development. The viewpoint locations will be set up in this model and wireline views will be generated for each selected viewpoint. Each existing view and Type 3 visualisation view is presented in a cylindrical projection with a horizontal field of view of 90° to show the Proposed Development in its context, with the images presented with regard to Landscape Institute guidance.

Reporting Effects and Significance

10.6.14 The assessment of likely significant effects within the ES will consider the sensitivity of the receptor and the magnitude of change to determine the level of effect on a scale of major, moderate, minor and negligible based on the matrix in **Chapter 2: EIA Methodology**. Whether the effect is Significant or Not Significant will be determined following this, using professional judgement alongside the application of relevant legislation, policy and guidance.

10.7 Assumptions, Limitations and Uncertainties

10.7.1 The assumptions, limitations and uncertainties that have been identified to date are set out in **Table 10-3**.

Table 10-3: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• Viewpoint photography will be from publicly accessible locations only, selected as representative locations. • Predictions regarding establishment of landscape mitigation will assume worst-case growth rates, noting that growth rates vary based on species; specifications of planting, for example whether planted as transplants or semi-mature; soils; weather conditions; and maintenance, etc. Further details on the assumed growth rates will be provided in the ES. • Photomontages and visualisations will be prepared with reference to recognised guidance (e.g. Landscape Institute Technical Guidance Note 06/19 Visual Representation of Development Proposals), provided to give a reasonable impression of the scale of the Proposed Development, at distance. Visualisations can never show exactly what the Proposed Development will look like in reality due to factors such as lighting, weather and seasonal conditions which vary through time and the resolution of the image. • Tracking solar panels are anticipated to be used in some locations and therefore their orientation will vary throughout the day. However, these movements are slow and limited in extent and are not considered to alter the landscape and visual effects.

10.8 Summary

10.8.1 A summary of the potential effects 'scoped in' and 'scoped out' for landscape character and visual amenity is provided in **Table 10-4**.

Table 10-4: Summary of potential effects 'scoped in' and 'scoped out' for landscape character and visual amenity

Potential effect	Phase
'Scoped Out'	
Night-time effects on users of PRoW and local road users	Construction, operation and maintenance and decommissioning
Landscape and visual effects beyond 3km study area	Construction, operation and maintenance and decommissioning
Changes to special qualities of statutory designations	Construction, operation and maintenance and decommissioning
Effects on Regional Landscape Character Types	Construction, operation and maintenance and decommissioning
'Scoped In'	

Potential effect	Phase
Landscape effects on NCAs (landscape effects on the elements, features or aesthetic and perceptual aspects that contribute to the character and distinctiveness of the NCAs within 3km study area)	Construction, operation and maintenance and decommissioning
Landscape effects on local LCTs (landscape effects on the elements, features or aesthetic and perceptual aspects that contribute to the character and distinctiveness of the LCTs within 3km study area)	Construction, operation and maintenance and decommissioning
Landscape effects on site-specific landscape features / elements / characteristics identified as important or 'key' to the landscape character of the Site (site-specific landscape effects on the elements, features or aesthetic and perceptual aspects that contribute to the character and distinctiveness of the Site)	Construction, operation and maintenance and decommissioning
Visual effects (on residents, users of PRoW, users of NCRs, LDFPs and local road users at publicly accessible locations within 3km study area)	Construction, operation and maintenance and decommissioning
Residential Visual Amenity (visual effects on people at their homes)	Construction, operation and maintenance and decommissioning

11 Built Heritage

11.1 Introduction

11.1.1 This Scoping Chapter presents the scope and methodology for the assessment of environmental effects (in terms of direct (physical), indirect (setting)) on built heritage. This Scoping Chapter has been informed by relevant legislation, policy and guidance, baseline conditions and mitigation measures identified to date.

11.1.2 This Scoping Chapter should be read in conjunction with the initial description of the Proposed Development presented in **Chapter 4**: **Initial Description of the Proposed Development**.

11.1.3 This Scoping Chapter refers specifically to built heritage. Direct (physical) effects upon buried archaeological remains are considered and addressed separately, in **Chapter 12: Buried Heritage**.

11.1.4 This Scoping Chapter is supported by the following figures:

- **Figure 11-1: 3km study area – Grade I, Grade II* Listed Buildings and Scheduled Monuments (Western Extents of the Site)**.
- **Figure 11-2: 3km study area – Grade I, Grade II* Listed Buildings and Scheduled Monuments (Eastern Extents of the Site)**.
- **Figure 11-3: 2km study area – Grade I, Grade II*, Grade II Listed Buildings, Scheduled Monuments, Registered Parks and Gardens and Conservation Areas (Western Extents of the Site).**
- **Figure 11-4: 2km study area – Grade I, Grade II*, Grade II Listed Buildings, Scheduled Monuments, Registered Parks and Gardens and Conservation Areas (Eastern Extents of the Site)**.
- **Figure 11-5: 3km study area – Grade I, Grade II* Listed Buildings and Scheduled Monuments, with ZTV of Data Centre Campus, BESS Units and Substation and Solar Panels (Western Extents of the Site)**.
- **Figure 11-6: 3km study area – Grade I, Grade II* Listed Buildings and Scheduled Monuments, with ZTV of Data Centre Campus, BESS Units and Substation and Solar Panels (Eastern Extents of the Site)**.
- **Figure 11-7: 3km study area – Grade I, Grade II* Listed Buildings and Scheduled Monuments with ZTV of Overhead Lines (Western Extents of the Site)**.

- **Figure 11-8: 3km study area – Grade I, Grade II* Listed Buildings and Scheduled Monuments with ZTV of Overhead Lines (Eastern Extents of the Site)**.

11.2 Summary of Relevant Legislation, Policy and Guidance

11.2.1 A list of legislation, policy and guidance relating to built heritage relevant to the Proposed Development is as follows:

Legislation

- Planning (Listed Buildings and Conservation Areas) Act 1990[134].
- Ancient Monuments and Archaeological Areas Act 1979[135].
- Infrastructure Planning (Decisions) Regulations 2010[136].

Policy

- NPS EN-1.
- NPS EN-3.
- NPS EN-5.
- NPPF.
- King's Lynn and West Norfolk Local Plan (2025).

Guidance

- NPPG: Historic Environment[137].
- Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment (2015) [138].
- Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (2nd Edition) (2017) ('GPA 3')[139].
- Historic England Advice Note 12: Statements of Heritage Significance (2019)[140].
- Historic England Delivering Clean Power: Commercial Renewable Energy Development and the Historic Environment: Historic England Advice Note 15 (2nd Edition) (2021)[141].
- ISEP (formerly IEMA), Institute of Historic Building Conservation (IHBC) and Chartered Institute for Archaeologists (CIfA) Principles of Cultural Heritage Assessment (2021)[142].
- KL&WNBC Guidance on Heritage Statements (2019)[143].

11.3 Engagement to Date

11.3.1 The engagement undertaken to date is summarised in **Table 11-1**.

Table 11-1: Summary of engagement undertaken to date

Stakeholder	Date and type of engagement	Summary of key comments
Historic England	4th June 2026 Meeting via MS Teams, attended by the Inspector of Historic Buildings and Areas: East Region and Inspector of Ancient Monuments	The following were agreed to be acceptable: • The overarching assessment methodology. • The baseline survey scoping approach, including: • The 'scoping out' of specific building typologies including war memorials; headstones / tombstones; monuments; telephone kiosks and milestones.
KL&WNBC	Email correspondence 8th October 2026	The Applicant has initiated engagement with KL&WNBC and submitted an interim scoping methodology document to the Conservation Officer for review. No comments or further engagement have been received in relation to that document.

11.4 Baseline Conditions

11.4.1 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and provides an overview of the relevant baseline conditions for built heritage.

Baseline Data Collection Activities to Date

Study Areas

11.4.2 Study areas have been used to help inform an understanding of the built heritage baseline conditions, and identify those heritage assets, if any, that may be susceptible to impact as a result of the Proposed Development, including as a result of change to setting.

11.4.3 The study areas include:

- A 3km study area, as measured from the Site boundary, for designated heritage assets of the highest significance (Scheduled Monuments, Grade I and Grade II* Listed Buildings and Grade I and Grade II* Registered Parks and Gardens).
- A 2km study area, as measured from the Site boundary, for all other designated heritage assets, of less than the highest significance (including Grade II Listed Buildings and Grade II Registered Parks and Gardens), and non-designated heritage assets.

11.4.4 This approach is consistent with that proposed by NGET, and agreed with PINS, in relation to National Grid's 180km Norwich to Tilbury High Voltage overhead line project (PINS reference: EN0200027) and provides a relevant precedent to the proportionate scoping of indirect (setting) impacts on heritage assets for similar infrastructure in this region.

Zones of Theoretical Visibility (ZTVs)

11.4.5 ZTVs have also been prepared and used to help inform an understanding of the potential intervisibility of the Proposed Development and surrounding heritage assets and to identify those assets that may realistically be susceptible to impact.

11.4.6 The ZTVs have been informed by the following infrastructure heights:

- Walpole Substation: 8m height.
- Solar PV Panels and associated infrastructure (Main Sites): max. 4.5m height.
- BESS Units and Substation (Eastern Site): 8m height.
- Data Centre Campus / BESS Units / Substation (Western Site): 25m height.
- Western Cable Route Overhead Lines: 50m height.
- Eastern Cable Route Overhead Lines: 35m height.

Desk Study

11.4.7 A desk-study has also been undertaken, drawing upon the following sources:

- National Heritage List for England (NHLE)[144].
- Norfolk Historic Environment Record (HER).
- National Library for Scotland online historic mapping[145].
- Genealogist census and tithe mapping[146].
- British History online[147].
- Historic England Places Archive[148].
- The Buildings of England, Norfolk 2: North-west and South by Nikolaus Pevsner[149].

Baseline Conditions

Overview

11.4.8 King's Lynn and the surrounding areas comprise contrasting but historically interconnected parts of Norfolk. Its location on the River Great Ouse facilitated its development as one of the most important ports and commercial centres in East Anglia. The associated prosperity and wealth of King's Lynn is reflected in the survival of a substantial historic element within the present-day townscape.

11.4.9 The villages south of King's Lynn form part of the distinctive marshland and fen-edge settlement pattern, wherein settlement and agriculture have been largely defined by the configuration of the historic waterways. The characteristic flat topography of the area encouraged settlement to concentrate on slightly higher ground, former roddens and areas of reclaimed land. Medieval reclamation from the 13th century onwards enabled extensive areas of marsh to be brought into agricultural use, establishing the broad pattern of villages, roads, drainage ditches, and agricultural holdings that remain evident today.

11.4.10 Many of the surrounding historic villages developed as separate rural settlements rather than as extensions of King's Lynn. They are generally focused on parish churches, village greens, high streets and tracts of former common land. The principal building stock comprises vernacular and traditional brick and flint buildings, farmhouses and agricultural structures.

11.4.11 Later development, particularly in the 19th and 20th centuries, has primarily rationalised and extended along the principal roads and streets, creating areas of linear 'ribbon' development, interspersed with more nucleated historic villages and surrounding agrarian landscape.

11.4.12 Overall, while King's Lynn developed as a strategically important inland river port and market town, occupying an important position on the River Ouse, the surrounding areas are characterised more by an interplay of settlement, heath, woodland, farmland, and large-scale drainage systems.

Designated Heritage Assets

11.4.13 There are no designated heritage assets within the Site.

11.4.14 Within 3km of the Site, there are 65 designated heritage assets of *the highest significance*, comprising:

- 21 Scheduled Monuments.

- 22 Grade I Listed Buildings.
- 22 Grade II* Listed Buildings.

11.4.15 Within 2km of the Site, there are 157 designated heritage assets of *less than the highest significance* comprising:

- 147 Grade II Listed Buildings.
- Two Grade II Registered Parks and Gardens.
- Eight Conservation Areas.

11.4.16 There are no World Heritage Sites Grade I or II* Registered Parks and Gardens, or Registered Battlefields within 3km of the Site.

Designated Heritage Asset of the Highest Significance

Scheduled Monuments

11.4.17 The 21 scheduled monuments within the 3km study area comprise:

- Faulkner House (1493528).
- Moated site and medieval field system in Church Field, 60m north of St John's Church (1009984).
- Moated site and formal garden remains at Aylmer Hall (1009985).
- Medieval settlement remains north of Kenwick Farm house (1009986).
- Moat at the Old Rectory (1464092).
- Moated site of Wormegay Priory, fishponds and associated enclosures (1009987).
- Motte and bailey castle in Wormegay village (1018651).
- Village Cross, 30m south of Cross Hill Farm (1018107).
- Shouldham Priory with associated water management features, a section of a Roman road and a Bronze Age urnfield (1010572).
- Medieval settlement remains immediately west of All Saints' Church (1020446).
- Moated site in Hill and Holes Plantation, 30m north west of Home Farm (1009983).
- Marham Abbey (1016482).
- Hangour Hill (1003160).
- Devil's Dyke, Beachamwell and Barton Bendish. Section 1km in length West of Smeeth Wood (1003973).
- Remains of Barton Bendish medieval settlement immediately west of Abbey Farm (1018650).
- Moated site 160m north east of Avenue Farm (1018649).

- Wayside Cross 550m north east of St Mary's Church (1016696).
- Village cross 50m east of St Mary's Church (1016695).
- Site of St Mary's Church, Caldecote (1004034).
- Remains of monastic grange with moated site at Grange Farm (1020445).
- Bowl barrow known as The Mound, 700m north east of Stradsett Hall (1010571).

Grade I Listed Buildings

11.4.18 The 22 Grade I Listed Buildings in the 3km study area are:

- Church of St Andrew (1264158).
- Church of St Peter (1264167).
- Church of St John (1264266).
- Church of All Saints (1264202).
- Church of St Mary the Virgin (1342293).
- Church of St Germans (1077892).
- Church of SS Peter and Paul (1077890).
- Church of St Mary Magdalen (1077896).
- Church of St Botolph (1077838).
- Church of All Saints (1152173).
- Church of St Martin (1077822).
- Church of Holy Trinity (1077832).
- Church of St Andrew (1077860).
- Church of St Mary (1077859).
- Church of St Mary (1077301).
- Church of St Botolph (1077303).
- Church of St George (1342562).
- Church of St John the Evangelist (1169766).
- Oxburgh Hall (1342586).
- Church of St Mary (1077676).
- Bell Tower of Church of St Mary (1171875).
- Watlington Hall (1342286).

Grade II* Listed Buildings

11.4.19 The 22 Grade II* Listed Buildings in the 3km study area are:

- Old Manor Farmhouse (1237330).
- Church of St Lawrence (1237259).
- Lovells Hall (1237117).
- Church of St Mary (1264178).

- St Mary's Hall (1304598).
- Fitton Oake (1077894).
- St German's Hall (1304623).
- The Priory (1152801).
- Ruins of Church of St Peter (1152777).
- Barn at College Farm (1077886).
- Church of St Andrew (1342289).
- Church of St Mary the Virgin (1152535).
- Fincham Hall (1152126).
- Remains of Abbey of SS Mary Barbara And Edmund (1304912).
- Church of the Immaculate Conception of the Blessed Virgin Mary and St Margaret (1342587).
- Park Boundary Wall Including Tower and Gateway (1306374).
- Stoke Ferry Hall (1077744).
- Church of All Saints (1342335).
- Winnold House (1077747).
- Church of St Mary (1077765).
- Church of St Mary (1342301).
- Church of St Michael (1077839).

Designated Heritage Asset of Less than the Highest Significance

11.4.20 Within the 2km study area there are:

- 147 Grade II Listed Buildings.
- Two Grade II Registered Parks and Gardens.
- Eight Conservation Areas.

11.4.21 These are not presented here, but are listed in **Appendix D**.

Non-Designated Heritage Assets

11.4.22 The Council does not currently have a list of locally important heritage assets (a 'Local List'), and while the HER does identify some built heritage assets within the study area as 'monuments', it is not clear whether these meet the criteria set out in Historic England Advice Note 7 (3rd Edition): Local Listing: Identifying and Conserving Local Heritage (HEAN 7)[150].

11.4.23 At this stage, there do not appear to be any non-designated built heritage assets that would be susceptible to harm as a result of change to setting. Should any such assets be identified during the course of the EIA, these will be subject to proportionate consideration within the Built Heritage ES Chapter.

11.5 Mitigation Measures Identified to Date

11.5.1 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the initial description of the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Avoidance of Alymer Hall Scheduled Monument

11.5.2 The Moated site and formal garden remains at Alymer Hall Scheduled Monument are not within the Site boundary to avoid direct (physical) effects on this designated asset.

11.5.3 The undesignated earthworks associated with the Moated site and formal garden remains at Alymer Hall Scheduled Monument lie within the Site but only to the extent that they are under an existing farm access track that may be used to provide an additional access to the Western Site during the operation and maintenance phase of the Proposed Development, with the earthworks left in-situ. This will be secured via design principles.

Construction

11.5.4 The following measures will be implemented during the construction phase:

- Temporary compounds and storage areas will be sited, designed and managed to avoid or minimise, where practicable, any visual, auditory, olfactory, dust-related, or other impacts on the setting of heritage assets and any associated key views.
- Lighting levels will be minimised, where practicable, informed by any relevant health, safety and security concerns, both in terms of duration and luminosity.
- Construction will be managed, wherever practicable, to avoid or minimise loss of any landscape features that might contribute to any positive screening effects or the optimal integration of the Proposed Development into the setting of heritage assets.
- Access routes will avoid historic settlement cores, wherever practicable.

11.5.5 The above measures will be formalised within, and delivered in accordance with, the following management plans secured by DCO Requirement as set out in the Initial Commitments Register (**Appendix B**):

- oCEMP
- oCTMP.

Operation and Maintenance

11.5.6 The following measures will be implemented during the operation and maintenance phase:

- Undergrounding of connection infrastructure in strategic locations to avoid impacts on the setting of key sensitive heritage receptors and / or reduce visual prominence, in particular in locations where there is limited existing overhead infrastructure.
- Above-ground infrastructure will be sited, designed and managed to avoid or minimise, where practicable, any foreseeable impacts on the setting of heritage assets, including any associated key views.
- Where practicable, biodiversity areas, green space and new and existing planting will be used to provide screening and / or to better integrate the Proposed Development into the setting of relevant heritage assets.
- The operational Proposed Development will be monitored to identify any potential degradation or loss of screening, such as hedgerow loss, in order to address any such occurrences, and avoid or minimise, where practicable, any potential resulting impact on the setting of heritage assets.
- Access routes will avoid historic settlement cores, wherever practicable.

11.5.7 The above measures will be secured as part of design principles or delivered as part of the following management plans secured by DCO Requirement as set out in the Initial Commitments Register (**Appendix B**):

- oOEMP.
- oLEMP.

Decommissioning

11.5.8 Measures required for the decommissioning phase would be similar in scope to those for the construction phase. Those measures will be delivered as part of the following management plans secured by DCO Requirement as set out in the Initial Commitments Register (**Appendix B**):

- oDEMP.
- oDTMP.

11.6 Proposed Scope of Assessment

11.6.1 The proposed scope of assessment is based on an understanding of the characteristics of the Site and the nature of the Proposed Development (as set

out in **Chapter 4: Initial Description of the Proposed Development**), assisted by the study areas and ZTVs described above.

11.6.2 There are no designated heritage assets within the Site, and no direct effects on any built designated heritage assets would therefore be anticipated. As such, it is anticipated that any effects on designated heritage assets will be limited to those resulting from change to setting. This would not be anticipated to change at any time prior to submission. However, should it change, then any such direct effects would be duly assessed within the ES Chapter.

11.6.3 Those activities with the potential to change the setting of heritage assets during each respective phase of the Proposed Development are set out below.

Construction Phase

- Construction-related temporary infrastructure, including compounds, welfare facilities, working areas, haul roads, temporary fencing, signage, and security installations.
- Movement and appearance of plant machinery.
- Vegetation clearance, topsoil stripping and grading.
- Additional traffic movements.
- Noise, dust or vibration associated with construction activities.

Operation and Maintenance Phase

- The operational infrastructure, including the Data Centre Campus massing, BESS Units, Solar PV Panels and overhead lines within the Cable Routes.
- Noise generated by the operation of the Proposed Development.
- Operational traffic movements.

Decommissioning Phase

- It is assumed that the decommissioning phase will result in similar temporary effects to those anticipated at the construction phase.

Potential Likely Environmental Effects which are Not Significant

11.6.4 Where an environmental effect is unlikely to be significant based on baseline data, mitigation identified to date and / or initial analysis and evaluation, this will not be considered further within the EIA nor reported on in the ES. An evidence base is provided to justify the ‘scoping out’ of these effects below.

Operation and Maintenance Phase

Indirect (setting) Impacts on built Heritage Assets from the underground cabling along the Cable Routes

11.6.5 Subsequent to installation, the underground cabling, at the western end of the Western Cable Route at Walpole Substation and along part of the Eastern Cable Route will not result in any material effects on the setting of built heritage assets. Once buried, the routes will be restored to their original appearance. As such, any further consideration of indirect (setting) effects relating to the buried cabling would be disproportionate.

11.6.6 Therefore, indirect (setting) impacts on built heritage assets from the buried cabling during the operation and maintenance phase are unlikely to be significant and will not be considered further in the EIA or reported in the ES.

All Phases

Direct (Physical) Impacts to Built Heritage Assets

11.6.7 There are no designated built heritage assets within the Site.

11.6.8 Therefore, direct (physical) changes to designated built heritage assets during construction, operation and maintenance and decommissioning phases are unlikely to be significant and will not be considered further in the EIA or reported in the ES.

Indirect (Setting) Impacts on Built Heritage assets outside the study areas

11.6.9 No significant adverse effects are anticipated in relation to heritage assets beyond the study areas, as set out in **Paragraph 11.4.3**.

11.6.10 Therefore, indirect (setting) impacts on built heritage assets beyond the study areas during the construction, operation and maintenance and decommissioning phases are unlikely to be significant and will not be considered further in the EIA or reported in the ES.

Indirect (setting) Impacts on specific building typologies

11.6.11 Building typologies that do not derive their significance from setting or that derive significance from their immediate spatial context only, including headstones / tombstones, war memorials (e.g. crosses), monuments, milestones and telephone kiosks have not been taken forward for further assessment. With regard to **Table 11-1** of this Scoping Chapter, this approach has been agreed with Historic England.

11.6.12 Therefore, indirect (setting) impacts on such built heritage assets during construction, operation and maintenance and decommissioning phases are unlikely to be significant and will not be considered further in the EIA or reported in the ES.

Indirect (Setting) Impacts on Built Heritage assets within the study areas with no / partial theoretical intervisibility

11.6.13 Where the ZTVs demonstrate only a partial / limited degree of intervisibility between an asset and the Proposed Development (1-10%), it is considered highly unlikely that the change to setting would result in a significant effect, and therefore any further consideration of such assets would be disproportionate.

11.6.14 Therefore, indirect (setting) impacts on built heritage assets with partial theoretical intervisibility during the construction, operation and maintenance and decommissioning phases are unlikely to be significant and will not be considered further in the EIA or reported in the ES.

11.6.15 The only exceptions to the approach on partial theoretical intervisibility are where a heritage asset is located in proximity to the Proposed Development and where, as a result, there is the potential for likely significant environmental effects to that asset as a result of changes to its setting which are not based on intervisibility between the asset and the Proposed Development. For the purposes of scoping, a distance from the Site boundary (without the access tracks) of 500m is assumed in relation to Scheduled Monuments, Grade I Listed Buildings and Grade II* Listed Buildings or 250m for all other designated assets.

Scoping Setting Assessment

11.6.16 Drawing upon the evidence base outlined above, a Scoping Setting assessment has been undertaken in accordance with the industry standard methodology provided by Historic England's GPA 3, which promotes a 'stepped' (iterative) approach. The first objective of Step 1 is essentially a scoping exercise, ensuring that the scope of the assessment is proportionate and relevant. Accordingly, any further assessment of the heritage assets presented in **Tables 11-2 – 11-4** would be considered disproportionate, and it is proposed that they be 'scoped out' of any further assessment.

Table 11-2: Scheduled Monuments to be 'scoped out'

Asset name	Justification for 'scoping out'
Medieval settlement remains north of Kenwick Farmhouse (1009986)	2.5km from the Site boundary (without the access tracks). Limited theoretical visibility of the Cable Routes (overhead lines) only.
Moat at the Old Rectory (1464092)	2km from the Site boundary (without the access tracks). Very limited theoretical visibility of the Cable Routes (overhead lines) only.
Village Cross, 30m south of Cross Hill Farm (1018107)	Scoped out as agreed with Historic England on the basis of typology.
Shouldham Priory, associated water management features, section of a Roman Road and Bronze Age urnfield (1010572)	2km from the Site boundary (without the access tracks). Limited theoretical visibility of the Solar PV Panels only. Significance derives primarily from archaeological interest.
Medieval settlement remains immediately west of All Saints' Church (1020446)	Fully outside ZTVs and circa 1.5km from the Site boundary (without the access tracks).
Moated site in Hill and Holes Plantation, 30m north west of Home Farm (1009983)	Fully outside ZTVs and circa 2km from the Site boundary (without the access tracks).
Marham Abbey (1016482)	Fully outside ZTVs and circa 2km from the Site boundary (without the access tracks).
Wayside Cross 550m northeast of St Mary's Church (1016696)	Scoped out as agreed with Historic England on the basis of limited setting.
Village cross 50m east of St Mary's Church (1016695)	Scoped out as agreed with Historic England on the basis of typology.
Site of St Mary's Church, Caldecote (1004034)	1km from Site boundary (without the access tracks). Limited theoretical visibility of the Solar PV Panels due to extensive intervening woodland.

Table 11-3: Grade I Listed Buildings to be 'scoped out'

Asset name	Justification for 'scoping out'
Church of St Andrew (1264158)	Very limited theoretical visibility for the Cable Routes (overhead lines) only.

Asset name	Justification for 'scoping out'
Church of St Peter (1264167)	Very limited theoretical visibility for the Cable Routes (overhead lines) only.
Church of All Saints (1264202)	Very limited theoretical visibility for the Cable Routes (overhead lines) only.
Church of SS Peter and Paul (1077890)	Fully outside ZTVs and circa 1.5km from the Site boundary (without the access tracks).
Church of Holy Trinity (1077832)	Fully outside ZTVs and circa 2km from the Site boundary (without the access tracks).
Church of St Mary (1077301)	Circa 1.75km from the site boundary (without the access tracks). Limited theoretical visibility of Solar PV Panels only due to intervening woodland.
Church of St Botolph (1077303)	Fully outside ZTVs and circa 2.5km from the Site boundary (without the access tracks).
Church of St George (1342562)	Fully outside ZTVs and circa 2.5km from the Site boundary (without the access tracks).
Church of St John the Evangelist (1169766)	Fully outside ZTVs and circa 1.5km from the Site boundary (without the access tracks).
Oxburgh Hall (1342586)	Fully outside ZTVs and circa 1.5km from the Site boundary (without the access tracks).
Church of St Mary (1077676)	Very limited theoretical visibility of overhead line only, and circa 2.5km from Site boundary (without the access tracks).
Bell Tower of Church of St Mary (1171875)	Very limited theoretical visibility of overhead line only, and circa 2.5km from Site boundary (without the access tracks).
Watlington Hall (1342286)	Outside ZTVs, with intervening trees and other vegetation, and circa 2.5km from the Site boundary (without the access tracks).

Table 11-4: Grade II* Listed Buildings to be 'scoped out'

Asset name	Justification for 'scoping out'
Old Manor Farmhouse (1237330)	Very limited theoretical visibility of the Cable Routes (overhead lines) only.

Asset name	Justification for 'scoping out'
Lovells Hall (1237117)	Very limited theoretical visibility of the Cable Routes (overhead lines) only.
Fitton Oake (1077894)	Very limited theoretical visibility of the Cable Routes (overhead lines) only.
Barn at College Farm (1077886)	Fully outside the ZTVs and circa 2km from the Site boundary (without the access tracks).
Church of St Andrew (1342289)	Fully outside the ZTVs and circa 1.5km from the Site boundary (without the access tracks).
Remains of Abbey of SS Mary Barbara and Edmund (1304912)	Fully outside the ZTVs and circa 2km from the Site boundary (without the access tracks).
Church of the Immaculate Conception of the Blessed Virgin Mary and St Margaret (1342587)	Fully outside the ZTVs and circa 1.5km from the Site boundary (without the access tracks).
Park Boundary Wall Including Tower and Gateway (1306374)	Fully outside the ZTVs and circa 1.5km from the Site boundary (without the access tracks).
Stoke Ferry Hall (1077744)	Fully outside the ZTVs and circa 2.5km from the Site boundary (without the access tracks).
Church of St Mary (1077765)	Fully outside the ZTVs and circa 2.75km from the Site boundary (without the access tracks).
Church of St Michael (1077839)	Outside the ZTVs, with intervening vegetation, and circa 2.8km from the Site boundary (without the access tracks).

Designated Heritage Assets of Less than the Highest Significance and Non-Designated Heritage Assets

11.6.17 These assets do not fall within the remit of Historic England, but within that of the KL&WNBC Conservation Officer. As such, agreement on a proportionate approach to scoping these assets is typically sought with the latter.

11.6.18 Prior to submission of this Scoping Report, a meeting was held with KL&WNBC to introduce the Proposed Development. During this meeting, KL&WNBC confirmed that its current Conservation Officer is leaving shortly before the Scoping Report will be submitted and that it is unlikely that the authority will have the technical expertise available to advise on an appropriate list of assets to be "scoped out" during the required scoping timeframe. The Applicant and

KL&WNBC agreed to review all identified assets within the study area and seek to reach agreement on whether further assessment is required once the new Conservation Officer is in post.

11.6.19 Notwithstanding this, and whilst understanding the temporary resource challenges for KL&WNBC, the Applicant believes it is reasonable to seek agreement at this stage regarding the approach and methodology that will be applied for this future exercise with the Conservation Officer. Without this agreement on approach, the Applicant may be requested to assess all 157 "less than the highest significance" designated heritage assets within the study area, which would be disproportionate.

11.6.20 The Applicant seeks agreement to the methodology outlined below, with the aim of ensuring clarity, objectivity and proportionality of approach.

Scoping

Rationale for Scoping Assets 'In'

11.6.21 Designated heritage assets of *less than the highest significance* will be 'scoped in' for further assessment where they:

- Are located within the 2km study area; and
- Have more than partial theoretical visibility of the Proposed Development, as demonstrated via a ZTV (exclusive of the overhead lines); or
- Are located within 250m of the Site boundary (even if no theoretical visibility is identified); again, this is in acknowledgement of the fact that setting is not just a visual consideration but can also extend to non-visual historical / spatial association(s).

Rationale for Scoping Assets 'Out'

11.6.22 Designated assets of *less than the highest significance* will be 'scoped out' of further assessment under the following scenarios.

Scenario 1

- The asset is located over 250m from the Site boundary;
- Any theoretical visibility of the Proposed Development from the asset is limited to the overhead lines; and
- Comparable overhead transmission infrastructure already exists within the asset's setting, on the intervening land between the asset and the Proposed Development. The rationale for this is that the introduction of a more distant overhead line of similar scale to that present currently is highly unlikely to

result in a material level of additional harm, if any, to the significance of any such assets or therefore result in any likely significant effects.

Scenario 2

a) Multiple designated heritage assets of less than the highest significance are spatially grouped / concentrated, e.g. within the same village / farm, for example Walpole St Peter;
b) There is theoretical visibility of the Proposed Development from the group; but
c) A site visit establishes that the most visually prominent of those assets has no practical intervisibility with the Proposed Development, and any further consideration of the group therefore would be disproportionate.

Scenario 3

a) The asset is located over 250m from the Site boundary;
b) There is theoretical visibility of the Proposed Development from the asset; but
c) The asset is of a nature / type which evidently derives limited or no significance from its wider agricultural surrounds, e.g. 19th century mid-terrace housing, extraction sites, 20th century wartime defensive installations. etc.

Scenario 4

a) The asset is a specific building typology, including war memorials, headstones / tombstones, monuments, telephone kiosks and milestones.
b) This scenario is consistent with the position agreed with Historic England as detailed in **Table 11-1**.

Further engagement

11.6.23 The Applicant believes the above methodology is a proportionate approach to scoping and is seeking agreement to ensure all parties understand the approach regarding assets that require additional assessment. The Applicant anticipates that applying this approach will result in the relevant designated heritage assets of “less than the highest significance” being taken forward for further detailed technical assessment, including the Fincham Conservation Area and Stradsett Registered Parks and Gardens. In addition, as outlined below, 11 Scheduled Monuments, 9 Grade I Listed Buildings and 11 Grade II* Listed Buildings will be subject to detailed technical assessment.

11.6.24 The Applicant believes this is a proportionate approach to assessment of the potential for overall heritage harm and likely significant effects in the context of the Proposed Development.

11.6.25 Following submission of the Scoping Report, the Applicant’s built heritage technical specialists will engage proactively with the new KL&WNBC

Conservation Officer, on appointment, to seek agreement regarding the list of "less than the highest significance" heritage assets to be assessed, to ensure that the assessment scope remains focused and proportionate.

Potential Likely Significant Environmental Effects

11.6.26 Where likely significant effects have been identified at this stage and are proposed to be 'scoped in', these are set out in **Table 11-5**. These environmental effects will be assessed within the EIA and reported on in the ES.

11.6.27 Where it has not been possible to provide justification for 'scoping out' assets at this stage, in accordance with GPA3, such assets within the study areas remain subject to further assessment. Further engagement will be undertaken with KL&WNBC to agree a list of Grade II Listed Buildings, Grade II Registered Parks and Gardens, Conservation Areas and non-designated heritage assets (NDHAs) to ensure the assessment approach is proportionate.

Table 11-5: Potential likely significant environmental effects 'scoped in'

Potential likely significant effect	Receptors	Phase(s)
Changes in the setting of built heritage assets (where these have the potential to result in a likely significant effect)	Built heritage assets (further details are outlined below)	Construction, operation and maintenance and decommissioning

11.6.28 The built heritage assets 'scoped in' for detailed technical assessment are as follows:

Scheduled Monuments

11.6.29 The following 11 scheduled monuments have been 'scoped in' for further assessment:

- Faulkner House (1493528).
- Moated site and medieval field system in Church Field, 60m north of St John's Church (1009984).
- Moated site and formal garden remains at Aylmer Hall (1009985).
- Moated site of Wormegay Priory, fishponds and associated enclosures (1009987).
- Motte and bailey castle in Wormegay village (1018651).

- Hangour Hill (1003160).
- Devil's Dyke, Beachamwell and Barton Bendish. Section 1km in length West of Smeeth Wood (1003973).
- Remains of Barton Bendish medieval settlement immediately west of Abbey Farm (1018650).
- Moated site 160m north east of Avenue Farm (1018649).
- Remains of monastic grange with moated site at Grange Farm (1020445).
- Bowl barrow known as The Mound, 700m north east of Stradsett Hall (1010571).

Grade I Listed Buildings

11.6.30 The following nine Grade I Listed Buildings (all of which are churches) have been 'scoped in' for further assessment:

Church of St John (1264266).

1. Church of St Mary the Virgin (1342293).
2. Church of St Germans (1077892).
3. Church of St Mary Magdalen (1077896).
4. Church of St Botolph (1077838).
5. Church of All Saints (1152173).
6. Church of St Martin (1077822).
7. Church of St Andrew (1077860).
8. Church of St Mary (1077859).

Grade II* Listed Buildings

11.6.31 The following 11 Grade II* Listed Buildings have been 'scoped in' for further assessment:

- Church of St Lawrence (1237259).
- Church of St Mary (1264178).
- St Mary's Hall (1304598).
- St German's Hall (1304623).
- The Priory (1152801).
- Ruins of Church of St Peter (1152777).
- Church of St Mary the Virgin (1152535).
- Fincham Hall (1152126).
- Church of All Saints (1342335).
- Winnold House (1077747).
- Church of St Mary (1342301).

Designated Heritage Assets of Less than the Highest Significance and Non-designated Heritage Assets

11.6.32 As noted in **Paragraphs 11.6.23** and **11.6.25**, agreement on a proportionate list of assets of less than the highest significance and non-designated heritage assets to be 'scoped in' will be sought with the KL&WNBC once appropriate technical expertise is available, applying the scenarios set out above.

11.6.33 The potential for cumulative effects arising from the potential likely significant environmental effects identified in **Table 11-5** (and the heritage assets identified above), both in terms of inter-project and intra-project effects, will be considered within the ES. The approach to the cumulative effects assessment in the ES is set out in **Chapter 18: Cumulative Effects Assessment Methodology**.

11.7 Proposed Approach to Detailed Assessment in the ES

Further Baseline Data Collection

11.7.1 Further baseline preparation will primarily comprise as follows:

- Detailed desk-based assessment, expanding upon that undertaken for purposes of Scoping.
- Site inspection of those heritage assets identified for detailed setting assessment. In particular, this will aim to identify:
  - Any aspects of the assets' settings that contribute to their significance.
  - Any aspects of the assets' settings that contribute to the ability to appreciate their significance.
  - Whether any such aspects would be affected.
  - What the resulting level of impact would be upon the assets' significance.
- The taking of a series of representative photographs to assist with the analysis; these will be presented in an appendix to the Setting Assessment Baseline Report, which will form part of the ES.

11.7.2 Data collection will continue as the design parameters for the Proposed Development are refined and further technical analysis and evaluation is completed. Additional sources may be identified and reviewed as they become apparent during the research, engagement and assessment process.

11.7.3 Viewpoints and visualisations produced in conjunction with the landscape and visual impact assessment (see **Chapter 10: Landscape and Visual**) will also be used to better understand any likely significant effects.

Detailed Assessment Methodology

Baseline

11.7.4 The detailed setting assessment baseline / technical assessment will be undertaken to the agreed scope, consistent with the approved methodology, and informed by all relevant guidance, as set out in **Paragraph 11.2.1** and professional judgement.

11.7.5 A comprehensive Settings Assessment Baseline Report will be prepared in accordance with the detail outlined in **Paragraph 11.7.1**, and all relevant statute, policy and guidance. This baseline assessment will inform and form a Technical Appendix to the ES Chapter and form a basis for ongoing engagement with built heritage stakeholders.

Reporting Effects and Significance

11.7.6 Once the significance of each susceptible heritage asset has been defined and the level (magnitude) of harm to its significance has been determined, a statement will be made, informed by professional judgment, as to whether any effects would be **Significant** or **Not Significant**. Detailed qualification will be provided to support these findings. Each finding will be bespoke, based on professional judgment, and will not be constrained by a pre-defined matrix and / or any quantifying terminology such as High, Medium, Low, Negligible, etc.

11.8 Assumptions, Limitations and Uncertainties

11.8.1 The assumptions, limitations and uncertainties that have been identified at this stage are set out in **Table 11-6**.

Table 11-6: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• As noted in **Paragraph 11.4.22**, there is no local list of NDHAs available for KL&WNBC. As such, no NDHAs are 'scoped in' for assessment at this stage. It is acknowledged that there is the potential for NDHAs to be identified through engagement with KL&WNBC. Should this transpire, the same methodological process will be adopted in order to determine the susceptibility of NDHAs to impact, consistent with GPA3 Step 1. Where the potential for any such effects is identified, susceptible NDHAs will be progressed to GPA3 Steps 2 and 3 and assessed in detail.
• At this stage, only designated heritage assets of the highest significance (Scheduled Monuments, Grade I and II* Listed Buildings and Registered Parks and Gardens)

have been scoped in or out of the assessment. Further engagement will be undertaken with the KL&WNBC Conservation Officer, on appointment, to agree a proportionate scope of assessment for designated heritage assets of less than the highest significance (Grade II Listed Buildings / Registered Parks and Gardens, and Conservation Areas) in line with the methodology regarding these assets outlined in **Paragraphs 11.6.22 – 11.6.25**.

11.9 Summary

11.9.1 A summary of those potential effects 'scoped in' and 'scoped out' for built heritage is provided in **Table 11-7**.

Table 11-7: Summary of potential effects 'scoped in' and 'scoped out' for built heritage

Potential effect	Phase
'Scoped Out'	
Indirect (setting) impacts on built heritage assets from the underground cabling along the Cable Routes	Operation and maintenance
Direct (physical) impacts to built heritage assets	Construction, operation and maintenance and decommissioning
Indirect (setting) impacts on building typologies with limited settings (agreed with Historic England)	Construction, operation and maintenance and decommissioning
Indirect (setting) impacts on built heritage assets outside the study areas	Construction, operation and maintenance and decommissioning
Scoped in	
Changes in the setting of built heritage assets (where these have the potential to result in a likely significant effect)	Construction, operation and maintenance and decommissioning

12 Buried Heritage

12.1 Introduction

12.1.1 This Scoping Chapter presents the scope and methodology for the assessment of environmental effects related to buried heritage. This Scoping Chapter has been informed by relevant legislation, policy and guidance, baseline conditions and mitigation measures identified to date.

12.1.2 This Chapter should be read in conjunction with **Chapter 4: Initial Description of the Proposed Development**. Changes in the setting of built heritage assets are addressed within **Chapter 11: Built Heritage**.

12.2 Summary of Relevant Legislation, Policy and Guidance

12.2.1 A list of legislation, policy and guidance relating to buried heritage relevant to the Proposed Development is as follows:

Legislation

- Ancient Monuments and Archaeological Areas Act 1979[151].
- Levelling-up and Regeneration Act 2023[152].

Policy

- NPS EN-1.
- NPS EN-3.
- NPS EN-5.
- NPPF.
- King's Lynn and West Norfolk Local Plan 2021 – 2040.

Guidance

- NPPG: Historic Environment[153].
- Historic England Managing significance in decision-taking in the historic environment Good Practice Advice (GPA) 2 (2015).
- Historic England The setting of heritage assets GPA 3 (2017).
- Historic England Statements of heritage significance, analysing significance in heritage assets (Historic England Advice Notes (HEAN) 12) (2019).
- Association of Local Government Archaeological Officers, et al Archaeology and Solar Farms - Good Practice Guide (2026)[154].

- Historic England Delivering Clean Power: Commercial renewable energy development and the historic environment (HEAN 15) (2026)[155].
- ISEP (formerly IEMA), Institute of Historic Building Conservation (IHBC) and Chartered Institute for Archaeologists (CIfA) Principles of Cultural Heritage Impact Assessment (PCHIA) (2021)[156].
- National Highways (formerly Highways England) DMRB, 104 Environmental assessment and monitoring (2020)[157].
- CIfA Standard and guidance for historic environment desk-based assessment (DBA) (2020)[158].
- CIfA Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment (2020)[159].
- NCC Standards for Development-Led Archaeological Projects in Norfolk (2018)[160].

12.3 Engagement to Date

12.3.1 The engagement undertaken to date is summarised in **Table 12-1**.

Table 12-1: Summary of engagement undertaken to date

Stakeholder	Date and type of engagement	Summary of key comments
Senior Historic Environment Officer, NCC	Teams meeting 30th April 2026	Preliminary discussion about the Proposed Development, including the work undertaken up to that point. Discussion and agreement on archaeological fieldwork strategy (e.g. completion of non-intrusive surveys, with conditioning of evaluation fieldwork post-DCO consent).
	Teams meeting 25th August 2026	A discussion regarding the proposed pre-determination archaeological evaluation trenching on the Western Site.
	Telephone / email correspondence 9th September 2026	Agreement of Written Scheme of Investigation for archaeological evaluation trenching on the Western Site.

12.4 Baseline Conditions

12.4.1 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and provides an overview of the relevant baseline conditions for buried heritage.

Baseline Data Collection Activities to Date

12.4.2 An initial desk-based study has been undertaken, using baseline data that has been collected from the following sources and methods:

- The National Heritage List for England (NHLE).
- The Norfolk, Cambridgeshire and Lincolnshire Historic Environment Records (HER) for a 2km radius from the Site[9].
- Historic OS mapping.
- Historic Tithe mapping.
- Historic and modern aerial photography.
- Light Detection and Ranging (LiDAR) coverage of the Site.
- Reports and surveys related to previous planning applications on the Site.
- The Norfolk Record Office.

12.4.3 A site walkover was also undertaken of the Main Site in April 2026.

12.4.4 Geophysical surveys have been completed across the majority of the Western Site and Eastern Site from March 2026 through to October 2026, with the executive summary report on the partial geophysical survey of the Western Site available[161]. The remaining results are being collated.

Baseline Conditions

Designated Archaeological Assets

12.4.5 There is one Scheduled Monument that is close to the Site boundary – the moated site and formal garden remains at Aylmer Hall (NHLE reference: 1009985). The Scheduled area is outside of the Site boundary, but associated non-designated earthworks recorded on the HER extend into the western edges of the Western Site near to Church Road.

12.4.6 There are 16 additional Scheduled Monuments within the 2km study area.

[9] Provided between April and July 2026.

Non-Designated Archaeological Assets

12.4.7 A search of the Norfolk, Cambridgeshire and Lincolnshire HER data has been undertaken, with a study area comprising a 2km radius from the Site boundary.

12.4.8 The assets within each Area of the Site are outlined in **Tables 12-2 – 12-5**[10] all of which are from the Norfolk HER.

Table 12-2: Norfolk HER records within Walpole Substation and Western Site

Norfolk HER Reference	Name
2187	The Sea Bank
19694	Possible medieval saltern mound
53705	Several ditch features possibly associated with nearby Saltern
53706	Ditches and pit features possibly associated with nearby Saltern
53707	Ditch and pit features associated with nearby salt working site
65586	Possible saltern, former watercourses and post-medieval field boundaries
2187	The Sea Bank
2200	Cropmark of undated double circular enclosure
19694	Possible medieval saltern mound
21338	Medieval trackway, medieval pottery sherds
21379	Possible medieval trackway, medieval object concentrations, medieval pottery sherds
22153	Possible medieval trackway, medieval pottery sherds
65586	Possible saltern, former watercourses and post-medieval field boundaries
69941	Undated possible ditches and late post-medieval field boundary

[10] Findspots have been excluded from these tables as they are no longer physically present in-situ as well as records of negative evidence.

Table 12-3: Norfolk HER records within the Western Site

Norfolk HER Reference	Name
13533	Middle Level Main Drain
19108	Possible site of medieval tofts
19178	Medieval moated site of 'Broughton's Manor'
21338	Medieval trackway, medieval pottery sherds
21370	Undated mound
21378	Possible medieval trackway, medieval object concentrations, medieval pottery sherds
21379	Possible medieval trackway, medieval object concentrations, medieval pottery sherds
21397	Early Saxon settlement site, Hirdling Field
2187	The Sea Bank
22153	Possible medieval trackway, medieval pottery sherds
22489	Site of undated enclosure, possible medieval trackway, medieval object concentrations
2251	Site of post medieval dovecote
22586	Possible medieval trackway, medieval pottery sherd and shell concentration
25333	Aylmer Roman Canal
25334	Spice Hills Roman Canal

Table 12-4: Norfolk HER records within the Eastern Cable Route

Norfolk HER Reference	Name
2280	Possible site of ring ditch, not identified by National Mapping Project (NMP)
13533	Middle Level Main Drain
13594	East Anglian Railway, originally known as Lynn and Ely
22489	Site of undated enclosure, possible medieval trackway, medieval object concentrations
23064	Medieval settlement

Norfolk HER Reference	Name
25333	Aylmer Roman Canal
25385	Medieval ridge and furrow
31490	Possible Roman building
35481	Possible Bronze Age ring ditch and undated rectilinear feature, in vicinity of possible Roman building
50921	Earthworks of medieval to post medieval date ridge and furrow and ditches
50922	Cropmarks of trackway or drainage ditch of probable medieval to post medieval date
50936	Earthworks and cropmarks of medieval to post medieval date boundaries and enclosures
50955	Multi-period fragmentary ditched cropmarks of former field boundaries and drains
50956	Possible fragmentary cropmarks of undated field boundaries and / or drains
50957	Cropmarks of possible late prehistoric to Roman date rectilinear enclosures and field boundaries

Table 12-5: Norfolk HER records within the Eastern Site

Norfolk HER Reference	Name
2796	Fen Causeway Roman road
4353	Inhumation of uncertain date
4360	Medieval earthworks and multi-period finds
4510	RAF Marham
13316	Site of Roman settlement and multi-period finds
13604	Site of Iron Age settlement, World War Two airfield and multi-period finds
14530	Bronze Age ring ditch, medieval ridge and furrow, and multi-period finds
15131	Undated cropmarks and Neolithic axehead
16537	Cropmark enclosure of unknown date and multi-period finds

Norfolk HER Reference	Name
16538	Site of ring ditch
18849	Site of Roman settlement and multi-period finds
19218	Site of post medieval windmill
20129	World War Two bunker and multi-period pottery
20130	Site of Iron Age settlement and Roman camp
21456	Site of medieval settlement and multi-period finds
21458	Multi-period finds scatter
21460	Iron Age settlement and multi-period finds
21462	Barton Bendish Airfield and multi-period pottery
23916	Site of Bronze Age ring ditch and Roman settlement and Roman marching camp
23941	Site of Bronze Age ring ditches and multi-period pottery
25035	Site of deserted medieval settlement
25043	Prehistoric pot boilers and medieval pottery
25161	Site of medieval tofts and multi-period finds
25376	Medieval ridge and furrow and Roman brooches
25385	Medieval ridge and furrow
25578	Medieval ditch and multi-period finds
25857	Site of Roman building
31490	Possible Roman building
35481	Possible Bronze Age ring ditch and undated rectilinear feature, in vicinity of possible Roman building
35482	Cropmarks of medieval tofts
35553	Site of ring ditch
35897	Cropmark of undated linear feature
36710	Site of ring ditch
36721	Cropmark of rectilinear enclosure

Norfolk HER Reference	Name
41969	Post medieval pound
50235	Cropmarks of undated field boundaries, possible enclosure and trackway
59921	Site of a ring ditch
63402	Site of deserted medieval village
66655	Site of Barton Bendish Airfield
68279	Undated pits and ditches

Archaeological Investigations

Geophysical Surveys for the Proposed Development

12.4.9 Geophysical surveys have been undertaken across the majority of the Western Site and Eastern Site areas.

12.4.10 The initial report on the survey of a part of the Western Site proposed to be utilised for the Data Centre Campus indicated a number of features of potential archaeological interest in the north of the survey area. These were interpreted as possible salterns, fish traps and canals. A large palaeochannel was identified across the central section of the survey area, with additional smaller channels also identified, some of which may represent water management. It also identified numerous agricultural features and features of uncertain origin.

HER Event Records

12.4.11 The search of the Norfolk, Cambridgeshire and Lincolnshire HER data showed that the archaeological investigations listed in **Tables 12-6 – 12-8** have been undertaken within the Site boundary. No previous events are recorded on the HER within the Eastern Cable Route.

Table 12-6: HER Event records within Walpole Substation and Western Cable Route

Event ID	Name
ENF122736	Geophysical Survey (magnetometry) by GSB Prospection at Walpole Electricity Substation, Walpole, September 2006
ENF122737	Trial Trenching by Northern Archaeological Associates at Walpole Electricity Substation, Walpole, 2008

Event ID	Name
ENF122738	Excavation by Oxford Archaeology East at Walpole Electricity Substation, Walpole, April-August 2009
ENF124102	Trial Trenching and Watching Brief by Wessex Archaeology at Walpole Electricity Substation, Walpole, September 2008
ENF151957	Geophysical Survey (magnetometry) by Archaeological Services WYAS at proposed site of Walpole Bank solar array, Walpole, January 2022
ENF152235	Watching Brief by Network Archaeology on route of Sutton Bridge Solar Farm Grid Connection, Walpole, June 2023
ENF156242	Geophysical Survey (magnetometry) by Headland Archaeology at land adjacent to National Grid substation, Walpole Bank, Walpole, April 2024
ENF156645	Trial Trenching by Headland Archaeology at land adjacent to National Grid substation, Walpole Bank, Walpole, September 2024
ENF158786	Watching Brief by Rubicon Archaeology at land west of Walpole Marsh, Walpole, September 2025
ENF126347	Watching Brief by NAU Archaeology at West Drove Road, Walpole St Peter, March 2011
ENF151957	Geophysical Survey (magnetometry) by Archaeological Services WYAS at proposed site of Walpole Bank solar array, Walpole, January 2022
ENF153418	Geophysical Survey (magnetometry) by Archaeological Services WYAS of land at Rose Hall Farm, Walpole St Andrew, March and April 2023
ENF153687	Trial Trenching by Cambridge Archaeological Unit at Rose Hall Farm, Walpole, July 2023
ENF156242	Geophysical Survey (magnetometry) by Headland Archaeology at land adjacent to National Grid substation, Walpole Bank, Walpole, April 2024
ENF156645	Trial Trenching by Headland Archaeology at land adjacent to National Grid substation, Walpole Bank, Walpole, September 2024
ENF157708	Geophysical Survey (magnetometry) by Magnitude Surveys at land off Westmoor West Drove, Walpole St Peter, Walpole, April 2025
ENF157898	Trial Trenching by Cura Terrae at land off Westmoor West Drove, Walpole St Peter, Walpole, 2025

Event ID	Name
ENF158786	Watching Brief by Rubicon Archaeology at land west of Walpole Marsh, Walpole, September 2025
ENF159112	Watching Brief by Wessex Archaeology on route of Grimsby to Walpole (G2W) project, Walpole/Walpole Highway/West Walton, January 2026

Table 12-7: Event records within the Western Site

Event ID	Name
ENF118657	Walkover Survey (Rapid Identification Survey) by NAU Archaeology at Red Barn Farm, Tilney St Lawrence, August 2007

Table 12-8: Event records within the Eastern Site

Event ID	Name
ENF140853	Watching Brief by Pre-Construct Archaeology at land off White Lane (Crash Gate 7), RAF Marham, Barton Bendish, September-November 2016
ENF153216	Trial Trenching by Cotswold Archaeology (Suffolk) on route of Didlington Water Main, Boughton/Barton Bendish/Oxborough, July-August 2023
ENF156851	Excavations by Cotswold Archaeology (Suffolk) on route of Didlington Water Main, Boughton/Barton Bendish/Oxborough, September 2024
ENF159133	Geophysical Survey by Headland Archaeology on proposed route of SPA North Norfolk Interconnector pipeline, February 2026

12.4.12 In summary, the baseline data collected indicates the presence of buried heritage across the Site and a potential for further unknown archaeological evidence. Evidence recorded on the HER – both in terms of records and events – illustrates occupation and land use from the prehistoric period onwards, with evidence of settlement and agricultural activity recorded across the Site. It is noted that there have been parts of the Site subject to historic or recent disturbance, including at the existing Walpole NGET GSP and the Walpole Bank Solar Farm.

12.4.13 In the Walpole Substation, Western Cable Route and Western Site, much of the evidence reflects the fenland environment. The geophysical survey on the Western Site recorded a large palaeochannel and tributaries and the HER

includes Roman canals and salt working sites that made use of the earlier water channels that crossed the landscape.

12.4.14 The Eastern Cable Route and Eastern Site contain evidence of settlements dating from the late prehistoric to medieval periods, with earlier evidence also recovered reflecting a long history of occupation in the region. Post-medieval evidence goes on to continue to reflect agricultural land use, along with several sites associated with evidence from the Second World War.

12.5 Mitigation Measures Identified to Date

12.5.1 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the initial description of the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Avoidance of Designated Assets

12.5.2 The Moated site and formal garden remains at Alymer Hall Scheduled Monument are not within the Site boundary to avoid direct (physical) effects to this designated asset. The undesignated earthworks associated with this asset that lie within the Site will be left in-situ and this will be secured by design principles.

Pre-Submission

12.5.3 As referenced above, geophysical surveys have been undertaken across the Main Site. Further non-intrusive surveys for the underground cabling within the Eastern Cable Route are proposed. Pre-submission geophysical surveys are not proposed for the overhead line section of the Eastern Cable Route.

12.5.4 A programme of pre-submission archaeological evaluation trenches is being undertaken for the Data Centre Campus area within the Western Site to confirm there is no buried heritage restriction on locating this high-impact infrastructure in this location. These trenches will target potential archaeological and geoarchaeological features identified via the geophysical survey and will include geoarchaeological investigations. The results of these evaluation trenches will help to inform the Archaeological DBA and ES and begin to inform any requirements for further mitigation work in this area. It will potentially enable the avoidance of significant adverse effects upon archaeological assets of high importance where practicable at the design stage.

12.5.5 An Archaeological Written Scheme of Investigation (WSI) for these pre-submission archaeological evaluation trenching was agreed with the Historic

Environment Officer at NCC prior to the commencement of the evaluation. They are being kept informed of the progress of works so as to enable appropriate monitoring to be undertaken. With regard to the Archaeology and Solar Farms – Good Practice Guide, additional, further pre-commencement trenching is not proposed at any further location within the Site, though agreement will be sought with NCC to identify any areas of interest from the geophysical survey and an Archaeological WSI will be secured through a DCO Requirement for pre-construction works.

12.5.6 The intention of the geophysical surveys across the Main Site is to identify any areas for targeted investigation post-consent (pre-construction).

Construction Phase

12.5.7 Archaeological remains are an irreplaceable resource and any below-ground impacts that occur throughout the construction phase of the Proposed Development could expose, damage, and destroy below-ground remains. The scale of impact from the Proposed Development will vary depending on what activities are being undertaken or what is being constructed. However, the following measures are identified:

- The removal of existing structures or landscape features will be undertaken with due care to minimise unnecessary adverse impacts to potential archaeological horizons outside of or below their footprints.
- Worksites, compounds and storage areas will be sited to avoid or reduce as far as possible any impacts on identified archaeological features.
- Where possible, access routes will avoid identified archaeological features.

12.5.8 The above measures will be delivered as part of the following management plans secured by DCO Requirement as outlined in the Initial Commitments Register (**Appendix B**):

- oCEMP.
- oCTMP.

12.5.9 Archaeological evaluation trenching will be undertaken post-consent, where appropriate, to assess the archaeological potential of the Site. Where archaeological remains are identified and significant adverse effects are unavoidable, further archaeological mitigation works, such as excavation and preservation by record, will be undertaken. The requirements and scope for any further archaeological mitigation works will be discussed in advance with NCC and committed to via an Archaeological Mitigation Strategy (AMS) and secured

by DCO Requirement (as set out in the Initial Commitments Register in **Appendix B**).

12.5.10 The results of the archaeological investigations will also help to inform potential micrositing changes to the layout of the Proposed Development to enable preservation in-situ should it be deemed appropriate.

12.5.11 Specific packages of works will be in accordance with a WSI, which will be in line with the overarching AMS, approved by the Historic Environment Officer at NCC.

Decommissioning Phase

12.5.12 The majority of areas where decommissioning works will occur will be in areas where archaeological mitigation will have taken place during the construction phase, should it have been required. It is also noted that no piling works are anticipated during decommissioning. Decommissioning works will be carried out with consideration of archaeological remains to avoid disturbance of any remains that may still be present and have not been subject to previous archaeological mitigation.

12.5.13 Further archaeological mitigation may be required if this is not possible, which will be secured via the oDEMP and oDTMP (as set out in the Initial Commitments Register in **Appendix B**).

12.6 Proposed Scope of Assessment

12.6.1 The proposed scope of assessment is based on an understanding of the characteristics of the Site and technical study areas and the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Potential Likely Environmental Effects which are Not Significant

12.6.2 Where an environmental effect is unlikely to be significant based on baseline data, mitigation identified to date and / or initial analysis and evaluation, this will not be considered further within the EIA nor reported on in the ES. An evidence base is provided to justify the 'scoping out' of these effects below.

All Phases

Setting Effects on Non-designated Archaeological Assets

12.6.3 Setting effects upon non-designated archaeological assets are not anticipated to be significant due to the nature of any impacts and the value of the assets.

12.6.4 Therefore, setting impacts upon non-designated archaeological assets during all phases are unlikely to be significant and will not be considered further within the EIA or reported in the ES. Setting effects upon designated archaeological assets in the form of Scheduled Monuments will be covered under built heritage (see **Chapter 11: Built Heritage**).

Operation and Maintenance Phase

Full or Partial Removal or Disturbance of Archaeological and Geoarchaeological Assets through Groundworks

12.6.5 During the operation and maintenance phase, the Proposed Development will not include intrusive activities such that it would lead to a disturbance of below ground heritage assets. As such, there are unlikely to be any direct impacts on archaeological remains during the operation and maintenance phase.

12.6.6 Therefore, full or partial removal or disturbance of archaeological and geoarchaeological assets through groundworks during the operation and maintenance phase is unlikely to be significant and will not be considered further in the EIA or reported in the ES.

Decommissioning Phase

Full or Partial Removal or Disturbance of Archaeological and Geoarchaeological Assets through Groundworks

12.6.7 Effects on buried heritage are not anticipated from the decommissioning phase, as parts of the Site where associated work will take place will have already been subject to appropriate mitigation measures during the construction phase.

12.6.8 Therefore, full or partial removal or disturbance of archaeological and geoarchaeological assets through groundworks during the decommissioning phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Potential Likely Significant Environmental Effects

12.6.9 Where potential likely significant effects have been identified at this stage and are proposed to be ‘scoped in’, these are set out in **Table 12-9**. These environmental effects will be assessed within the EIA and reported on in the ES.

Table 12-9: Potential likely significant environmental effects 'scoped in'

Potential likely significant effect	Receptor(s)	Phase(s)
Full or partial removal, or disturbance of, archaeological and geoarchaeological assets through groundworks	Known and unknown archaeological and geoarchaeological features and deposits within the footprint of groundworks	Construction
Change in below ground preservation conditions through groundworks or other intrusive works and changes in hydrology	Known and unknown archaeological and geoarchaeological features and deposits, both immediately within the construction footprint and potentially those in proximity	Construction, operation and maintenance and decommissioning

12.6.10 The potential for cumulative effects arising from the potential likely significant environmental effects identified in **Table 12-9**, both in terms of inter-project and intra-project effects, will be considered within the ES. The approach to the cumulative effects assessment in the ES is set out in **Chapter 18: Cumulative Effects Assessment Methodology**.

12.7 Proposed Approach to Detailed Assessment in the ES

Further Baseline Data Collection

12.7.1 The archaeological assessment for the ES will draw upon multiple sources to compile the baseline to inform the assessment, including resources held by the HER, results of prior archaeological work in the vicinity, historic map evidence, LiDAR data, aerial photos, existing borehole data and the history of the area.

12.7.2 A review of historic Tithe and OS mapping is being undertaken for the Site. This will inform the ES and Archaeological DBAs.

12.7.3 A review of LiDAR data is being undertaken for the Site. This will inform the ES and Archaeological DBAs.

12.7.4 In addition to the programme of geophysical surveys undertaken across the Main Site geophysical surveys of the underground section of Eastern Cable Route will be conducted pre-submission to identify any potential for significant effects and pre-construction trial trenching will be committed to, as appropriate.

12.7.5 Pre-submission geophysical surveys are not proposed for the overhead line section of the Eastern Cable Route or for the underground cable or overhead line sections of the Western Cable Route. The location of the overhead line pylons and access roads will be fixed as part of detailed design prior to construction and the Archaeological Mitigation Strategy will commit the project to undertake geophysical surveys and, if required, trial trenching, of these areas prior to construction. If significant archaeology is discovered, the routing of the below ground infrastructure and pylon and access road locations will be adjusted to avoid or reduce significant effects.

12.7.6 Further analysis of geoarchaeological potential is also underway through both desk-based methods (e.g. review of publicly available geological datasets) and from testing as part of the programme of evaluation trial trenching that is underway.

Detailed Assessment Methodology

12.7.7 An Archaeological DBA and Geoarchaeological DBA will be prepared to accompany the ES and provide the archaeological baseline. This will seek to understand and define the archaeological potential of the Site, and the anticipated importance of any associated evidence.

12.7.8 A geoarchaeological desk-based assessment is being prepared to assess the anticipated geoarchaeological potential of the Site. This will inform the ES and Archaeological DBAs. It will also help to inform any requirements for on-site geoarchaeological investigations.

12.7.9 A geoarchaeological deposit model will comprise part of the reporting of proposed pre-submission evaluation trenching in the Data Centre Campus / BESS Units / Substation area within the Western Site.

12.7.10 The results of the geophysical surveys and proposed evaluation trenching will also be used to inform the archaeological baseline for the ES and associated Archaeological DBAs.

12.7.11 The DBAs will be informed by available baseline data and undertaken with regard to the standards and guidance listed in **Paragraph 12.2.1**. The assessment will be qualitative in nature.

12.7.12 Significance, as defined in the NPPF, lies in the value of an archaeological asset to this and future generations because of its heritage interest, which may be archaeological, architectural, artistic or historic. To avoid confusion with the EIA

terminology of 'significance of effect', the term 'importance' will be used rather than 'significance'.

12.7.13 The determination of the importance of these assets is based on statutory designation and / or professional judgement, including four values, based on English Heritage guidance, Conservation Principles: evidential value, aesthetic value, historic value and communal value.

12.7.14 The consideration and forecasting of likely significant effects is based upon an assessment of data relating to designated and non-designated archaeological assets, undertaken by professionals with extensive desk and field-based experience in the identification, assessment and mitigation of development-related effects upon archaeological assets.

12.7.15 The Historic Environment Officer at NCC will be engaged with as an appropriate part of the ES, particularly regarding the scope of any archaeological investigations upon the Site which will inform the baseline.

Reporting Effects and Significance

12.7.16 The assessment of likely significant effects within the ES will consider the importance of the receptor and the magnitude of impact to determine the level of effect on a scale of major, moderate, minor and negligible based on the matrix in **Chapter 2: EIA Methodology**. Whether the effect is Significant or Not Significant will be determined following this, using professional judgement alongside the application of relevant legislation, policy and guidance.

12.8 Assumptions, Limitations and Uncertainties

12.8.1 The assumptions, limitations and uncertainties that have been identified to date are set out in **Table 12-10**.

Table 12-10: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• At this stage, the design and layout of the Proposed Development is still to be finalised. As such, a precautionary approach has been taken in the assessment of potential archaeological impacts and assumes a worst-case scenario. • The Archaeological and Geoarchaeological DBAs are in the process of being prepared. These will be completed to inform the ES and provide a robust baseline for the assessment of the archaeological potential of the Site.

Assumptions, limitations and uncertainties

- A complete set of geophysical survey data is not yet available at the time of writing. As data becomes available, it will be used to inform the archaeological and geoarchaeological DBAs and ES.
- The scoping assessment has drawn on existing available information, professional judgement, and available HER data. In the absence of intrusive archaeological investigation, the potential for below-ground archaeology remains uncertain.

12.9 Summary

12.9.1 A summary of the potential effects 'scoped in' and 'scoped out' for buried heritage is provided in **Table 12-11**.

Table 12-11: Summary of potential effects 'scoped in' and 'scoped out' for buried heritage

Potential effect	Phase
'Scoped Out'	
Setting effects on non-designated archaeological assets	Construction, operation and maintenance and decommissioning
Full or partial removal or disturbance of archaeological and geoarchaeological assets through groundworks	Operation and maintenance and decommissioning
'Scoped In'	
Full or partial removal or disturbance of archaeological and geoarchaeological assets through groundworks	Construction
Change in below ground preservation conditions through groundworks or other intrusive works and changes in hydrology	Construction, operation and maintenance and decommissioning

13 Water Environment

13.1 Introduction

13.1.1 This Scoping Chapter presents the scope and methodology for the assessment of environmental effects related to the water environment. This Scoping Chapter has been informed by relevant legislation, policy and guidance, baseline conditions and mitigation measures identified to date.

13.1.2 This Scoping Chapter should be read in conjunction with **Chapter 4: Initial Description of the Proposed Development**, **Chapter 15: Greenhouse Gases and Climate Change** and 'Land Quality' in **Chapter 17: Technical Aspects to be 'Scoped Out'**.

13.2 Summary of Relevant Legislation, Policy and Guidance

13.2.1 A list of legislation, policy and guidance relating to water environment relevant to the Proposed Development is as follows:

Legislation

- The European Water Framework Directive (WFD) 2000/60/EC162.
- The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017[163].
- Flood Directive 2007/60/EC[164].
- Environmental Protection Act 1990.
- Flood and Water Management Act 2010[165].
- Water Resources Act 1991[166].
- Land Drainage Act 1991[167].
- Environment Act 2021[168].
- Water Act 2014[169].
- The Environmental Damage (Prevention and Remediation) (England) Regulations 2015[170].
- Pollution Prevention and Control Act 1999[171].
- The Private Water Supplies (England) Regulations 2016[172][173].
- The Water Supply (Water Quality) Regulations 2018[174].
- The Environmental Permitting (England and Wales) Regulations 2016[175].
- King's Lynn Internal Drainage Board (IDB) (KLIDB) Byelaws[176].
- East of the Ouse, Polver and Nar IDB (EOPNIDB) Byelaws[177].
- Stringside IDB Byelaws[178].

Policy

- NPS EN-1.
- NPS EN-3.
- NPS EN-5.
- NPPF.
- King's Lynn and West Norfolk Local Plan 2021 – 2040.

Guidance

- NPPG: Flood Risk and Coastal Change[179].
- National Highways (formerly Highways England) DMRB LA 104 Environmental assessment and monitoring (2020) ('LA 104')[180].
- National Highways (formerly Highways England) DMRB LA 113 Road drainage and the water environment (2020) ('LA 113')[181].
- Environment Agency Flood Risk Assessments applying for planning permission 2014 (updated 2026)[182].
- Environment Agency Protect groundwater and prevent groundwater pollution guidance 2017 (updated 2025)[183].
- Nationally Significant Infrastructure Projects: Advice on the Water Framework Directive (2026)[184].
- KL&WNBC Strategic Flood Risk Assessment (SFRA) (2018)[185].
- NCC Preliminary Flood Risk Assessment (PFRA) (2011)[186].
- NCC Local Flood Risk Management Strategy (LFRMS) (2015)[187].

13.3 Engagement to Date

13.3.1 The engagement undertaken to date is summarised in **Table 13-1**.

Table 13-1: Summary of engagement undertaken to date

Stakeholder	Date and type of engagement	Summary of key comments
Environment Agency	May 2026 – ongoing Teams call / email correspondence	• Introduction of the proposed flood risk appraisal methodology to the Environment Agency. • Discussion on existing flood sources, areas at risk of flooding and Environment Agency requirements on where further assessment is necessary. • Further discussions to be held on the appropriate flood models and climate

Stakeholder	Date and type of engagement	Summary of key comments
		change allowances to be included within the assessment. • Environment Agency confirmed that floodplain compensation is not required within the tidal floodplain.

13.4 Baseline Conditions

13.4.1 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and provides an overview of the relevant baseline conditions for the water environment.

Baseline Data Collection Activities to Date

Study Area

13.4.2 Given the nature of hydrology, it is difficult to accurately define a study area as water is a flowing element. Therefore, in the absence of any specific guidance relating to solar, BESS, substations and data centre developments and / or grid connection infrastructure (including overhead lines and underground cables) and in accordance with DMRB LA 113, a 1km buffer from the Site boundary is considered appropriate, as this is considered to be a sufficient distance to encompass catchments associated with the Proposed Development, to enable the deposition of silts in overland flows and provide dilution of any concentrated pollutants. Any effects on waterbodies beyond 1km from the Site boundary are considered to be negligible. The Site boundary and study area are shown in **Figure 13-1: Water Environment Study Area**.

13.4.3 The study area in this Scoping Chapter considers hydrological receptors only. Geology and Ground Conditions are considered under 'Land Quality' in **Chapter 17: Technical Aspects to be 'Scoped Out'**.

13.4.4 Baseline data have been collected using the following sources and methods:

- Ordnance Survey and British Geological Survey (BGS) Mapping, geological and borehole mapping[188].
- DEFRA LiDAR 1m Topographic Dataset[189].
- Environment Agency Watercourse Mapping[190].
- Environment Agency Asset Management Mapping[191].
- Environment Agency Flood Map for Planning[192].

- Environment Agency Risk of Flooding from Surface Water Mapping[193].
- Environment Agency Reservoir Flood Risk Mapping[194].
- Environment Agency Historic Flood Maps[195].
- Environment Agency Groundwater Vulnerability Mapping[196].
- Environment Agency Source Protection Zone Mapping[197].
- Environment Agency Drinking Water Protected Areas (Surface Water)[198].
- Environment Agency Drinking Water Safeguard Zones (for Surface Water and Groundwater)[199].
- EA Water Framework Directive River Basin Management Plans and Catchment Data Explorer[200].
- KL&WNBC SFRA.
- NCC PFRA.
- NCC LFRMS.
- Receipt and analysis of The Wash (2018), The Great Ouse (2015), The Tidal River Nene (2011) and Middle Wissey (2015) modelling studies and results.
- LandIS – Soilscapes[201].
- CEH: Flood Estimation Handbook (FEH) Web Service[202].

13.4.5 In addition, baseline models / data have been obtained from the Environment Agency through the engagement set out in **Table 13-1**.

Baseline Conditions

Topography and Land Use

Walpole Substation

13.4.6 The land is predominantly agricultural, with parts of the Area lying within the existing Walpole NGET GSP.

13.4.7 Land levels are consistent across the area, with 1m resolution LiDAR data showing a range of between 3.5m Above Ordnance Datum (AOD) and 4m AOD.

Western Cable Route

13.4.8 The Western Cable Route consists of agricultural land with some highways, tracks, dwellings and the Walpole Bank Solar Farm as its western extent.

13.4.9 Land levels in the Western Cable Route are consistently flat and low, varying between approximately 1m AOD and 3m AOD.

Western Site

13.4.10 The Western Site comprises agricultural land with some supporting infrastructure (tracks, highways and buildings).

13.4.11 The Western Site is low-lying, with levels ranging between 0.5m AOD in the south-east corner and 2.6m AOD in the north-west corner. There is a slight ridge of raised land running diagonally from south-west to north-east where land levels are consistently around 2m AOD to 2.5m AOD.

Eastern Site

13.4.12 The Eastern Site is made up of various land parcels, all of which comprise agricultural land with agricultural buildings.

13.4.13 The topography varies across each parcel, with the lowest being 3.3m AOD at the southern edge of the Eastern Site. The highest recorded levels in the Eastern Site are along the northern parcels, and in the south-west and north-west corner, where land levels vary between around 29m AOD and 33m AOD.

Eastern Cable Route

13.4.14 The Eastern Cable Route consist of agricultural land with some highways, tracks and dwellings.

13.4.15 LiDAR data shows the highest level along the Eastern Cable Route is at the eastern end, at 34m AOD, with land levels falling west along the length of the cable route to lows of 0.5m AOD to 1m AOD adjacent to the River Great Ouse.

Surface Hydrology (Watercourses) and Flood Defences

Walpole Substation

13.4.16 The tidal River Nene (classified as a Main River) flows in a northerly direction approximately 1.4km to the west of Walpole Substation. A number of other unnamed watercourses (Ordinary Watercourses) flow through and around the immediate area surrounding Walpole Substation. The watercourses within the study area around Walpole Substation are shown in **Figure 13-2: Watercourses**.

13.4.17 The Environment Agency Spatial Flood Defences show that the River Nene near to the Site is lined by embankments, providing a 1 in 150-year standard of protection[203]. The Environment Agency Flood Defence conditions are ranked 1 to 5, with 1 being ‘Very Good’ through to 5 being ‘Very Poor’. A ‘0’ ranking means the condition has not been checked. The embankments along the River Nene are classified as having a condition of ‘3’ (fair)[204].

13.4.18 Walpole Substation is within the Lower Nene Surface Water Operational Catchment, although there are no WFD surface waterbodies in proximity.

13.4.19 The River Nene itself is, due to its tidal nature, classified as the Nene Coastal Water Body within The Wash Transitional and Coastal (TraC) Operational Catchment. The Nene Coastal Waterbody is under the WFD Cycle 3, 2022 Classification as being in overall 'Moderate' ecological condition.

13.4.20 The WFD designated surface waterbodies and their respective operational catchments are shown in **Figure 13-3: WFD Surface Waterbodies Operational Catchments**. The WFD designated TraC operational catchments are shown in **Figure 13-4: WFD Transitional and Coastal Waterbodies**.

Western Cable Route

13.4.21 There are no Main Rivers along the Western Cable Route.

13.4.22 The Western Cable Route crosses various unnamed Ordinary Watercourses and the named Five Mile Drain.

Western Site

13.4.23 The tidal River Great Ouse and Great Ouse Relief Channel (which are Main Rivers) flow in a northerly direction approximately 1km to the east of the Western Site at the closest point (at Eau Brink Road). Reeds Drain flows towards the east through the Western Site and there are numerous named Ordinary Watercourses flowing through or near the Western Site, including:

- Smeeth Lode.
- Forty Foot Drain.
- Mill Basin Drain.
- Middle Level Main Drain.

13.4.24 A number of other unnamed Ordinary Watercourses flow through and around the immediate area surrounding the Western Site.

13.4.25 These Ordinary Watercourses are all within the KLIDB district and flow towards KLIDB pumping stations to the east of the Western Site (i.e. Islington Pumping Station and St Germans Pumping Station), which pump flows into the River Great Ouse.

13.4.26 The Environment Agency Spatial Flood Defences show that the River Great Ouse is lined by embankments stated as having a varying condition of '2' (good) and '3' (fair). The embankment provides a 1 in 100-year standard of protection.

13.4.27 The Western Site is within the North West Norfolk Rivers Surface Water Operational Catchment. There are no WFD classified surface water bodies within

or near the Western Site. All waterbodies within this operational catchment are to the east of the River Great Ouse.

13.4.28 The River Great Ouse, as a tidal waterbody, is classified as being within the Great Ouse TraC Waterbody Catchment. The River Great Ouse Coastal Waterbody is under the WFD Cycle 3, 2022 Classification as being in overall 'Poor' ecological condition.

Eastern Site

13.4.29 The River Nar, a Main River, flows towards the west, approximately 4.5km to the north of the Eastern Site at the nearest point. The Lode Dike is a tributary of the River Wissey to the south and is classified as a Main River from the southern tip of the Eastern Site at the junction with Stoke Road. Adjacent to the south-eastern boundary, the Lode Dike is classified as an Ordinary Watercourse. The Lode Dike is referred to as the Stringside Stream waterbody in terms of WFD classifications.

13.4.30 The Old Carr Stream flows along the south-east boundary of the Eastern Site, connecting to the Lode Dike at the junction with Stoke Road.

13.4.31 There are further unnamed Ordinary Watercourses across the Eastern Site, primarily in the southern parts and in the areas to the west and east of Fincham.

13.4.32 The Ordinary Watercourses are largely within the Stringside IDB district and flow towards the River Wissey further to the south of the Lode Dike.

13.4.33 The Environment Agency Spatial Flood Defences show that the section of the Lode Dike classified as a Main River is lined with natural high ground with a condition rating varying between '3' (fair) and '4' (poor). The standard of protection is not provided in this dataset.

13.4.34 The Eastern Site is primarily within the Wissey Surface Water Operational Catchment, with a small section along the northern boundary within the North West Norfolk Rivers Surface Water Operational Catchment.

13.4.35 The Stringside Stream (Lode Dike) waterbody catchment is classified as being in overall 'Poor' ecological condition, with the Old Carr Stream waterbody catchment classified as 'Good' ecological condition.

Eastern Cable Route

13.4.36 The Eastern Cable Route crosses the River Great Ouse and the Great Ouse Relief Channel (Main Rivers) along with the Middle Level Main Drain, Forty Foot

Drain, Smeeth Lode and numerous unnamed Ordinary Watercourses to the west off the River Great Ouse. To the east of the River Great Ouse and Great Ouse Relief Channel, the Eastern Cable Route crosses the Polver Drain and various unnamed Ordinary Watercourses.

Geology and Hydrogeology

13.4.37 According to the BGS online mapping, the Site is underlain by the following bedrock geology:

- Walpole Substation: Ampthill Clay Formation (mudstone).
- Western Cable Route: Ampthill Clay Formation (mudstone) and Kimmeridge Clay Formation (mudstone).
- Western Site: Ampthill Clay Formation (mudstone) and Kimmeridge Clay Formation (mudstone).
- Eastern Cable Route: Kimmeridge Clay Formation (mudstone), Roxham Member and Runcton Member (undifferentiated - sand), Mintlyn Member (sand), Leziate Member (sand), Carstone Formation (sandstone), Gault Formation (mudstone) and West Melbury Marly Chalk Formation (chalk).
- Eastern Site: West Melbury Marly Chalk Formation (chalk), West Melbury Marly Chalk Formation (chalk) and Holywell Nodular Chalk Formation and New Pit Chalk Formation (undifferentiated – chalk).

13.4.38 BGS online mapping identifies the following superficial deposits beneath the Site:

- Walpole Substation: Tidal flat deposits (clay and silt).
- Western Cable Route: Tidal flat deposits (clay and silt).
- Western Site: Tidal flat deposits (clay and silt).
- Eastern Cable Route: Tidal flat deposits (clay and silt), Tottenhill Sand and Gravel Member (gravel), Head (clay, silt, sand and gravel) and Lowestoft Formation (diamicton).
- Eastern Site: Lowestoft Formation (diamicton), Peat and Alluvium (clay, silt, sand and gravel).

13.4.39 Walpole Substation, Western Cable Route and Western Site are not underlain by any mapped aquifers defined in the BGS Aquifer Designations. The entire Eastern Site and much of the Eastern Cable Route are underlain by a ‘Principal’ aquifer (Bedrock) and Secondary A and B aquifers (Superficial Drift) defined in the BGS Aquifer Designations.

13.4.40 There are three WFD classified groundwater bodies that intersect with the Eastern Cable Route and Eastern Site. These are:

- North West Norfolk Sandringham Sands.
- North West Norfolk Chalk.
- Cam and Ely Ouse Chalk.

13.4.41 The WFD designated groundwater bodies and their operational catchments are shown in **Figure 13-5: WFD Groundwater Waterbodies Operational Catchments.**

13.4.42 The Environment Agency Groundwater Source Protection Zones (SPZ) mapping indicates that the majority of the Site is located outside of any SPZs. However, there are two areas at the far eastern edge of the Eastern Site which partially fall into SPZ 3 (Total Catchment) and into SPZ 1 (Inner Protection Zone). These are shown in **Figure 13-6: Source Protection Zones**.

Water Protected Areas and Safeguard Zones

Water Protected Areas

13.4.43 Drinking Water Protection Areas (DWPAs) are areas where raw water is abstracted for human consumption – providing on average more than 10 cubic metres (m^3) per day or serving more than 50 persons – or is intended for future use. Water sources for drinking supplies need to be protected under WFD to ensure they are not polluted and avoid / minimise the need for additional purification treatment.

13.4.44 The majority of the study area is not located within a Surface Water DWPA. A very small section in the south-east corner of the study area is located within the River Wissey (ID: GB105033047630) DWPA. Surface Water DWPAs are shown in **Figure 13-7: Surface Water Drinking Water Protected Areas**.

Water Safeguard Zones

13.4.45 Drinking Water Safeguard Zones (DWSZ) are areas designated to protect drinking water supplies from pollution. These zones are identified through monitoring and risk assessment of surface water and groundwater sources.

13.4.46 Walpole Substation, Western Cable Route, Western Site and Eastern Cable Route are not located within a DWSZ for both Surface Water and Groundwater.

13.4.47 The Eastern Site is located entirely within a surface water DWSZ (River Wissey – ID: SWSGZ1014) and partially within a groundwater DWSZ (ID: GWSGZ0317)[205]. Surface water DWSZs are shown in **Figure 13-8: Surface Water Drinking Water Safeguard Zones** and groundwater DWSZs are shown in **Figure 13-9: Groundwater Drinking Water Safeguard Zones**.

Water Supply and Sewerage Infrastructure

13.4.48 Anglian Water operate clean water and wastewater infrastructure in the study area.

Flood Risk

Tidal

13.4.49 The Environment Agency's Flood Map for Planning shows areas at risk of flooding from the sea, or other tidal sources, such as from the Wash and North Norfolk coastline, the River Great Ouse and the River Nene. For tidal flooding, the Flood Zones are defined as follows:

- Flood Zone 1 (low probability): Land having a less than 0.1% (1 in 1000) annual probability of flooding.
- Flood Zone 2 (medium probability): Land having between 0.1% and 0.5% (1 in 200 to 1 in 1000) annual probability of flooding and accepted recorded flood outlines.
- Flood Zone 3a (high probability): Areas shown to be at a 0.5% (1 in 200) or greater annual probability of flooding.
- Flood Zone 3b (functional floodplain): Areas shown to be at a 3.3% (1 in 30) or greater annual probability of flooding).

13.4.50 The Environment Agency Flood Map for Planning also shows Flood Zones plus climate change, where climate change for risk of flooding from the sea is represented by the 'Upper End' climate change allowance, accounting for cumulative sea level rise to 2125. In some locations within the Site, climate change data is not available due to lack of data or data updates in progress.

13.4.51 The Environment Agency's Flood Map for Planning is shown in **Figure 13-10: Flood Map for Planning**.

13.4.52 The baseline tidal flood risk to each part of the Proposed Development is outlined below.

- Walpole Substation: According to the Environment Agency's Flood Map for Planning, Walpole Substation is shown to be almost entirely located within Flood Zone 2 and Flood Zone 3 from tidal sources, indicating a medium and high probability of flooding. Flood zones with climate change data are not available for this area. The Environment Agency Recorded Flood Outlines show no historic records of flooding in Walpole Substation.

- Western Cable Route: The Western Cable Route is shown to be located entirely within Flood Zones 2 and 3 from tidal sources, with no recorded flood events.
- Western Site: The majority of the Western Site is shown to be located within Flood Zone 3, with a small area of Flood Zone 2 at the southern end of the Site and one area of Flood Zone 1 near the centre of the Site. Flood zones with climate change data are not available for this area. The Environment Agency Recorded Flood Outlines show no historic records of flooding in the Western Site.
- Eastern Site: The Eastern Site is located outside of the tidal floodplain and the focus in this part of the Site is on fluvial sources, as discussed below.
- Eastern Cable Route: The Eastern Cable Route is within the tidal floodplain for approximately 60% of the route, with the remaining section from the south of Tottenhill and beyond located within Flood Zone 1. There are no records of flooding along the Eastern Cable Route, although there is a recorded event of flooding approximately 200m to the north-east where the River Nar breached its banks in 1993.

Fluvial

13.4.53 The Environment Agency's Flood Map for Planning also shows areas at risk of flooding from rivers (or fluvial) sources, such as from the River Wissey and its main river tributaries. For fluvial flooding, the Flood Zones are defined as follows:

- Flood Zone 1 (low probability): Land having a less than 0.1% (1 in 1000) annual probability of flooding.
- Flood Zone 2 (medium probability): Land having between 0.1% – 1% (1 in 100 to 1 in 1000) annual probability of flooding and accepted recorded flood outlines.
- Flood Zone 3 (high probability): Areas shown to be at a 1% (1 in 100) or greater annual probability of flooding.
- Flood Zone 3b (functional floodplain): Areas shown to be at a 3.3% (1 in 30) or greater annual probability of flooding.

13.4.54 The Environment Agency Flood Map for Planning also shows Flood Zones plus climate change, where climate change for risk of flooding from rivers is represented by the 'Central' peak river flow allowance for the 2080s epoch (2070 – 2125).

13.4.55 The baseline fluvial flood risk to each part of the Proposed Development is outlined below.

- Walpole Substation: As noted above, it is understood that the Walpole Substation is within the tidal floodplain with no fluvial Flood Zones nearby.
- Western Cable Route: The Western Cable Route is entirely within the tidal floodplain. There are no fluvial flood zones along the Western Cable Route.
- Western Site: The Western Site is within the tidal floodplain with no fluvial Flood Zones nearby. The Ordinary Watercourses running through and around the Site, as described in **Paragraphs 13.4.23 – 13.4.25,** fall under IDB jurisdiction, with levels within the watercourses primarily maintained by pumped infrastructure. The risk of flooding from these watercourses is therefore considered to be low. However, further discussions will be held with the KLIDB during the pre-application stage.
- Eastern Site: There are fluvial flood zones within the Eastern Site relating to the Lode Dike (Stringside Stream WFD waterbody) and the Old Carr Stream. The area of the Site to the north of the junction of Stoke Road and Oxborough Road, and the area to the west of Eastmoor Road are the primary areas affected by these watercourses (noting that development is not proposed in all of these parts of the Eastern Site). The parts of the Eastern Site to the west (along A1122 (Downham Road) and south (along Broughton Road) of Fincham are partially within Flood Zones 2 and 3 from the Lode Dike, as is the southern tip of the Eastern Site. A small area in the south-east corner of the Eastern Site is within Flood Zone 3 relating to the Old Carr Stream. There are no recorded events of flooding within the Eastern Site or study area.
- Cable Routes: The parts of the Eastern Cable Route that are within a floodplain are also wholly within the tidal floodplain. There are no fluvial flood zones along the Eastern Cable Route.

Pluvial

13.4.56 The Environment Agency Flood Map for Planning Surface Water mapping includes three events, as follows:

- 1 in 30-year return period event (considered to be high probability).
- 1 in 100-year return period event (considered to be medium probability).
- 1 in 1000-year return period event (considered to be low probability).

13.4.57 The mapping also includes an event to estimate the impacts of climate change up to the year 2125, based on UK Climate Change Projections (UKCP18) data.

13.4.58 The Environment Agency's Surface Water mapping, including climate change up to the year 2125, is shown in **Figure 13-11: Flood Map for Planning Surface Water**.

13.4.59 For the purpose of outlining baseline conditions, the mapped extent during the 1 in 100-year return period event, including climate change (i.e. the design pluvial flood event) has been described below for each part of the Proposed Development.

- Walpole Substation: The Environment Agency's Flood Map for Planning Surface Water mapping, including climate change up to 2125, shows that during a 1 in 100-year return period event, there are no overland flow paths near the Walpole Substation, although there are areas of localised accumulation. During the design pluvial flood event, surface water accumulation is generally limited to 150mm depth, with some localised areas where the depth could reach 300mm.
- Western Cable Route: Along the Western Cable Route, there are scattered areas of localised accumulation within depressions and along the routes of Ordinary Watercourses (where water is shown to pool within ditches). However, no significant flow paths are present.
- Western Site: For the Western Site, the Environment Agency mapping shows no flow paths, with only localised accumulation within minor topographical depressions associated with the existing agricultural fields. Across the fields, the flood depth within the depressions is shallow at 150mm to 300mm, with the occasional area with a greater depth. The greater depths appear to be associated with more formal features such as ponds or man-made excavations.
- Eastern Site: The Environment Agency mapping shows much the same pattern across the Eastern Site, with no formalised flow paths and only localised depressions scattered across the agricultural land. The predicted depth of flooding in the Eastern Site is also limited to 300mm for the most part, with localised areas of slightly greater depth.
- Eastern Cable Route: Along the Eastern Cable Routes, there are scattered areas of localised accumulation within depressions and along the routes of Ordinary Watercourses (where water is shown to pool within ditches). However, no significant flow paths are present.

Sewers

13.4.60 The Site is largely located across agricultural fields. With the exception of potential field drains being present to aid in agricultural drainage, piped drainage infrastructure within the Site is anticipated to be limited. Therefore, the risk of flooding from surcharging sewers is considered to be low.

Groundwater

13.4.61 The KL&WNBC SFRA includes mapping showing the 'Areas Susceptible to Groundwater Flooding', which indicate the proportion of each grid cell where ground conditions mean groundwater emergence may occur.

13.4.62 For Walpole Substation, Western Cable Route and Western Site, the mapping shows no coverage of these areas, indicating that there is a low probability of groundwater flooding. Part of the Eastern Cable Route passes through an area where ranges of less than 25% and 25% to 50% of the ground could facilitate emergence. In the Eastern Site, land in the areas south and east of Barton Bendish varies between less than 25% and 50% to 75% susceptible to groundwater emergence.

13.4.63 The Environment Agency Groundwater Vulnerability Mapping shows that Walpole Substation, Western Cable Route, Western Site and much of the Eastern Cable Route are above an unproductive aquifer. The remaining section of the Eastern Cable Route (east of Tottenhill) and the Eastern Site are shown to be at between 'Medium-Low' and 'High' risk of groundwater flooding.

Artificial Sources

13.4.64 The Environment Agency Reservoir Flood Extents dataset indicates that Walpole Substation, Western Cable Route, Western Site and Eastern Cable Route are located outside the extents of reservoir flooding. However, there are some areas within the study area, primarily around the Eastern Site, which are indicated to be at risk of flooding under the 'dry day' and 'wet day' scenarios. The Environment Agency's Risk of Flooding from Reservoirs mapping is shown in **Figure 13-12: Risk of Flooding from Reservoirs**. There are no other artificial sources to consider.

13.5 Mitigation Measures Identified to Date

13.5.1 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the initial description of the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Construction

13.5.2 Measures during the construction phase include:

- Infrastructure will be designed to minimise the number of watercourse crossings and encroachments. Where feasible, existing crossings will be used and, if necessary, improved.
- Suitable offsets will be provided from the top of the bank of all watercourses to all construction activities to ensure that access for maintenance is provided.
- Wherever practicable, material stockpiles and construction storage will be located outside of the appropriate flood risk extents.
- Temporary drainage measures will be employed if required to ensure the rate and quality of surface water runoff are managed. This will include the management of existing flood flow paths, ensuring that these are maintained or diverted as required, to ensure no increased flood risk to users of the Site or areas off-site.
- Water quality monitoring will be undertaken in appropriate locations to ensure polluted discharges are prevented to surrounding waterbodies.
- Temporary foul drainage measures will be employed, if required, to ensure foul drainage is contained and managed during construction.
- The construction works will be designed to reduce on-site water demand so far as possible through the inclusion of prefabricated elements that are constructed off-site (such as the panels and Mounting Structures for the Solar PV Panel Component) and require limited construction activity during installation.
- Rainwater harvesting will be utilised, where practicable, and water efficiency measures will be implemented to limit the use of water where required.
- Water is to be sourced from non-potable sources or private supplies wherever possible, to reduce the pressure on demand from the water company. However, the feasibility of this is to be confirmed at the detailed design stage. Discussions will be held with Anglian Water to determine capacity.
- Pollution prevention measures will be employed in accordance with good practice guidelines and included when storing, handling and mixing of polluting substances (such as concrete production), to minimise the potential for spills and impact to the environment. Pollution prevention measures will also be employed to ensure the water quality of any discharged surface water is maintained for the duration of the construction period. This will include an emergency spill response procedure.
- Flood risk to users of the construction site and off-site areas will be managed through following good practice procedures as well as flood evacuation

measures. This will include a consideration of off-site flood risk (for fluvial and pluvial flooding), setting out how risk is managed accordingly.
- Provision of a drilling fluid breakout plan for where HDD is proposed.

13.5.3 The measures outlined above will be secured by design principles or be delivered as part of the following management plans, which will be secured by DCO Requirement as set out in the Initial Commitments Register (**Appendix B**):

- oCEMP.
- Outline Soil Management Plan (oSMP).

Operation and Maintenance

13.5.4 A sequential approach will be taken to siting infrastructure within the Site, with the flood risk vulnerability classification considered in the context of the risk of flooding from relevant sources within the Site. This will be set out in the ES. This will be secured via design principles.

13.5.5 Measures during the operation and maintenance phase include:

- The Surface Water Drainage Strategy will include Sustainable Drainage Systems (SuDS) that are commensurate with the scale and nature of the Proposed Development and designed with regard to national and local planning policy and guidance. Surface water runoff from new impermeable surfaced areas (such as the Data Centre Campus, BESS Units and Substations) will be managed through the use of SuDS to ensure that there is no increase in flood risk elsewhere, and to ensure that the potential for pollutants is appropriately controlled prior to discharge. For the Solar PV Panels within the Main Site, a quantified surface water runoff strategy will not be provided. This is on the basis that when vegetated cover is provided beneath the panels and within spaces between panel rows (which will be the case for the Proposed Development), runoff from panels is considered to have a negligible effect when compared to the baseline scenario. However, strategic SuDS such as cut-off drains, swales, filter drains and scrapes / shallow basins will be implemented where appropriate and feasible within the Solar PV Panels.
- The Surface Water Drainage Strategy will include measures to ensure sufficient fire water and containment procedures are provided for emergency purposes should a fire occur within the Data Centre Campus or BESS Units. This will include pollution control features such as drain closure valves and fire water containment systems such as bunded or kerbed areas.

- Development will be suitably offset from watercourses to allow sufficient access for maintenance corridors. The watercourse offsets will be discussed and agreed with the Environment Agency, Lead Local Flood Authority (LLFA), and IDBs as relevant. Where necessary to cross watercourses for access or cable crossings, the method / form of crossing and associated details will be discussed and agreement will be sought with the relevant stakeholders.
- Rainwater harvesting will be utilised, where practicable, and water efficiency measures will be implemented to limit the use of water where required.
- Flood risk will be managed by following flood evacuation and management plans.
- The raising of infrastructure above flood levels, where required and practicable, will be undertaken to ensure there is no increase in flood risk as a result of the Proposed Development and that the Site will remain safe and operational for its lifetime.

13.5.6 A number of the measures outlined above will be secured through the design principles for the Proposed Development, with other measures delivered as part of the following management plans, which will be secured by DCO Requirement:

- oOEMP.
- oDS.
- oBSMP.

13.5.7 The securement of the above is set out in the Initial Commitments Register (**Appendix B**).

Decommissioning

13.5.8 Measures during the decommissioning phase will be similar to those for the construction phase, though without piling.

13.5.9 The measures outlined above will be secured through design principles or delivered as part of the following management plans, which will be secured by DCO Requirement as set out in the Initial Commitments Register (**Appendix B**):

- oDEMP.
- oSMP.

13.6 Proposed Scope of Assessment

13.6.1 The proposed scope of assessment is based on an understanding of the characteristics of the Site and technical study areas and the Proposed

Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Potential Likely Environmental Effects which are Not Significant

13.6.2 Where an environmental effect is unlikely to be significant based on baseline data, mitigation identified to date and / or initial analysis and evaluation, this will not be considered further within the EIA nor reported on in the ES. An evidence base is provided to justify the 'scoping out' of these effects below.

Construction Phase

Changes in flood risk to areas off-site from tidal sources

13.6.3 The volume of the Proposed Development's footprint is negligible compared to the volume of the North Sea. Therefore, the Proposed Development will have a negligible effect on the baseline tidal flood levels on the Site and surrounding wider area. The Environment Agency also have confirmed during initial pre-application meetings (refer to **Table 13-1**) that there is no requirement for floodplain compensation within the tidal floodplain, as the extent of tidal flooding is controlled by the gravitational pull of the moon rather than changes in flow routes due to storage losses.

13.6.4 Therefore, off-site changes in flood risk from tidal sources during the construction phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Operation and Maintenance Phase

Changes in flood risk to areas offsite from tidal sources

13.6.5 The volume of the Proposed Development's footprint is negligible compared to the volume of the North Sea. Therefore, the Proposed Development will have a negligible effect on the baseline tidal flood levels on the Site and surrounding wider area. The Environment Agency have also confirmed during initial pre-application meetings (refer to **Table 13-1**) that there is no requirement for floodplain compensation within the tidal floodplain, as the extent of tidal flooding is controlled by the gravitational pull of the moon rather than changes in flow routes due to storage losses.

13.6.6 Therefore, off-site changes in flood risk from tidal sources during the operation and maintenance phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Decommissioning Phase

Changes in flood risk to areas offsite from tidal sources

13.6.7 The volume of the Proposed Development's footprint is negligible compared to the volume of the North Sea. Therefore, the Proposed Development will have a negligible effect on the baseline tidal flood levels on the Site and surrounding wider area. The Environment Agency also have confirmed during initial pre-application meetings (see **Table 13-1**) that there is no requirement for floodplain compensation within the tidal floodplain, as the extent of tidal flooding is controlled by the gravitational pull of the moon rather than changes in flow routes due to storage losses.

13.6.8 Therefore, off-site changes in flood risk from tidal sources during the decommissioning phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Potential Likely Significant Environmental Effects

13.6.9 Where potential likely significant effects have been identified at this stage and are proposed to be 'scoped in', these are set out in **Table 13-2**. These environmental effects will be assessed within the EIA and reported on in the ES.

Table 13-2: Potential likely significant environmental effects 'scoped in'

Potential likely significant effect	Receptor(s)	Phase(s)
Changes in quality and quantity of surface water runoff to surrounding watercourses and / or waterbodies	Surface water and / or groundwater waterbodies within the study area	Construction, operation and maintenance and decommissioning
Leakage of contaminants from fire suppressant water (operation) related to the BESS Units and Data Centre Campus	Surface water and / or groundwater waterbodies within the study area	Operation and maintenance
Flood risk to users of the Site	Users of the Site	Construction, operation and maintenance and decommissioning
Changes in flood risk to areas off-site (excluding tidal flooding)	Properties and land within the study area	Construction, operation and maintenance and decommissioning
Increased demand from public water supply as a result of the Proposed Development.	Anglian Water supply network	Construction, operation and maintenance and decommissioning

Potential likely significant effect	Receptor(s)	Phase(s)
Increased capacity demand on wastewater infrastructure from welfare facilities	Anglian Water foul network	Construction, operation and maintenance and decommissioning

13.6.10 The potential for cumulative effects arising from the potential likely significant environmental effects identified in **Table 13-2**, both in terms of inter-project and intra-project effects, will be considered within the ES. The approach to the cumulative effects assessment in the ES is set out in **Chapter 18: Cumulative Effects Assessment Methodology**.

13.7 Proposed Approach to Detailed Assessment in the ES

Further Baseline Data Collection

13.7.1 To inform the assessment, a detailed review of the baseline conditions will be undertaken to ensure that all aspects of the Site and important receptors are understood, and the effects can be assessed accurately. As well as baseline research, further and continued engagement will be undertaken with the stakeholders, including the Environment Agency, LLFA and IDBs.

13.7.2 Through engagement with the Environment Agency, the requirements for any updated or new site-specific flood modelling will be determined and undertaken as required. At this stage, it is considered that any updates requested by the Environment Agency would be to include the latest climate change predictions (UKCP18) for sea level rise within the existing tidal flood models available. If undertaken, this information would support the future baseline.

Detailed Assessment Methodology

13.7.3 There are no published guidelines or criteria for assessing and evaluating effects on the water environment within the context of EIA. The detailed technical assessment will have regard to the DMRB LA 104 and LA 113 and professional judgement and expertise and will largely be qualitative in nature, drawing upon quantitative data where relevant.

13.7.4 The detailed technical assessment will be supported by the following:

- Flood Risk Assessment (FRA) and Outline Drainage Strategy.
- Water Usage and Foul Drainage Assessment.
- WFD Assessment.

13.7.5 Further detail on these documents and assessments is provided below and these will be appended to the ES.

FRA and Outline Drainage Strategy.

13.7.6 An FRA and accompanying Outline Drainage Strategy will be prepared, which will take account of the above baseline research, stakeholder engagement and analysis.

13.7.7 The principles of the assessment will be discussed and agreement sought with the Environment Agency, IDB's and LLFA. Flood risk and drainage constraints and opportunities will be incorporated into the design principles. The scope of the FRA and Outline Drainage Strategy will include the following:

- Identification of flood risk zones, including delineation between flood risk zones 3a and 3b.
- Information on the sequential and exception tests (where required).
- Consideration of flood risk to the Site and identification of primary mitigation measures.
- Consideration of the possibility of increased risk of flooding to areas off-site (relating to fluvial and pluvial flooding) and identification of primary mitigation measures.
- Residual risks after implementation of tertiary and secondary mitigation measures, allowing for the future impacts of climate change.
- Qualitative consideration of any effects on the flow of groundwater beneath the Site.
- A description of SuDS appropriate for inclusion within the Proposed Development. A quantitative assessment of surface water runoff will be provided for the Data Centre Campus, BESS Units and Substations, with a qualitative assessment for the Solar PV Panel areas.

13.7.8 Alignment with the PINS Advice for Scoping Solar Development will be set out within the FRA and Outline Drainage Strategy.

13.7.9 The above research, engagement and FRA and Outline Drainage Strategy will be used to determine and conclude the effects on the receptors identified.

Water Usage and Foul Drainage Assessment

13.7.10 An assessment of potable water supply to serve the Proposed Development and likely foul runoff volumes will be provided.

WFD Assessment

13.7.11 WFD Assessment will be progressed through engagement with the Environment Agency. In line with previous engagement on similar development, it is proposed to take a combined approach which avoids the need to separate out the three traditional stages of WFD Assessment (i.e. screening, scoping and detailed assessment) but rather considers the potential typical activities that may take place and mitigation measures that could be implemented.

13.7.12 The WFD Assessment is likely to include the following:

- A summary of baseline conditions of all waterbodies within the defined study area.
- Consideration of typical activities that could impact waterbodies within the study area during construction, operation and maintenance and decommissioning.
- Mitigation measures likely to be implemented to ensure no adverse effects on waterbodies within the study area during all phases of the Proposed Development. This will largely utilise information set out within the relevant management plans (e.g. oCEMP, OOEMP, oDEMP and oSMP).

13.7.13 The WFD Assessment will be aligned with the EIA process.

Reporting Effects and Significance

13.7.14 The assessment of likely significant effects within the ES will consider the sensitivity of the receptor and the magnitude of impact to determine the level of effect on a scale of major, moderate, minor and negligible based on the matrix in **Chapter 2: EIA Methodology**. Whether the effect is Significant or Not Significant will be determined following this, using professional judgement alongside the application of relevant legislation, policy and guidance.

13.8 Assumptions, Limitations and Uncertainties

13.8.1 The assumptions, limitations and uncertainties that have been identified to date are set out in **Table 13-3**.

Table 13-3: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• Consideration of Site topography has been based on Environment Agency's 1m LiDAR (2022). This will be reviewed on receipt of site-specific topographic surveys, where available.

- The assessment will cover the water environment aspects of the Site only.
- Further engagement will be required with the Environment Agency to discuss flood modelling information.

13.9 Summary

13.9.1 A summary of the potential effects 'scoped in' and 'scoped out' for water environment is provided in **Table 13-4**.

Table 13-4: Summary of potential effects 'scoped in' and 'scoped out' for water environment

Potential effect	Phase
'Scoped Out'	
Changes in flood risk to areas off-site from tidal sources	Construction, operation and maintenance and decommissioning
'Scoped In'	
Changes in quality and quantity of surface water runoff to surrounding watercourses and / or waterbodies	Construction, operation and maintenance and decommissioning
Leakage of contaminants from fire suppressant water (operation) related to the BESS Units and Data Centre Campus	Operation and maintenance
Flood risk to users of the Site	Construction, operation and maintenance and decommissioning
Changes in flood risk to areas off-site (excluding tidal flooding)	Construction, operation and maintenance and decommissioning
Increased demand from public water supply as a result of the Proposed Development	Construction, operation and maintenance and decommissioning
Increased capacity demand on wastewater infrastructure	Construction, operation and maintenance and decommissioning

14 Agricultural Land and Soils

14.1 Introduction

14.1.1 This Scoping Chapter presents the scope and methodology for the assessment of environmental effects related to agricultural land and soils. This Scoping Chapter has been informed by relevant legislation, policy and guidance, baseline conditions and mitigation measures identified to date.

14.1.2 This Scoping Chapter should be read in conjunction with **Chapter 4: Initial Description of the Proposed Development** and **Chapter 16: Socio-economics and Population**.

14.2 Summary of Relevant Legislation, Policy and Guidance

14.2.1 A list of legislation, policy and guidance relating to agricultural land and soils relevant to the Proposed Development is as follows:

Legislation

- None specifically identified.

Policy

- NPS EN-1.
- NPS EN-3.
- NPS EN-5.
- NPPF.
- King's Lynn and West Norfolk Local Plan 2021 – 2040.

Guidance

- DEFRA Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (2009)[206].
- Natural England Technical Information Note TIN049 'Protecting the best and most versatile agricultural land' (2012)[207].
- DEFRA Agricultural Land Classification (ALC) of England and Wales: Guidelines for grading the quality of agricultural land (2025)[208].
- Institute of Quarrying Good Practice Guide for Handling Soils (2021)[209].
- ISEP (formerly IEMA) A New Perspective on Land and Soil in Environmental Impact Assessment (2022)[210].

- British Society of Soil Science Benefitting from Soil Management in Development and Construction (2022)[211].
- ISEP Solar PV on Agricultural Land (2025)[212].
- ISEP Soil Health and Environmental Assessment (2025)[213].

14.3 Engagement to Date

14.3.1 The engagement undertaken to date is summarised in **Table 14-1**.

Table 14-1: Summary of engagement undertaken to date

Stakeholder	Date and type of engagement	Summary of key comments
Natural England	Microsoft Teams meeting 14th May 2026	Discussion of methodology and agreement that the approach has regard to industry guidance.

14.4 Baseline Conditions

14.4.1 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and provides an overview of the relevant baseline conditions for agricultural land and soils.

Baseline Data Collection Activities to Date

14.4.2 Baseline data has been collected using the following sources and methods:

- Predictive ALC Map for England, published by DEFRA in May 2026[214].
- The National Soils Map, now published online on ArcGIS[215].
- Available ALC survey data as published on the multi-agency Government information service for the countryside (MAGIC).
- Google Earth aerial and Street View imagery.

Baseline Conditions

14.4.3 Agricultural land quality is measured under a system of ALC in England and Wales. This grades land into grades of 1, 2, 3a, 3b, 4 and 5 based on the inherent potential for agricultural use.

14.4.4 The Predictive ALC Map for England provides a prediction of land quality and predicts that, in England, just over half of land falls into Grades 1, 2 and 3a, which is the 'BMV' agricultural land, as defined in NPS EN-1 and the NPPF.

14.4.5 It is noted that the Proposed Development will connect at Walpole Substation, being the point of connection with available grid capacity. The Western Site is

located circa 6.7km to the east of Walpole Substation and the Eastern Site is located approximately 20km south-east of Walpole Substation. The Predictive ALC Map for England indicates that circa 85% of land is 'BMV' agricultural land within 6.7km of Walpole Substation and circa 95% of agricultural land is 'BMV' within 20km of Walpole Substation.

14.4.6 The predictive ALC for the Site is described as follows and shown in the extracts from the Predictive ALC Map for England provided in the relevant figures:

- Walpole Substation: The land at Walpole Substation is all shown as Predictive ALC Grade 1 (refer to **Figure 14-1: Predictive ALC Quality, Walpole Substation**) (noting that part of this has been built over for the existing Walpole NGET GSP).
- Western Cable Route: The Western Cable Route crosses land shown mostly as Subgrades 3a and 3b quality land, as shown, with a section of predictive Grade 1 (refer to **Figure 14-2: Predictive ALC Quality, Western Cable Route**) (noting that the Walpole Bank Solar Farm lies in the western extents of this Area).
- Western Site: The land quality at the Western Site is mixed, as shown in **Figure 14-3: Predictive ALC Quality, Western Site**. The majority is predictive ALC Grade 2 and Subgrade 3a, but with a smaller area shown as predictive Grade 1 and Subgrade 3b (refer to **Figure 14-3: Predictive ALC Quality, Western Site**).
- Eastern Cable Route: The Eastern Cable Route crosses a mix of land quality, but mostly predictive ALC Grade 2 and Subgrade 3a, with an area of predictive Grade 1 to the east of the River Great Ouse (refer to **Figure 14-4: Predictive ALC Quality, Eastern Cable Route**).
- Eastern Site: The land quality of the Eastern Site is also a mixture. The western part is predicted to be a mixture of Grade 2 and Subgrade 3b, with the eastern parts predicted to be mostly Subgrade 3a (refer to **Figure 14-5: Predictive ALC Quality, Eastern Site**).

14.4.7 The soils on-site are a mixture:

- Walpole Substation: The soils are shown as 812b Wisbech association, which are deep stoneless calcareous coarse silty soils.
- Western Cable Route: The soils are shown as mostly 532a Blacktoft association, with some 812b Wisbech association nearer the Walpole Substation. Blacktoft soils are deep, stoneless, permeable calcareous fine and coarse loamy silty soils, with some calcareous clayey soils.

- Western Site: The soils are shown as mostly 532a Blacktoft association, deep stoneless permeable calcareous fine and coarse loamy silty soils, with some calcareous clayey soils. There is a small area shown as 812 Wisbech soils, which coincides with the area shown as predictive Grade 1.
- Eastern Cable Route: Just over half of the Eastern Cable Route is shown as 532a Blacktoft association, or 812b Wisbech association, described above. Mostly along the A134 Corridor, the soils are shown as 555 Downham association soils, being deep permeable sandy and coarse loamy soils, and 572n Burlingham 1 association soils, being deep coarse and fine loamy soils with slowly permeable subsoils.
- Eastern Site: The soils of the eastern area are much more mixed. The eastern area is mostly 343f Newmarket 1 association soils, shallow well-drained calcareous sandy and coarse loamy soils. The central area is a mix of soils of 511e Swaffham Prior soils, which are well-drained calcareous coarse and fine loamy soils, and 711f Wickham 2 soils, that are slowly permeable seasonally waterlogged fine loamy over clayey soils, associated with the areas predicted to be Subgrade 3b.

14.4.8 No peat or peaty soils are shown within the Site boundary.

14.5 Mitigation Measures Identified to Date

14.5.1 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the initial description of the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Site Selection and Design Measures

14.5.2 The Applicant has had regard to ALC as a consideration in the site selection exercise and the DCO Application will set out the approach to site selection, including the Applicant's efforts to avoid and reduce the inclusion of BMV land within the Site as well as setting out the justification for the BMV land that has been included.

14.5.3 Whilst there has been limited scope within the Site to further avoid or reduce the use of BMV land, once detailed ALC survey information is available based on the site-specific ALC surveys, it may be possible to seek to design the layout and siting of fixed infrastructure to reduce the use of higher quality land where possible for works that will disturb the soils and might affect land quality. This will be secured via design principles.

Construction Phase

14.5.4 Measures during construction will include, but not be limited to:

- All works to be undertaken in general accordance with the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites.
- Soil handling guidelines, including the stripping, segregated storage, and replacement / reinstatement of topsoil and subsoil, with stockpiles managed to prevent erosion and anaerobic conditions.
- A traffic management plan establishing dedicated construction routes to minimise soil compaction and sealing, with track matting where access is required over unstripped soils.
- Control of the timing of works to avoid periods when soils are most susceptible to structural damage (e.g. when waterlogged).
- Works undertaken and overseen by suitably qualified individuals to minimise impacts on the soil.
- Liaison with surrounding landowners / farmers to reduce disruption to access.

14.5.5 The above measures will be secured by the following management plans, which will be secured by DCO Requirement as set out in the Initial Commitments Register (**Appendix B**):

- oCEMP.
- oCTMP.
- oSMP.

Operation and maintenance

14.5.6 Measures during operation and maintenance will include, but not be limited to:

- A permanent grass sward maintained beneath and between the panel rows to protect soil structure, limit erosion and surface runoff, and maintain soil organic matter.
- Use of low-ground-pressure vehicles and designated access tracks for routine maintenance of the Solar PV Panels, with vehicle movements confined to established routes to avoid widespread soil compaction.
- Scheduling of maintenance activities and vehicular access for the Solar PV Panels to avoid periods when soils are wet and most susceptible to compaction and rutting, if possible.
- Retention of soils in situ beneath the Solar PV Panels, with minimal disturbance during operation and no routine cultivation or soil stripping.

- Management of the sward by low-intensity grazing or cutting, avoiding overstocking that could cause poaching and localised compaction.

14.5.7 The above measures will be secured by the following management plans, which will be secured by DCO Requirement as set out in the Initial Commitments Register (**Appendix B**):

- oOEMP.
- oLEMP.
- oSMP.

Decommissioning

14.5.8 Measures during decommissioning will include, but not be limited to:

- Removal of above-ground infrastructure associated with the Solar PV Panels across the Main Site, Eastern Site BESS Units and Substations and Eastern Cable Route, using low-ground-pressure plant and designated access routes to limit soil compaction.
- Decompaction and loosening of soils affected during decommissioning to restore soil structure and rooting depth.
- Reinstatement of soil profiles to pre-development levels, with topsoil and subsoil handled separately and replaced in the correct sequence in accordance with best-practice soil handling.
- Scheduling of decommissioning works to avoid periods when soils are wet and most susceptible to structural damage.
- Removal of the operational sward and reinstatement of the land to agricultural use, retaining where practicable the soil-health benefits accrued during the operational and maintenance period.

14.5.9 The above measures will be secured by the following management plans, which will be secured by DCO Requirement as set out in the Initial Commitments Register (**Appendix B**):

- oDEMP.
- oSMP.

14.6 Proposed Scope of Assessment

14.6.1 The proposed scope of assessment is based on an understanding of the characteristics of the Site, technical study areas and the Proposed Development (as set out in Chapter 4: Initial Description of the Proposed Development).

Potential Likely Environmental Effects which are Not Significant

14.6.2 The following environmental effects are unlikely to be significant based on baseline data, mitigation identified to date and / or initial analysis and evaluation and will not be considered further within the EIA nor reported on in the ES. An evidence base is provided to justify the 'scoping out' of these effects below.

Construction Phase

14.6.3 The effects that have been 'scoped out' during the construction phase are set out in **Table 14-2**. These effects are referenced for the construction phase at this is the phase at which these effects occur. Therefore, they do not 're-occur' at the operation and maintenance and decommissioning phases.

Table 14-2: Effects 'scoped out': construction

Description	Justification
Effect on agricultural activity of land outwith the Site boundary	Any disruption to farm access, traffic flows, etc. will be short-term and temporary and is unlikely given access routes almost directly from the A-road network in the majority of cases. The Applicant will also liaise with surrounding landowner / farmers to reduce disruption to access during construction.
Effects on field drainage of land outwith the Site boundary	The Site Boundary, except for the Cable Routes, uses whole fields and there should be no effects on field drainage beyond the Site boundary.

14.6.4 Therefore, the effects on agricultural activity and field drainage on land outwith the Site boundary and during the construction phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Potential Likely Significant Environmental Effects

14.6.5 Where potential likely significant effects have been identified at this stage and are proposed to be 'scoped in', these are set out in **Table 14-3**. These environmental effects will be assessed within the EIA and reported on in the ES.

Table 14-3: Potential likely significant effects 'scoped in'

Potential likely significant effect	Receptor(s)	Phase(s)
Loss or disturbance of agricultural land	BMV and non-BMV agricultural land within the Site boundary	Construction and decommissioning

Potential likely significant effect	Receptor(s)	Phase(s)
Use of land	Land within the Site boundary	Operation and maintenance
Reduction in soil quality	Soils within the Site boundary	Construction and decommissioning
Food production and economic implications	Food production capability	Construction and operation and maintenance

14.6.6 The potential for cumulative effects arising from the potential likely significant environmental effects identified in **Table 14-3**, both in terms of inter-project and intra-project effects, will be considered within the ES. The approach to the cumulative effects assessment in the ES is set out in **Chapter 18: Cumulative Effects Assessment Methodology**.

14.7 Proposed Approach to Detailed Assessment in the ES

Further Baseline Data Collection

14.7.1 **Table 14-4** sets out the information that will be collected as part of the further baseline data collection activities.

Table 14-4: Information to be collected

Information to be collected	Summary of methodology
ALC for the Main Site, Walpole Substation and Eastern Cable Route (where underground)	A detailed ALC survey, at a density of 1 sample per ha on a regular 100m grid pattern, augering down to 1.2m where possible, and supplemented with periodic soil pits. The data will then be analysed to determine the ALC grade, plotted on maps and the grades measured. ALC data will not be obtained for the Areas where there are overhead lines, given the small footprint for land-take for the pylons and instead worst-case assumptions will be applied using the predicted ALC data.
Soil type and texture	Information on soil type will be collected as part of the ALC survey, at a 100m grid spacing, and will be plotted as necessary.

Information to be collected	Summary of methodology
Under-field drainage	Data on any under-field drainage known will be collected as part of the farm interviews and walk-over surveys.

Detailed Assessment Methodology

14.7.2 The detailed technical assessment will draw from the methodology set out in the ISEP Land and Soil Guide be largely quantitative in nature.

14.7.3 NPS EN-3 identifies that Grades 1, 2 and Subgrade 3a are BMV. Under the Predictive ALC Map for England, it is estimated that 50.9% of all agricultural land falls within BMV quality of Grades 1, 2 and 3a.

14.7.4 The assessment of loss or disturbance of agricultural land will largely follow the ISEP Land and Soil Guide, though there are instances where the methodology varies in places from the ISEP Land and Soil Guide in terms of the sensitivity criteria to be used. The ISEP Land and Soil Guide considers land of ALC Grades 1 and 2 to be of 'very high' sensitivity, Subgrade 3a to be of 'high' sensitivity, and land of Subgrade 3b to be of 'medium' sensitivity. Land of Grades 4 and 5 is 'low' sensitivity.

14.7.5 For the purposes of the assessment, Grades 1, 2 and 3a will all be placed in the high sensitivity category. This varies slightly from the ISEP Land and Soil Guide, with Grades 1 and 2 classed along with Subgrade 3a as 'high' rather than 'very high' sensitivity, on the basis of its abundance proportionally (almost a quarter of agricultural land is Grades 1 and 2) and spatially (over 2 million hectares of agricultural land in active use is Grades 1 and 2).

14.7.6 Soils, as a resource, can be affected by construction activities and by land use, both negatively and positively. The potential for adverse effects on soils is highest when they are wet (in a plastic state), and soils with small particles (e.g. clays) are more susceptible to damage. The ISEP Land and Soil Guide places clay soils in wetter climate areas in a higher sensitivity to damage category, with sandy soils in drier regions least susceptible. Wetness of soils is measured by hand, but the ISEP Land and Soil Guide also references the Field Capacity Days (FCD) measure from the ALC methodology as a guide to when soils are saturated.

14.7.7 The assessment will distinguish between temporary works and temporary effects on agricultural land quality or soils. It should not be assumed that a temporary work will not affect land quality or soil-related features. As noted in the ISEP Land and Soil Guide at the footnote to Table 3, "*temporary developments can result in a permanent impact if resulting disturbance or land use change causes permanent damage to soils*". Therefore, where temporary works are restorable back to the same ALC grade or do not result in permanent impacts on soils, they are a "*temporary, reversible loss of soil-related features*". If those temporary works result in a permanent impact on soils or land quality, for example because they cannot be restored back to the original ALC grade, this will be a permanent loss and considered in the detailed technical assessment accordingly.

14.7.8 It is noted that there will be permanent loss associated with Walpole Substation, the Western Cable Route (associated with the overhead line pylons footprint) and the Western Site (associated with the Data Centre Campus, BESS Units and Substation), biodiversity mitigation and enhancement areas and operational access areas. The effects will occur at the construction phase and will be permanent, so no additional effects will occur during operation and maintenance or decommissioning, in respect of these Components.

14.7.9 The assessment of effects related to food production and economic implications will be qualitative in nature and draw upon the ALC survey data collected for the Site, the wider County (Norfolk) and UK Government publications, such as the UK Food Security Report[216] and Land Use Framework[217].

14.7.10 Given the above, the activities and likely nature of effects from the different Components of the Proposed Development are set out in **Table 14-5**. Further details on temporary and permanent effects will be provided within the ES.

Table 14-5: Issues to be considered within the detailed technical assessment

Activity	Associated effect types
Construction Phase	
Construction activity including installation of Solar PV Panels, BESS Units, trenching and fixed equipment (centralised inverters, transformers and switchgear as well as Collector Compounds),	• Short-term, long-term or permanent effects on agricultural land quality, especially land of BMV quality. • Short-term, long-term or permanent effects on soils as a resource, including effects of compaction or soil mixing.

Activity	Associated effect types
and related trafficking with vehicles	
Construction activity for permanent infrastructure (Walpole Substation, Western Cable Route and Data Centre Campus / BESS Units / Substation in the Western Site).	• Permanent effects on agricultural land quality, especially land of BMV quality. • Short-term or long-term effects on soils as a resource where they are to be retained.
Operation and Maintenance Phase	
Management and maintenance of the Solar PV Panels	• Potential effects on land quality, especially land of BMV, from ongoing maintenance activities over the duration of the operation and maintenance phase.
Long-term use of land as grassland under and around the Solar PV Panels	• Any effects, adverse or beneficial, from long-term grassland use in combination with Solar PV Panels.
Operation of the Solar PV Panels	• Effects on the wider rural economy and on food production from limitations to agricultural use during the operation and maintenance phase.
Decommissioning Phase	
Physical removal of the Solar PV Panels across the Main Site, overhead lines within the Eastern Cable Route and BESS Unit / Substation in the Eastern Site and restoration of land.	• Potential for loss or downgrading of agricultural land, especially that of BMV quality, from the decommissioning activities. • Potential effects on soils from the physical activities.

Reporting Effects and Significance

14.7.11 The assessment of likely significant effects within the ES will consider the sensitivity of the receptor and the magnitude of impact (or change) to determine the level of effect on a scale of major, moderate, minor and negligible based on the matrix in **Chapter 2: EIA Methodology**. Whether the effect is Significant or Not Significant will be determined following this, using professional judgement alongside the application of relevant legislation, policy and guidance.

14.8 Assumptions, Limitations and Uncertainties

14.8.1 The assumptions, limitations and uncertainties that have been identified to date are set out in **Table 14-6**.

Table 14-6: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• A detailed ALC survey is being completed to inform the forthcoming ES. In the absence of complete survey data, this Scoping Chapter has been informed by publicly available strategic ALC mapping — the Defra 'Predictive ALC Map for England' (2026) and the Natural England 'Provisional and Regional ALC maps', which are strategic in nature and not sufficiently accurate for assessing individual fields. It is assumed, in advance of the detailed ALC survey, that land quality will be a mix of grades. It is not assumed that the Predictive ALC Map for England will have provided an accurate prediction, and therefore detailed design decisions should not be taken based on the predictive map. • Site areas and grade distributions stated in this Scoping Chapter are subject to confirmation of the DCO Application boundary and the detailed ALC surveys. • Desk-based information obtained from publicly available datasets has been taken at face value and assumed accurate and complete at the time of writing. • DEFRA is undertaking a technical review of the ALC system, due to be completed in 2028; the detailed technical assessment presented in the ES is assumed to apply the ALC guidelines current at the time of writing. • The assessment in the ES will reflect the baseline at the time of writing; future changes in land use, climate, regulatory standards or guidance will be assessed appropriately.

14.9 Summary

14.9.1 A summary of the potential effects 'scoped in' and 'scoped out' for agricultural land and soils is provided in **Table 14-7**.

Table 14-7: Summary of potential effects 'scoped in' and 'scoped out' for agricultural land and soils

Potential effect	Phase
'Scoped In'	
Loss or disturbance of agricultural land	Construction and decommissioning
Use of land	Operation and maintenance
Reduction in soil quality	Construction and decommissioning

Potential effect	Phase
Food production and economic implications	Construction and operation and maintenance
'Scoped Out'	
Effect on agricultural activity of land outwith the Site boundary	Construction
Effect on field drainage of land outwith the Site boundary	Construction

15 Greenhouse Gases and Climate Change

15.1 Introduction

15.1.1 This Scoping Chapter presents the scope and methodology for the assessment of environmental effects related to emissions of greenhouse gases (GHGs) and climate change resilience and adaptation (CCRA). This Scoping Chapter has been informed by relevant legislation, policy and guidance, baseline conditions and mitigation measures identified to date.

15.1.2 This Scoping Chapter should be read in conjunction with the initial description of the Proposed Development presented in **Chapter 4: Initial Description of the Proposed Development** and the following relevant Scoping Chapters:

- **Chapter 6: Transport and Access.**
- **Chapter 8: Air Quality.**
- **Chapter 9: Biodiversity.**
- **Chapter 10: Landscape and Visual.**
- **Chapter 13: Water Environment.**
- **Chapter 14: Agricultural Land and Soils.**

15.1.3 The detailed technical assessment for this technical aspect will be presented in two parts in the ES, as follows:

- Part A: A GHG assessment of the Proposed Development. The GHG assessment will provide a quantification of the GHG emissions resulting from the Proposed Development and resultant climate change effects.
- Part B: A CCRA assessment of the predicted impacts of future climate change in relation to the ability of the Proposed Development to adapt and be resilient to changes in climate, such as hotter, drier summers, wetter winters and increased frequency and severity of storms.

15.1.4 An ‘In Combination Climate Change Impact’ (ICCI) assessment will also be conducted to assess the extent to which projected climatic changes may exacerbate or ameliorate environmental effects identified within other technical aspects considered within the EIA process and reported on in the ES. This will be addressed individually within technical aspect chapters in the ES, with a summary provided in the Greenhouse Gases and Climate Change chapter of the ES to synthesise results.

15.2 Summary of Relevant Legislation, Policy and Guidance

15.2.1 A list of legislation, policy and guidance relating to GHG and climate change relevant to the Proposed Development is as follows:

Legislation

- Climate Change Act 2008[218].
- The Climate Change Act 2008 (2050 Target Amendment) Order 2019[219].
- The Carbon Budget Order 2016[220], Carbon Budget Order 2021[221], Carbon Budget Order 2026[222].
- Energy Act 2023[223].

Policy

- NPS EN-1.
- NPS EN-3.
- NPS EN-5.
- NPPF.
- DESNZ Carbon Budget and Growth Delivery Plan (2025)[224].
- DESNZ Clean Power 2030 Action Plan: A new era of clean electricity (2024)[225].
- UK Parliament Data Infrastructure Designation as Critical National Infrastructure (2024)[226].
- DfT Decarbonising Transport: A Better, Greener Britain (2021)[227].
- DESNZ and Department for Business, Energy & Industrial Strategy (BEIS) Energy White Paper: Powering our Net Zero Future (2020)[228].
- DESNZ and BEIS Net Zero Strategy: Build Back Greener (2021)[229].
- DESNZ and BEIS The Clean Growth Strategy (2018)[230].
- DEFRA The Third National Adaptation Programme (NAP3) and the Fourth Strategy for Climate Adaptation Reporting (2023)[231].
- HM Treasury and National Infrastructure and Service Transformation Authority UK Infrastructure: A 10 Year Strategy (2025)[232].
- BEIS British Energy Security Strategy (2022)[233].
- King's Lynn and West Norfolk Local Plan 2021 – 2040.

Guidance

- NPPG: Climate Change[234].
- Climate Change Committee (CCC) Net Zero Technical Report (2019)[235].

- ISEP Guide: Assessing Greenhouse Gas Emissions and Evaluating their Significance (Edition 2.1) (2026) ('ISEP GHG Guidance')[236].
- ISEP Guide to GHG Mitigation Hierarchy (2026) ('ISEP GHG Mitigation Guidance')[237].
- ISEP (formerly IEMA) EIA Guide: Climate Change Resilience and Adaptation (2020) ('ISEP CCRA Guidance')[238].
- Environment Agency Guidance on Climate change: risk assessment and adaptation planning in your management system (2023) ('CC Guidance')[239].
- Royal Institute of Chartered Surveyors (RICS) Whole life carbon assessment for the built environment (2nd Edition) (2024) ('RICS Guidance') [240].
- PAS 2080:2023 Carbon Management in Buildings and Infrastructure (2023)[241].
- CCC Seventh Carbon Budget: Advice for the UK Government (2025)[242].
- World Business Council for Sustainable Development and World Resources Institute The Greenhouse Gas Protocol Corporate Accounting and Reporting Standard (Revised Edition) (2001) ('GHG Protocol')[243].
- DEFRA UK Climate Change Risk Assessment (2022)[244].

Part A: GHG Assessment

15.3 Baseline Conditions

15.3.1 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and provides an overview of the relevant baseline conditions for Part A: GHG assessment.

Baseline Data Collection Activities to Date

15.3.2 A desk-based assessment has been completed using publicly available sources of information and an analysis of the baseline GHG emissions at the Site based on Natural England's Carbon storage and sequestration by habitat: a review of the evidence[245].

Baseline Conditions

Site Baseline Conditions

15.3.3 The existing land use within the Site is predominantly arable agricultural land, with the existing Walpole NGET GSP and Walpole Bank Solar Farm. The agricultural activities within the Site contribute to GHG emissions due to standard

agricultural practices including the use of farm machinery, soil erosion and application of fertilisers and pesticides. Natural England estimates average net GHG emissions from land under arable agriculture to be 0.29 tonnes of Carbon Dioxide Equivalent per ha per year (tCO_2e/ha/yr). As such, the existing Site is estimated to have associated GHG emissions equating to approximately 555.35 tCO_2e/yr. There are unlikely to be more than negligible emissions associated with the Walpole NGET GSP and Walpole Bank Solar Farm.

15.3.4 Notwithstanding this, these emissions are relatively small, and for the assessment, and to ensure a worst-case assessment is provided, the baseline will be assumed to be zero (i.e. the existing baseline emissions will not be used to reduce the net development total emissions).

Energy baseline conditions

15.3.5 The UK's energy use contributes to global GHG emissions predominantly through the combustion of fossil fuels in the generation of electricity, and directly in the use of fuels in internal combustion engine (ICE) vehicles, boilers and other uses. As a greater number of renewable energy projects have come online, the carbon emissions associated with the UK's energy use have declined and are anticipated to continue to decrease into the future. The change in the emissions profile of the energy mix is driven by three main factors:

- Fossil fuel electricity power stations are directly replaced by renewable stations.
- Fossil-fuel vehicles (ICE vehicles) are replaced by electric vehicles and fossil-fuel heating (natural gas) is replaced by electric heat sources, increasing total electricity demand.
- Energy demand is increasing in general, due in part to our increasing need for electricity for data storage and transfer in our increasingly digital world.

15.3.6 Whilst the renewable generation associated with the Proposed Development will be utilised to support the required energy demand of the Proposed Development's Data Centre Campus, remaining energy demand will be sourced from the grid.

15.3.7 It is assumed that grid electricity is projected to decarbonise in line with UK Government plans to decarbonise the UK power system by 2035 (the future energy baseline).

15.3.8 Consideration will also be included in the future energy baseline for avoided emissions associated with energy storage by the Proposed Developments' BESS Units, which allow the Data Centre Campus or UK grid to better utilise non-dispatchable, intermittent forms of energy generation, where periods of peak generation and peak utilisation are not aligned.

15.4 Mitigation Measures Identified to Date

15.4.1 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the initial description of the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Construction

15.4.2 Where relevant, the following measures will be implemented, with the aim to reduce embodied carbon as well as construction activity emissions:

- Promoting the procurement of low-carbon, responsibly sourced, and recycled construction materials (e.g. low-carbon concrete and recycled steelwork), where feasible.
- Implementing waste minimisation hierarchies to prioritise reuse and recycling on-site, diverting construction waste from landfill.
- Ensuring high-efficiency plant and equipment are utilised on-site, including hybrid or electric plant where available and feasible.
- All vehicles to be prohibited from waiting within or in the vicinity of the Site with their engines running.

15.4.3 The management plans that will secure control measures relevant to the GHG assessment during the construction phase, which will be secured by DCO Requirement include the following as set out in the Initial Commitments Register (**Appendix B**):

- oCEMP.
- oCTMP.

Operation and Maintenance

15.4.4 Where relevant, the following specific measures will be implemented to minimise embodied carbon, energy and water consumption, as well as user carbon during the operation and maintenance phase:

- A 'fabric first' approach to building design.

- Targeted low fabric air permeability and improvement on fabric U-values beyond notional building and minimum standards.
- Use of low-energy, efficient light fittings.
- External lighting will feature daylight sensors and / or presence detectors.
- Waste heat recovery apparatus will also be included, with opportunities for heat re-use under consideration.
- Backup generators to be fully Hydrotreated Vegetable Oil (HVO) compatible.
- Use of a closed-loop cooling system for the Data Centre Campus to reduce water consumption.
- Water systems designed in accordance with applicable standards, with water-efficient fittings and controls specified to minimise potable water consumption.
- Specification of low consumption sanitary fixtures.
- Water meter connected to building management systems to allow active consumption monitoring.

15.4.5 The above measures will be secured via design principles and management plans that will secure control measures relevant to the GHG assessment during the operation and maintenance phase, including the following as set out in the Initial Commitments Register (**Appendix B**):

- oOEMP.
- Outline Operational Lighting Strategy (oOLS).

15.4.6 Design measures comprising:

- Cycle access to the Data Centre Campus.
- Cycle parking at the Data Centre Campus.
- Adequate shower, changing facilities and storage lockers for staff commuting by active travel modes to the Data Centre Campus.

15.4.7 These measures will be secured by design principles.

Decommissioning

15.4.8 The measures are anticipated to be similar to those proposed for the construction phase above in **Paragraph 15.4.2**.

15.4.9 The management plans that will secure control measures relevant to the GHG assessment during the decommissioning phase include the following as set out in the Initial Commitments Register (**Appendix B**):

- oDEMP.
- oDTMP.

15.5 Proposed Scope of Assessment

15.5.1 The proposed scope of assessment is based on an understanding of the characteristics of the Site and technical study areas and the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Potential Likely Environmental Effects which are Not Significant

15.5.2 In relation to the GHG assessment, there are no potential effects scoped out as the detailed technical assessment will consider the GHG emissions arising from the Proposed Development across all lifecycle stages (construction, operation and maintenance and decommissioning), as well as consideration of the combined whole-life emissions and resultant likely significant environmental effects, following the ISEP GHG Guidance.

Potential Likely Significant Environmental Effects

15.5.3 Where potential likely significant effects have been identified at this stage and are proposed to be 'scoped in', these are set out in **Table 15-1**. These environmental effects will be assessed within the EIA and reported on in the ES.

Table 15-1: Potential likely significant environmental effects 'scoped in'

Potential likely significant effect	Receptor(s)	Phase(s)
GHG emissions	Global atmospheric climate change	Construction, operation and maintenance, decommissioning and whole lifecycle

15.5.4 GHGs will be considered as part of the cumulative (intra-project) effect assessment, with the overarching approach for assessment set out in **Chapter 18: Cumulative Effects Assessment Methodology**.

15.5.5 In relation to cumulative (inter-project) effects, all developments which emit GHGs have the potential to affect the atmospheric mass of GHGs, and therefore global atmospheric climate change as a receptor. Consequently, cumulative effects due to other specific developments are not individually identified but would be taken into account when evaluating the impact of the Proposed Development by defining the atmospheric mass of GHGs as a high sensitivity receptor. Therefore, GHG emissions will not be considered as part of the

assessment of inter-project effects. This is supported by the following text, set out in the ISEP GHG Guidance:

> *"Effects of GHG emissions from specific cumulative projects therefore in general should not be individually assessed, as there is no basis for selecting any particular (or more than one) cumulative project that has GHG emissions for assessment over any other".*

15.6 Proposed Approach to Detailed Assessment in the ES

Further Baseline Data Collection

15.6.1 A current and future baseline will be determined for the detailed technical assessment in the ES. A further detailed desk study will be undertaken to identify the details of the relevant baseline conditions for the detailed technical assessment, and this will be presented within the ES.

15.6.2 As the Proposed Development includes electricity generation in its operation, it is appropriate to define two baseline scenarios when assessing GHGs:

- The 'Site' baseline: The GHG emissions of the physical Site.
- The 'Energy' baseline: The GHG emissions of the UK's energy supply.

Site Baseline

15.6.3 As discussed in **Paragraph 15.3.4**, the existing Site comprises predominantly agricultural land, and these activities are associated with GHG emissions. However, for the purposes of the detailed assessment, the baseline GHG emissions of the Site are assumed to be zero, providing a worst-case assessment.

Energy Baseline

15.6.4 Data to inform the energy baseline (current and future) will include:

- DESNZ (2026) Greenhouse gas reporting: conversion factors 2026[246].
- DESNZ (2023) Green Book supplementary guidance: valuation of energy use and greenhouse gas emissions for appraisal[251].
- Digest of UK Energy Statistics (2026) chapter 6: Statistics on energy from renewable sources[247].

Study Area

15.6.5 The study area for the GHG assessment is defined by the likely location of emissions sources that contribute to the Proposed Development's lifecycle carbon footprint. These include all on-site and off-site emissions (both upstream and downstream) directly and indirectly caused by the Proposed Development throughout its lifecycle. These emissions will occur both in the UK and overseas. The considered emissions sources are detailed further in **Paragraph 15.6.7**.

Detailed Assessment Methodology

15.6.6 For GHG emissions, there are no recognised criteria and thresholds that relate to the quantum of GHG emissions released, and therefore the level and significance of the effect is defined in accordance with the approach outlined below following the ISEP GHG Guidance. The key steps include:

- Step 1: Establish context of GHG emissions.
- Step 2: Determine significance of effects, specifically:
  - Step 2a – the ability of the Development to be consistent with national and local policies designed to limit GHG emissions and meet the UK's Net Zero target.
  - Step 2b – the robustness, timeliness and efficacy of mitigation measures necessary to eliminate, reduce, substitute and remove GHG emissions.

Establishing Context of GHG Emissions

15.6.7 The Proposed Development will lead to the release of GHG emissions. Step 1 involves the quantification of GHG emissions from the Proposed Development in order to contextualise against borough-wide and national GHG budgets. The assessment will take a whole-life approach to develop a GHG footprint. The key GHG emissions sources that will be quantitatively assessed as part of the GHG assessment are as follows:

- Construction phase (lifecycle stages A1 – A5, as defined by BS EN 15978 'Sustainability of construction works. Assessment of environmental performance of buildings. Requirements and guidance'[248] and utilised by the RICS Guidance):
  - The embodied carbon in all Components and materials used to construct the Proposed Development (calculated for each Component of the Proposed Development, including Solar PV Panels and associated

infrastructure, the Data Centre Campus, BESS Units, Substations and the Cable Routes).
  - Emissions associated with transportation during the construction of the Proposed Development. This includes (international and domestic) transportation of materials and plant / equipment to the Proposed Development and construction worker transport.
  - Emissions associated with fuel and energy consumption for plant use during construction works.
- Operation and maintenance phase (lifecycle stages B1 – B8):
  - Emissions associated with the operational use, maintenance, repair, replacement and refurbishment of the Components of the Proposed Development.
  - Avoided energy emissions resulting from the Proposed Development's renewable energy generation (in terms of the Solar PV Panels) and BESS Units displacing higher emitting sources.
  - Emissions from energy (grid electricity consumed) and fuel consumption (used by backup generators for routine testing and emergency operations for the Data Centre Campus) and an assessment of the emissions associated with the generation of the energy used at this location. (These emissions would only apply in the scenario that the Data Centre Campus comes forward).
  - Emissions from water consumption.
  - User emissions, including those associated with traffic generated by the operation of the Proposed Development.

15.6.8 The quantity of each emission source identified above will be multiplied by the appropriate emission factor to calculate GHG emissions from each source. These will then be summed to provide a total lifetime GHG emissions for the Proposed Development.

15.6.9 Emission factors will be taken from a range of sources, which are anticipated to include:

- DESNZ carbon emission factors.
- Environmental Product Declarations (EPDs)[249].
- Published lifecycle assessment reports.
- Emission factors derived from DfT WebTAG data book[250] and DESNZ greenbook[251].
- Desktop research.

- Proprietary emission factors.

15.6.10 Following the ISEP GHG Guidance, emission sources which are deemed to have a very small (less than 1%) contribution to the overall GHG footprint of the Proposed Development and are challenging to estimate can reasonably be excluded from quantitative assessment (where all such emission sources would not exceed a maximum of 5% of total emissions). While the following are anticipated to not be considered quantitatively, they may be considered qualitatively for the development footprint to justify exclusion, and they still form part of the technical assessment:

- GHG emissions resulting from land use change during construction – as discussed above in **Paragraph 15.3.4**, due to the current agricultural land use of the Site, and minimal disturbance during installation of Solar PV Panels, assuming emissions from land use change to be zero is a conservative worst-case approach.
- GHG emissions arising from waste during operation (note that this does not include emissions associated with replacement of items, such as servers for the Data Centre Campus). Operational wastes can be difficult to calculate accurately and are anticipated to be less than 1% of the Proposed Development footprint.

15.6.11 Measures to reduce GHGs from the above-mentioned sources will nonetheless still be considered as part of the detailed technical assessment in the ES, and as part of the determination of significance (i.e. Step 2a and 2b discussed in **Paragraph 15.6.7**), where relevant, including setting out mitigations.

Determine Significance of Effects

15.6.12 To determine significance of effects, the assessment will follow the ISEP GHG Guidance. This comprises Step 2a and 2b discussed in **Paragraph 15.6.7**, which includes setting the context for the Proposed Development GHG emissions by providing a comparison of the whole lifecycle (construction, operation and maintenance and decommissioning) phases and total estimated whole life GHG emissions resulting from the Proposed Development with available local and national GHG emissions totals and carbon budgets. The assessment will also consider the robustness, timeliness and efficacy of mitigation measures necessary to eliminate, reduce, substitute and remove GHG emissions, with reference to the ISEP GHG Mitigation Guidance[237].

Reporting Effects and Significance

15.6.13 The above will be used to determine the level of effect on a scale of major, moderate, minor and negligible (for adverse effects). No level of effect is provided for beneficial effects in line with ISEP GHG Guidance. Whether the effect is Significant or Not Significant will be determined following this, using professional judgement alongside the application of relevant legislation, policy and guidance.

15.7 Assumptions, Limitations and Uncertainties

15.7.1 The assumptions, limitations and uncertainties that have been identified for the GHG assessment to date are set out in **Table 15-2.**

Table 15-2: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• The GHG assessment will be based on the best available information at the time of assessment and will clearly set out any assumptions around factors such as carbon intensity and any assumed decarbonisation over time.

Part B: CCRA Assessment

15.8 Baseline Conditions

15.8.1 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and provides an overview of the relevant baseline conditions for Part B: CCRA assessment.

Baseline Data Collection Activities to Date

15.8.2 A desk study has been undertaken based on data gathered from the Met Office[252] and the UK Climate Change Risk Assessment to describe the existing frequency and severity of climate hazards such as flooding, heatwaves and drought.

Baseline Conditions

15.8.3 The existing baseline for the CCRA assessment is the current climate at the Site. Historic climate data has been obtained from the Met Office website, recorded by the closest available station to the Site, which is the Cambridge Niab, approximately 55km south of the Site.

15.8.4 Historic climate data for the 30-year periods of 1981 – 2010 and 1991 – 2020 (the standard baseline for climate data) are summarised in **Table 15-3**.

Table 15-3: Historic climate data summary (1981 – 2010 and 1991 – 2020)

Climate factor	Month (1981 – 2010)	Value	Month (1991 – 2020)	Value
Warmest month on average (Average daily mean temp °C)	Jul	17.57	Jul	17.83
Coldest month on average (Average daily mean temp °C)	Jan	4.44	Jan	4.76
Mean annual rainfall levels (mm)	-	564.83	-	558.74
Wettest month on average (Average monthly rainfall) (mm)	Oct	59.04	Oct	58.71
Driest month on average (Average monthly rainfall) (mm)	Feb	34.50	Mar	33.12

15.8.5 When comparing the 30-year climate averages between 1981 and 2010 and 1991 and 2020, there has been a slight increase in temperature for the warmest and coldest months. There has been a decrease in mean annual rainfall and a decrease in rainfall during the wettest and driest months.

15.8.6 The Met Office historic 10-year averages for the Cambridge Niab station identify gradual warming in winter and gradual warming in summer months between 1955 and 2025, with monthly rainfall data trends showing a slight increase in winter and a decrease in summer. Information on average daily mean temperatures (°C) and mean monthly rainfall (mm) is summarised in **Table 15-4**.

Table 15-4: Historic 10-year averages for temperature and rainfall at Cambridge Naab Station

Decade	Mean daily average temperatures (°C)		Mean monthly rainfall (mm)	
	Winter (Oct – Mar)	Summer (Apr – Sep)	Winter (Oct – Mar)	Summer (Apr – Sep)
1956 – 1965	5.49	13.79	39.24	47.98

Decade	Mean daily average temperatures (°C)		Mean monthly rainfall (mm)	
	Winter (Oct – Mar)	Summer (Apr – Sep)	Winter (Oct – Mar)	Summer (Apr – Sep)
1966 – 1975	6.02	13.59	41.85	48.38
1976 – 1985	5.91	13.64	47.59	47.31
1986 – 1995	6.52	14.00	46.55	45.38
1996 – 2005	6.83	14.58	46.21	49.28
2006 – 2015	6.96	14.68	43.68	45.72
2016 – 2025	7.40	15.24	52.20	43.79

15.8.7 The future baseline climate is expected to differ from the present-day baseline. The United Kingdom Climate Change Projections 2018 (UKCP18)[253,254] developed by the Met Office, is the most up-to-date climate projections model for the UK and is Government-endorsed and has been peer-reviewed by an international panel of climate experts. The dataset provides probabilistic climate change projections for predefined 30-year periods for annual, seasonal and monthly changes to mean climatic conditions over land areas.

15.8.8 UKCP18 probabilistic projections for the following climate variables have been obtained:

- Mean annual temperature.
- Mean summer temperature.
- Mean winter temperature.
- Mean annual rainfall.
- Mean summer rainfall.
- Mean winter rainfall.

15.8.9 UKCP18 probabilistic projections have been analysed for the East of England region, which is where the Proposed Development is located. These figures are expressed as temperature / rainfall anomalies in relation to the 1981 – 2000 baseline.

15.8.10 UKCP18 uses a range of possible scenarios, classified as Representative Concentration Pathways (RCPs), to inform differing future emission trends. These RCPs *"…specify the concentrations of greenhouse gases that will result in*

total radiative forcing increasing by a target amount by 2100, relative to preindustrial levels". RCP8.5 will be used as a worst-case scenario.

15.8.11 In adopting RCP 8.5, the CCRA assessment will consider a scenario that reflects the potential change in climate resulting from the highest predicted level of global warming (4.2 degree increase in global average temperatures) in the time horizon of 2080 – 2099 to assess the impact of climate change over the lifetime of temporary elements of the Proposed Development. It is also considered that this is an appropriate scenario to assess the potential effects for the non-temporary Components of the Proposed Development if these come forward (i.e. Walpole Substation, Western Cable Route and the Data Centre Campus / BESS Units / Substation in the Western Site).

15.8.12 Based on the above, the future baseline conditions are defined by potential climate risks identified in the UK Climate Change Risk Assessment 2022, National Adaptation Programme, and the Key Climate Projections: Headline Findings produced by the Met Office UK[254], which are based on the UKCP18 dataset[253].

15.8.13 **Table 15-5** shows projected changes in temperature (expected to increase) and rainfall (expected to increase in winter and decrease in summer) for East of England, with the 50% probability level as the core value in the centre, with the 10% - 90% probability range on either side.

Table 15-5: Projected changes in climate variables for East of England, relative to 1981 – 2000 baseline

Variable	Projected change in period 2080 – 2099		
	10th percentile	50th percentile	90th percentile
Mean annual temperature (°C)	+2.5	+4.2	+6.0
Mean winter temperature (°C)	+1.4	+3.5	+5.7
Mean summer temperature (°C)	+2.8	+5.3	+8.0
Mean winter precipitation (%)	-1	+21	+48
Mean summer precipitation (%)	-67	-37	+2

15.8.14 The projected changes indicate increasingly erratic weather patterns that are likely to lead to greater numbers of extreme weather events that may affect the Site.

15.8.15 This includes heatwaves (precursor to droughts) and an increase in localised intense precipitation events (precursor to flooding), with some climate models predicting an increase in frequency and intensity of winter storms. An increase in the frequency and intensity of these extremes can put further pressure on resources and increase the risk posed to infrastructure and public health and safety.

15.8.16 Winds associated with major storm events can be some of the most damaging and disruptive events for the UK with implications for property, power networks, road and rail transport and aviation. Calm periods with little wind, particularly over prolonged periods, can affect air quality whilst winds from a particular direction can be a critical factor in the spread of particulates. Both cases are also examples where the combination of factors such as wind, temperature and precipitation can exacerbate their impacts (e.g. air quality issues tend to be worse under conditions of light winds and higher temperatures; pathogen spread can require wind, temperature and precipitation conditions to be favourable). The Met Office UKCP18 Factsheet: Wind[255] outlines that the annual mean wind speed in the UK shows a downward trend from 1969 to 2024, and there have been fewer occurrences of high maximum gust speeds in the last two decades, relative to the 1980s and 1990s.

15.9 Mitigation Measures Identified to Date

15.9.1 This section sets out mitigation measures identified to date based on the relevant baseline conditions and **Chapter 4: Initial Description of the Proposed Development**

Construction

15.9.2 Where relevant, the following measures will be implemented during the construction phase:

- Monitoring weather forecasts and relevant weather warnings, with a designated member of the site management team appointed for this purpose.
- Where adverse or extreme weather events are forecast, construction activities will be reviewed and appropriate risk management measures implemented as necessary to reduce potential effects on the workforce, construction programme and site infrastructure. For example, during heatwaves adequate potable water supplies for workers will be provided.

15.9.3 The management plan that will secure control measures relevant to the CCRA assessment during the construction phase includes the following as set out in the Initial Commitments Register (**Appendix B**):

- oCEMP.

Operation and Maintenance

15.9.4 The following measures will be implemented during the operation and maintenance phase:

- The design of the Proposed Development will include consideration of:
  - The selection of materials and cooling systems, to be designed to a high tolerance to expected extremes of temperature.
  - Heights of proposed infrastructure of all Components across the Proposed Development, design of roofs and façades and selection of robust materials, to reduce potential damage from extreme rainfall events.
  - Promotion of thermal comfort and reduce the risk of overheating building users.
  - Use of water cooling systems, as well as water efficient fixtures and fittings to manage water consumption.
- All buildings and structures within the Proposed Development will be constructed to comply with the latest Building Regulations and Fire Regulations, which will include well sign-posted and clear fire escape and automatic fire detection, alarm and suppression systems.
- Back-up power supply will be provided to essential systems within the Data Centre Campus, in accordance with Building Regulations, to mitigate against loss of power supply to the buildings during times of high winds and storms.
- Production of an oTP, which includes sustainable transport options and consideration of alternatives to mitigate disruption to travel due to weather events.
- A drainage strategy will be developed, including SuDS (e.g. basins and swales) to filtrate, store and transport surface water, to mitigate flooding hazards.
- A Landscape and Ecological Management Plan (LEMP), to mitigate climate effects on biodiversity and landscaping.

15.9.5 A number of the measures outlined above for the CCRA will be secured through the design principles for the Proposed Development, with other measures

delivered as part of the following management plans, which will be secured by DCO Requirement:

- oOEMP.
- oLEMP.
- oTP.

15.9.6 The securement of the above is set out in the Initial Commitments Register (**Appendix B**).

Decommissioning

15.9.7 The measures to be implemented during decommissioning are anticipated to be similar to those proposed for the construction phase above in **Paragraph 15.9.2**.

15.9.8 The management plan that will secure control measures relevant to the CCRA assessment during the decommissioning phase includes the following as set out in the Initial Commitments Register (**Appendix B**):

- oDEMP.

15.10 Proposed Scope of Assessment

15.10.1 The proposed scope of assessment is based on an understanding of the characteristics of the Site set out in **Chapter 4: Initial Description of the Proposed Development**

Potential Likely Environmental Effects which are Not Significant

15.10.2 Where an environmental effect is unlikely to be significant based on baseline data, mitigation identified to date and / or initial analysis and evaluation, this will not be considered further within the EIA nor reported on in the ES. An evidence base is provided to justify the 'scoping out' of these effects below:

All Phases

CCRA Assessment of Snow and Ice Hazards

15.10.3 According to UKCP18 projections, a decrease in both falling and lying snow across the UK relative to the 1981 – 2010 baseline is expected by the end of the century. As such, increased snow and ice are not considered a relevant climate hazard for the Proposed Development.

15.10.4 Therefore, snow and ice hazards during all phases are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Potential Likely Significant Environmental Effects

15.10.5 Where potential likely significant effects (as elements of the CCRA assessment) have been identified at this stage and are proposed to be 'scoped in', these are set out in **Table 15-6**. These environmental effects will be assessed within the EIA and reported on in the ES.

Table 15-6: Potential likely significant environmental effects 'scoped into' the CCRA

Potential likely significant effect	Receptor(s)	Phase(s)
Heat waves (including temperature increases) Drought (including reduced summer rainfall) Flooding Extreme weather Increased precipitation	• Construction equipment. • Construction workers. • Buildings and Infrastructure (Solar PV Panels, and associated infrastructure, BESS Units, Substations, Data Centre Campus and Cable Routes). • Proposed Development staff. • Proposed Development access (entrance roads). • Landscaping and biodiversity.	Construction, operation and maintenance and decommissioning

15.10.6 CCRA will be considered as part of the cumulative (intra-project) effect assessment, with the overarching approach for assessment set out in **Chapter 18: Cumulative Effects Assessment Methodology**.

15.10.7 In relation to cumulative effects, ISEP CCRA Guidance states that: "*No inter-project cumulative effects are anticipated on the basis that climate change adaptation effects and impacts are specific to the development and will not result in impacts to neighbouring development*". It is therefore not appropriate to assess any inter-project effects in relation to CCRA.

15.11 Proposed Approach to Detailed Assessment in the ES

Further Baseline Data Collection

15.11.1 No further standalone desk-study will be undertaken for the ES. However, the baseline will be updated if data sources are updated or additional data becomes available, and a review of relevant reporting for the Proposed Development (such

as the Flood Risk Assessment) will be undertaken to ensure all Site-specific risks are considered and relevant information will be presented in the ES.

Study Area

15.11.2 The study area for the CCRA assessment, unlike other technical aspects, focuses on the effect that climate will have on the Proposed Development as opposed to the effect of the Proposed Development on the environment. The study area is therefore the Site boundary, split into the Proposed Development's constituent parts and defined as receptors (as identified in Step 3 of the ISEP CCRA Guidance).

Detailed Assessment Methodology

15.11.3 An assessment of the potential impact of climate on the Proposed Development will be undertaken in accordance with the six-step process outlined in the ISEP CCRA Guidance. The CCRA assessment will identify and evaluate potential effects of climate change on the Proposed Development based on a qualitative assessment and professional judgement.

15.11.4 Future GHG emissions and the resulting pathways are uncertain. Therefore, a precautionary approach, consistent with both ISEP CCRA Guidance and CC Guidance, will be adopted by selecting the high emissions scenario (RCP8.5) for the 2080 – 2099 period, which represents the strongest climate change effects on the Proposed Development over its lifetime.

15.11.5 A systematic risk assessment of the identified receptors will be undertaken to identify the effects of expected extreme weather conditions arising from climate change on the Proposed Development during the construction and operation and maintenance phases. This will be largely qualitative in nature.

15.11.6 As a further step, the CCRA assessment will identify additional mitigation (as required) to address any significant effects and conclude on the residual risks.

Reporting Effects and Significance

15.11.7 The assessment of likely significant effects within the ES will consider the sensitivity of the receptor and the magnitude of impact to determine the level of effect on a scale of major, moderate, minor and negligible based on the matrix in **Chapter 2: EIA Methodology**. Whether the effect is Significant or Not Significant will be determined following this, using professional judgement alongside the application of relevant legislation, policy and guidance.

15.12 Assumptions, Limitations and Uncertainties

15.12.1 The assumptions, limitations and uncertainties that have been identified for the CCRA assessment to date are set out in **Table 15-7**.

Table 15-7: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• The determination of level and significance of effects will be undertaken under the assumption that industry design standards will be adhered to where detailed design information is unavailable.

15.13 Summary

15.13.1 A summary of the potential effects 'scoped in' and 'scoped out' for GHGs and climate change is provided in **Table 15-8**.

Table 15-8: Summary of potential effects 'scoped in' and 'scoped out' for GHGs and climate change

Potential effect	Phase(s)
'Scoped Out'	
Part A: GHG assessment	
N/A	N/A
Part B: CCRA assessment	
Snow and Ice hazards within the CCRA assessment	Construction, operation and maintenance and decommissioning
'Scoped In'	
Part A: GHG assessment	
GHG emissions	Construction, operation and maintenance, decommissioning and whole life
Part B: CCRA assessment	
• Heat waves (including temperature increases). • Drought (including reduced summer rainfall). • Flooding. • Extreme weather. • Increased precipitation.	Construction, operation and maintenance and decommissioning

15.14 In-combination Climate Impacts (ICCI)

15.14.1 As stated in **Paragraph 15.1.4**, an ICCI assessment will also be completed to ascertain whether climate change is anticipated to exacerbate or diminish the effect of an existing impact identified as a result of the Proposed Development (i.e., the conclusions of the detailed assessments for other technical aspects). The ISEP CCRA Guidance advises that this "*is largely best analysed in the existing chapters and is suited to using traditional significance criteria from the respective chapters".* As such, the ICCI will be considered within relevant topic chapters, and a summary of these impacts will be included within the Greenhouse Gases and Climate Change Chapter of the ES.

16 Socio-Economics and Population

16.1 Introduction

16.1.1 This Scoping Chapter presents the scope and methodology for the assessment of environmental effects related to socio-economics and population. This Scoping Chapter has been informed by relevant legislation, policy and guidance, baseline conditions and mitigation measures identified to date.

16.1.2 This Scoping Chapter should be read in conjunction with **Chapter 4: Initial Description of the Proposed Development** and the following technical aspect Scoping Chapters:

- **Chapter 6: Transport and Access**.
- **Chapter 7: Noise and Vibration**.
- **Chapter 8: Air Quality**.
- **Chapter 10: Landscape and Visual**.
- **Chapter 11: Built Heritage**.
- **Chapter 14: Agricultural Land and Soils**.
- **Chapter 15: Greenhouse Gases and Climate Change**.

16.2 Summary of Relevant Legislation, Policy and Guidance

16.2.1 A list of legislation, policy and guidance relating to socio-economics and population relevant to the Proposed Development is as follows:

Legislation

- Health and Safety at Work etc. Act 1974[256].
- Environmental Protection Act 1990.
- Environment Act 1995.
- Countryside and Rights of Way Act 2000[257].
- The Equality Act 2010[258].

Policy

- NPS EN-1.
- NPS EN-3.
- NPS EN-5.
- NPPF.
- UK National Data Strategy (2020)[259].
- UK Modern Industrial Strategy (2025)[260].

- UK AI Growth Zones (2025)[261].
- UK Compute Roadmap (2026)[262].
- Norfolk Access Improvement Plan (NAIP) (2019)[263].
- Norfolk Economic Strategy (2024)[264].
- Better Together, for Norfolk: Delivering Change and Setting the Course Ahead 2026 – 2028 (2026)[265].
- West Norfolk Economic Vision and Strategy (2024)[266].
- West Norfolk Tourism Development Plan 2022 – 2026 (2026)[267].
- King's Lynn and West Norfolk Local Plan 2021 – 2040.
- King's Lynn and West Norfolk Corporate Strategy (2023)[268].

Guidance

- NPPG: Open space, sports and recreational facilities, public rights of way and local green space[269].
- ISEP Social Impact Assessment in Environmental Impact Assessment in the UK (2025)[270].
- ISEP Solar PV on Agricultural Land: Essential Components of Environmental Assessments and Reports (2025) ('ISEP Solar PV on Agricultural Land Guidance')[271].
- National Highways (formerly Highways England) DMRB LA 112 Population and human health (2020) ('LA 112')[272].
- Homes and Communities Agency (HCA) Additionality Guide (4th Edition) (2014)[273].
- HM Treasury Green Book for Economic Appraisal and Evaluation (2026)[274].
- Visa Europe UK Working Day Spending Report (2014)[275].
- Construction Industry Training Board (CITB) Workforce Mobility and Skills in the UK Construction Sector (East of England) (2023)[276].
- International Renewable Energy Agency (IRNEA) Renewable Energy Benefits: Leveraging Local Capacity for Solar PV (2017)[277].
- DEFRA Rights of Way Circular (1/09): Guidance for Local Authorities, version 2 (2009)[278].
- Institute of Public Rights of Way and Access Management Environmental Impact Assessment: Appraising Access (2020)[279].
- Construction Skills Network Focusing on the Skills Construction Needs – Labour Market Intelligence – East of England (2023)[280].

16.3 Baseline Conditions

16.3.1 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and provides an overview of the relevant baseline conditions for socio-economics and population.

Baseline Data Collection Activities to Date

16.3.2 Baseline data included within this Scoping Chapter has been collected using the following publicly available sources and methods:

- Office for National Statistics (ONS) Population estimates – local authority based by single year of age (2025)[281].
- Ministry of Housing, Communities & Local Government Index of Multiple Deprivation (2025)[282].
- ONS UK Business Counts (2025)[283].
- ONS Annual Population Survey (January 2025 to December 2025) (2025) [284].
- ONS Census 2021[285].
- ONS Claimant count by sex and age (2026)[286].
- ONS Business Register and Employment Survey (BRES) 2024 (2025)[287].
- ONS Estimates for Regional Gross Value Added (GVA) (2025)[288].
- ONS Subnational population projections for England: 2022-based (2025)[289].
- Interactive Map Multi-Agency Geographic Information for the Countryside (MAGIC) (2025)[290].
- Experian Limited Experian workforce jobs based employment projections (2023)[291].
- Experian Limited Experian GVA (2023)[292].
- Destination Research Economic Impact of Tourism West Norfolk (2024)[293].
- Visit Britain Accommodation Stock Audit (2026)[294].
- Visit Britain Great Britain Tourism Survey (GBTS) domestic overnight trips, County level volume and value 2022 to 2024 (dataset) (2024)[295].
- Visit Britain England Hotel Occupancy (latest) (2026)[296].
- NCC Definitive Map (2026)[297].
- Desk-based study of community facilities within the Site boundary, using online web-mapping resources.
- A review of live development and planning applications from the KL&WNBC and NCC's Planning Portal and PINS.

Summary of Study Areas

16.3.3 The Local Study Area (LSA) (Lower-Layer Super Output Area (LSOA) 'best fit' for the area within 500m from the Site boundary) is considered appropriate for the 'community' scale study / assessment area.

16.3.4 The following are considered appropriate 'economic' or 'population' scale study / assessment areas:

- Construction Labour Market Area (CLMA) (Local authority district 'best fit' for the area within 50 miles from the Site boundary (defined as 42 local authority areas listed in **Paragraph 16.6.25**).
- Local Authority (King's Lynn and West Norfolk).
- Wider Study Area (WSA) (Norfolk).
- Regional (East of England) (Cambridgeshire and Peterborough, Norfolk, Suffolk, Bedfordshire, Hertfordshire and Essex).
- National (England).

16.3.5 Following the ISEP Solar PV on Agricultural Land Guidance, the study area, when looking at effects on agricultural businesses, landholdings, other rural businesses and commercial activity relating to viability, environmental change and access, will be community / individual landholdings determined by the Solar PV Panel Component of the Proposed Development and detailed technical assessment of effects, interacting with the Site or affected by the scale of likely significant environmental effects.

16.3.6 Given that there is no existing equivalent guidance relating specifically to data centre developments, the study area approach set out within the ISEP Solar PV on Agricultural Land Guidance has been applied as a proportionate and reasonable basis for defining the assessment area for effects on agricultural and other rural businesses associated with the Proposed Development.

16.3.7 Further details on study areas are provided in **Paragraphs 16.6.8 – 16.6.27**.

Baseline Conditions

Existing Site

16.3.8 As per **Chapter 3: Location and Context of the Site**, the Site boundary consists of approximately 1,980 ha of land, spanning from Walpole Marsh in the west to the village of Barton Bendish in the east, extending circa 29km north-west to south-east. The Site includes predominantly agricultural fields in arable use

alongside existing infrastructure, roads, railway crossings, woodland, hedgerows and drainage features.

16.3.9 A review of the King's Lynn and West Norfolk planning register in July 2026 identified no live planning applications within the Site boundary. Similarly, the King's Lynn and West Norfolk Local Plan Policies Map indicates that there are no housing or employment allocations within the Site boundary.

Demographics

16.3.10 According to the latest ONS mid-year population estimates for 2024, the resident population of the LSA is circa 29,100. To provide an indication of the population in the vicinity of each Area of the Proposed Development (refer to **Chapter 3: Location and Context of the Site**), best-fit geographies have been identified using the Output Areas (OAs) and LSOAs that each Area falls within or extends across. Based on ONS mid-year population estimates for 2024, the approximate populations of these areas are:

- Walpole Substation: Circa 2,600 people, based on LSOA E01026719, within which this Area is located.
- Western Cable Route: Circa 4,000 people, based on LSOAs E01026719 and E01026697, within which this Area is located.
- Western Site: Circa 2,600 people, based on LSOAs E01026696 and E01026697, within which this Area is located.
- Eastern Cable Route: Circa 1,500 people, based on OAs E00135691, E00135843, E00135840, E00135729 and E00135396 within which this Area is situated.
- Eastern Site: Circa.700 people, based on OAs E00135849, E00135848 and E00135846, within which this Area is located.

16.3.11 58% of the residents within the LSA are of working age (aged 16 to 64), which is slightly higher than the proportion in King's Lynn and West Norfolk (57%), but lower than proportions across Norfolk (60%), the CLMA (61%), the East of England (61%) and England (63%).

16.3.12 The LSA also has a relatively lower proportion of children aged under 16 (15%) when compared to proportions in King's Lynn and West Norfolk (16%), the CLMA (18%), Norfolk (16%), the East of England (19%) and England (18%).

Socio-economic Inequality and Deprivation

16.3.13 The IMD measures deprivation in England by combining social, environmental, economic, and housing indicators to produce a single deprivation score for LLSOAs. Areas are then ranked relative to other areas according to their score.

16.3.14 The seven domains used in the IMD are as follows:

- Income.
- Employment.
- Education, skills and training.
- Health deprivation and disability.
- Crime.
- Barriers to housing and services.
- Living environment.

16.3.15 IMD 2025 data shows that a portion of the Site in Walpole Marsh, Walpole St Andrew, Walpole St Peter and Hay Green is within an area that is amongst the top 20%-30% most deprived in the country, with this deprivation being driven by education, skills and training deprivation and barriers to housing and services. There is also a portion of the Site in South King's Lynn that falls amongst the top 10% most deprived areas in England, with deprivation in this area being driven by income, employment and education, skills and training deprivation. These areas do not contain the Main Site but are part of the Cable Routes and / or Walpole Substation.

Employment, Sectors, Skills and Economic Activity

16.3.16 According to the Census 2021, the collective economic activity rates for the LSA (57%), King's Lynn and West Norfolk (56%) and Norfolk (57%) are lower than rates at the CLMA (61%), regional (61%) and national (61%) levels.

16.3.17 Retirement was recorded to be the main reason for economic inactivity in both the LSA and King's Lynn and West Norfolk, with retired individuals accounting for 67% and 68% of the total resident populations, respectively. These proportions are greater than the proportions at the county, regional and national levels.

16.3.18 The unemployment rate within the LSA (4.0%) is recorded to be lower than rates across King's Lynn and West Norfolk (4.4%), the CLMA (4.6%), Norfolk (4.9%), the East of England (4.8%) and England (5.7%).

16.3.19 Data from the Annual Population Survey (January 2025 to December 2025) suggests that 13.8% of King's Lynn and West Norfolk's economically inactive

population would be willing to work, which is lower than proportions in Norfolk (19.8%), the East of England (22.2%) and England (21.4%).

16.3.20 Claimant count data provides the latest indication of unemployment among working-age residents (aged 16 to 64), based on those claiming Jobseeker's Allowance or Universal Credit. However, this data does not capture all unemployed individuals and is not classified as a national statistic.

16.3.21 Claimant count data from May 2026 reveals a claimant rate (as a proportion of all working age residents aged 16 to 64) of 2.6% in the LSA and 3.1% in King's Lynn and West Norfolk (3%), which are lower than rates within Norfolk (3.1%), the East of England (3.3%) and England (4.1%).

16.3.22 BRES 2024 data (published in 2025) reports circa 12,600 jobs in the LSA, circa 63,300 in King's Lynn and West Norfolk, circa 395,000 in Norfolk, circa 2,810,000 in the CLMA, circa 2,980,000 in the East of England and circa 28,410,000 in England.

16.3.23 The largest broad industrial group in the LSA is Manufacturing, which accounts for 19% of total employment, which is higher than proportions within the CLMA (9%), King's Lynn and West Norfolk (11%), Norfolk (9%), the East of England (7%) and England (7%).

16.3.24 The agriculture, forestry and fishing sector accounts for 1% of total employment within the LSA, broadly in line with the regional and national averages. However, this proportion is lower than that recorded within the CLMA (2%), King's Lynn and West Norfolk (6%), and Norfolk (4%).

16.3.25 The CLMA contains 165,825 construction jobs, representing 6% of total employment. This is slightly above the national average (5%) and consistent with Norfolk (6%), but lower than the proportions recorded within the LSA (10%), King's Lynn and West Norfolk (7%), and the East of England (7%).

16.3.26 Information and communication jobs account for less than 1% of total employment within the LSA. This is below the proportions recorded across all comparator areas, including the CLMA (3%), King's Lynn and West Norfolk (1%), Norfolk (2%), the East of England (3%), and England (5%).

16.3.27 The Census 2021 suggests that only 37% of employed individuals within the LSA are recorded to have higher skilled occupations (managerial, professional and associate professional occupations), which is equal to the proportion in King's

Lynn and West Norfolk, but lower than proportions across the CLMA (45%), Norfolk (40%), regional (47%) and national (46%) levels.

16.3.28 In contrast, the proportion of employed individuals working within lower skilled occupations (sales, process and elementary occupations) is recorded to be marginally higher in the LSA (28%) and King's Lynn and West Norfolk (30%) when compared to proportions at the county (27%), regional (24%) and national levels (25%).

16.3.29 Gross Value Added (GVA) is a measure of economic productivity that quantifies the contribution of an entity (company, industry or area) to an economy, producer or sector.

16.3.30 **Table 16-1** presents estimates of total GVA at current prices and sector-specific GVA for 2023[298] across the electricity, gas, water, sewerage and waste management; construction; agriculture, forestry and fishing, mining and quarrying; and information and communication sectors within King's Lynn and West Norfolk, Norfolk, the CLMA, the East of England and England. It should be noted that industry-specific GVA data[299] is not available at the LLSOA / LSOA level. Consequently, only total GVA figures can be reported for the LSA.

16.3.31 As shown in **Table 16-1** the LSA generated an estimated £900 million in GVA in 2023. At the local authority level, King's Lynn and West Norfolk generated £3.6 billion of GVA, including £285 million from construction and £154 million from agriculture, forestry and fishing; mining and quarrying. At wider geographies, total GVA amounted to £24.6 billion in Norfolk, £185.1 billion across the CLMA, £205.3 billion in the East of England and £2.1 trillion nationally. Construction represented the largest of the selected sectors across all geographies.

Table 16-1: Estimated GVA (£millions)

Geographic level	All Industries (£ millions)	Agriculture, forestry and fishing; mining and quarrying (£ millions)	Electricity, gas, water; sewerage and waste management (£ millions)	Construction (£ millions)	Information and communication (£ millions)
LSA	900	-	-	-	-

Geographic level	All Industries (£ millions)	Agriculture, forestry and fishing; mining and quarrying (£ millions)	Electricity, gas, water; sewerage and waste management (£ millions)	Construction (£ millions)	Information and communication (£ millions)
King's Lynn and West Norfolk	3,622	154	99	285	34
Norfolk	24,561	583	639	1,878	389
CLMA	185,059	3,770	5,899	14,985	6,019
East of England	205,310	2,071	2,275	19,324	8,096
England	2,113,338	11,124	27,690	133,239	134,818

Community Facilities, Community Access and Social Infrastructure

16.3.32 A range of community facilities are located within 500m of the Site boundary, the majority of which are situated within King's Lynn and West Norfolk, with a smaller number falling within neighbouring areas of Breckland, South Holland and Fenland. The community facilities within 500m of the Site boundary identified at this stage are set out in **Table 16-2**. There are no community facilities that fall within the Site boundary.

Table 16-2: Community facilities within 500m of the Site boundary

Name of facility	Type of facility	Postcode
St Lawrence's Church, Tilney St Lawrence	Place of Worship	PE34 4QG
Saint German's Methodist Church, Wiggenhall St Germans	Place of Worship	PE34 3EY
St Botolph's Church, Tottenhill	Place of Worship	PE33 0RW
St Mary's Church, Shouldham Thorpe	Place of Worship	PE33 0ED
St Martin's Church, Fincham	Place of Worship	PE33 9EJ
Tilney St Lawrence Community Primary School	State-funded primary	PE34 4QZ

Name of facility	Type of facility	Postcode
St Germans Academy	State-funded primary	PE34 3DZ
Skylarks Pre-School Ltd	Early years facility	PE34 4RF
Krazy Dayz Nursery Ltd Oak Tree Farm	Early years facility	PE14 7HW
Allotment bounded by Middle Road and Shouldam Road	Allotment	PE33 0EE
Allotment along Marham Road	Allotment	PE33 9EU
Allotment bounded by School Road and the River Great Ouse	Allotment	PE34 3DR
Wiggenhall Bowls Club	Bowling Green	PE34 3HL
Playspace adjacent to St Germans Academy	Playspace	PE34 3DZ
Playing Field bounded by Tottenhill Village Hall and Whin Common Road	Playing Field	PE33 0RS
Tilney St Lawrence Playing Field	Playing Field	PE34 4RF
Wiggenhall St Germans Playing Field	Playing Field	PE34 3AX
Fincham Park	Open Space and Playing Field	PE33 9EJ
Tilney St Lawrence Village Hall	Community Asset	PE34 4RF
Fincham Memorial Hall	Community Asset	PE33 9EJ
Wiggenhall St Germans Memorial Hall	Community Asset	PE34 3DU
Tilney St Lawrence Post Office	Post Office	PE34 4RF
West Walton Fire Station	Fire Station	PE14 7EU

16.3.33 NCC publish publicly accessible data on PRoW, which is updated on a quarterly basis, in addition to an interactive map which is updated slightly more frequently. It is important to note that these maps are not equivalent to the statutory Definitive Map, which is held at the Norfolk County Hall.

16.3.34 According to the PRoW Definitive Map published by NCC, there are a total of 70 PRoW that fall within 500m of the Site boundary and 20 PRoW that fall within the Site boundary. The majority of these PRoW are footpaths (17 footpaths within the

Site boundary and 53 footpaths within 500m of the Site boundary). The ProW are shown in **Figure 6-3a – c: ProW Routes**.

16.3.35 There are also a number of NCRs within the vicinity of the Site boundary. These are shown in **Figure 6-2: Cycle Routes**.

Value, Volume and Characteristics of the Tourist Economy in King's Lynn and West Norfolk

16.3.36 According to the latest West Norfolk Economic Impact of Tourism report produced by Destination Research, tourism generated an estimated £606.3 million in economic value and £451.5 million in visitor spending in 2024, supporting around circa 11,850 tourism-related jobs, equivalent to 20% of all employment in the King's Lynn and West Norfolk Borough.

16.3.37 The area attracted approximately 10.7 million visitor trips during 2024, with the vast majority being day visits (10.2 million). Overnight visitors also made an important contribution, accounting for 513,000 staying trips and nearly circa 2 million overnight stays.

16.3.38 Public datasets can also be used to estimate the number of jobs in the 'tourism' sector[11]. On this basis, King's Lynn and West Norfolk has around 6,645 tourism-sector jobs and Norfolk has around 45,570 tourism-sector jobs, making up 10.5% and 9.0% of all jobs in these areas, respectively.

16.3.39 2024 data from Visit Britain[300] on domestic overnight and day trips also highlights the strength of Norfolk's tourism sector, with the number of overnight trips in 2024 (2.3 million) being the second highest in the East of England behind Essex and

[11] Tourism sector includes SIC codes 5510 : Hotels and similar accommodation, 5520 : Holiday and other short stay accommodation, 5530 : Camping grounds, recreational vehicle parks and trailer parks, 5590 : Other accommodation, 5610 : Restaurants and mobile food service activities, 5621 : Event catering activities, 5629 : Other food service activities, 5630 : Beverage serving activities, 7911 : Travel agency activities, 7912 : Tour operator activities, 7990 : Other reservation service and related activities, 9001 : Performing arts, 9002 : Support activities to performing arts, 9003 : Artistic creation, 9004 : Operation of arts facilities, 9102 : Museum activities, 9103 : Operation of historical sites and buildings and similar visitor attractions, 9104 : Botanical and zoological gardens and nature reserve activities, 9200 : Gambling and betting activities, 9311 : Operation of sports facilities, 9321 : Activities of amusement parks and theme parks, 9329 : Other amusement and recreation activities, 7711 : Renting and leasing of cars and light motor vehicles and 7721 : Renting and leasing of recreational and sports goods.

the total overnight spend in 2024 (£593 million) being the highest when compared to other counties in the East of England.

16.3.40 The West Norfolk Tourism Development Plan highlights a number of key tourism assets across the borough, including:

- Hunstanton, the borough's principal seaside resort, known for its beach and distinctive cliffs.
- The Wash, the UK's largest estuary system and an important natural attraction.
- Burnham Overy Staithe Beach, a picturesque coastal destination popular for sailing and other outdoor recreation activities.
- Houghton Hall and Gardens, the award-winning stately home of the 7th Marquess of Cholmondeley, which also houses the Soldier Museum and its internationally renowned collection of model soldiers.

16.3.41 Key tourism assets and facilities within the borough of King's Lynn and West Norfolk, as set out by Visit West Norfolk, include the following:

- Adrian Flux Arena.
- Brancaster Beach.
- Bircham Windmill.
- Castle Acre Castle.
- Central Park (Nar Ouse Way).
- Deepdale Farm.
- Grapes Gallery.
- Greyfriars Tower.
- Holkham Hall.
- Lynn Museum.
- Oxburgh Hall.
- RAF Bircham Newton Heritage Museum.
- Royal Society for the Protection of Birds (RSPB) Snettisham Nature Reserve.
- RSPB Titchwell Marsh Nature Reserve.
- Walpole Water Gardens.
- Watatunga Wildlife Reserve.

16.3.42 Visit Britain has produced an update of the accommodation stock audit that was undertaken in 2016. Various resources were used to compile this information, including Visit England's database of accommodation, data from Local Visitor Economy Partnership Programmes (LVEPs), industry bodies and associations, commercial organisations and online data.

16.3.43 According to this dataset, there are a total of 3,445 rooms or rentals in hotels, bed and breakfasts (B&Bs) / guesthouses and camping grounds within King's Lynn and West Norfolk, with the majority of these being hotel rooms (1,577) or tourist campsites (1,189). There are 5,077 bedspaces in King's Lynn and West Norfolk, with 70% of these being in hotels.

16.3.44 When looking at short-term rentals, there is an average of 2,102 short-term rental properties. Stock levels remain consistent, fluctuating between 1,994 in March and 2,209 in November. This indicates a well-established visitor accommodation sector within the borough.

16.3.45 Based on the application of regional occupancy rates between May 2026 and June 2025 to the estimated accommodation stock in 2026, there are an average of 413 unoccupied hotel rooms in King's Lynn and West Norfolk or approximately 268 at the peak tourist month.

16.3.46 Within King's Lynn and West Norfolk, over the period of 2015 to 2024, the proportion of 'tourist sector' jobs has remained constant as a proportion of the total number of jobs (varying between 9.2% and 11.4%), suggesting that employment within the tourist sector is relatively stable.

16.3.47 In addition to this, the number of jobs within the tourist sector only grew 25% from 5,335 in 2015 to 6,645 in 2024, highlighting the consistent growth of the sector in King's Lynn and West Norfolk. This also suggests that even during economic downturns or unpredictable factors such as the Covid-19 pandemic, the sector has remained both strong and stable.

Agricultural Economy

16.3.48 The latest DEFRA dataset on the structure of the agricultural industry in England in 2025[301] identifies that the East of England accounts for circa 16% of England's agricultural land. Norfolk accounts for circa 405,700 ha of agricultural land. Agriculture in the East of England supports employment of 33,520 people, of which 10,936 (33%) are in Norfolk. This is shown in **Table 16-3**.

Table 16-3: Agricultural land and employment

Name of facility	Norfolk	East of England	England
Agricultural land (Ha)	405,741	1,399,272	8,946,431

Name of facility	Norfolk	East of England	England
Full-time employment (People)	5,771	18,077	143,992
Part-time employment (People)	3,066	10,848	100,548
FTE employment (FTE Jobs)	7,304	23,501	194,266
Casual employment (People)	2,100	4,595	34,953
Average FTE jobs per ha	0.018	0.017	0.022
Total people	10,936	33,520	279,493

16.3.49 The amount of agricultural land and employment supported by agricultural land holdings in the East of England and Norfolk fluctuates annually but has remained relatively stable over time. Based on DEFRA statistics, the total agricultural land increased by 0.8% in Norfolk and by 1.3% in the East of England between 2010 and 2025, while the total labour decreased by 11% and 16% in Norfolk and the East of England, respectively.

Future Predicted Changes to the Baseline Conditions

16.3.50 The baseline environment is not static and is expected to change over time, irrespective of the Proposed Development, as outlined below. Note that these will be updated for the ES to correlate with the anticipated construction and operation and maintenance phases.

16.3.51 ONS subnational population projections for England (2022) show that between 2022 and 2032 (anticipated end date for Solar PV construction), the overall population within King's Lynn and West Norfolk is projected to grow by 4.1% to circa 162,100 people. This percentage growth is lower than the projected rates of increase in Norfolk (7.6%), the East of England (6.8%) and England (6.4%) over the same period.

16.3.52 When looking at projected population growth between 2022 and 2039 (anticipated construction end year for the Data Centre Campus), growth is also

expected to be lower in King's Lynn and West Norfolk (6.7%) when compared to rates in Norfolk (11.6%), the East of England (10.4%) and England (9.5%).

16.3.53 2022-based population projections also show that the elderly population (individuals aged 65 years and above) is projected to grow by 30% in King's Lynn and West Norfolk between 2022 and 2039, which is lower than rates of growth at the county (34%), regional (31%) and national (32%) levels.

16.3.54 According to the latest CITB Labour Market Intelligence Report for the East of England, the level of output growth in the East of England forecasts an annual average increase of 0.8% in the construction workforce, which is higher than the UK figure of 0.6%. The CITB forecasts the East of England construction workforce to reach 258,680 by 2028.

16.3.55 The future baseline for tourism and recreation facilities over the medium-term is uncertain, as even where future planned uses are known, it is not certain whether developments will be operational before the start of the proposed construction period. Due to this uncertainty, for the purposes of the assessment, it is assumed the future baseline for the LSA in relation to the Proposed Development will be unchanged from the current baseline to the completion of the construction.

16.4 Mitigation Measures Identified to Date

16.4.1 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the initial description of the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Construction

16.4.2 Mitigation measures set out in the following technical aspects are also likely to be relevant for minimising effects on local receptors associated with socio-economics and population during the construction phase:

- Transport and access.
- Noise and vibration.
- Air quality.
- Heritage.

16.4.3 Where practicable, measures would be implemented to ensure accessibility to recreational routes and PRoWs, visitor attractions, recreational facilities and open space is maintained. This will be achieved using good practice measures,

including phasing of construction works and, if necessary, providing diversions for users.

16.4.4 As further discussed in **Chapter 6: Transport and Access**, any potential permanent or temporary closures to PRoW or other recreational routes will be defined in the DCO Application, which may be secured as part of an oROWAS. This is to ensure that PRoWs will be safely maintained, protected or temporarily maintained, where practicable, during the construction phase of development.

16.4.5 An oCTMP will be submitted with the DCO Application. This document will detail measures to regulate construction traffic. A detailed CTMP would then be agreed with the Local Highway Authority prior to starting the construction phase.

16.4.6 An oCEMP will accompany the DCO Application. The oCEMP will outline measures relevant to the control and mitigation of effects that have a relationship to, or bearing on, receptors and interests scoped into the socio-economic and population assessment. These measures will include maintaining access to residential dwellings, commercial properties and community facilities and minimising temporary land take during construction.

Operation and Maintenance

16.4.7 Mitigation measures set out in the following technical aspects are also likely to be relevant for minimising effects on receptors associated with socio-economics and population during the operation and maintenance phase of the Proposed Development:

- Transport and access.
- Noise and vibration.
- Air quality.
- Heritage.

16.4.8 Where practicable, measures would be implemented to ensure accessibility to recreational routes and PRoWs, visitor attractions, recreational facilities and open space is maintained throughout the operational and maintenance phase of development.

16.4.9 The oOEMP will outline measures relevant to the control and mitigation of effects that have a relationship to or bearing on receptors and interests scoped into the tourism and recreation assessment. These measures will include maintaining access to residential dwellings, commercial properties and community facilities during maintenance works (e.g. vegetation management).

16.4.10 All mitigation measures identified at this stage are preliminary and will be refined through further assessment, development of the Proposed Development, and ongoing stakeholder engagement. Their inclusion at this point does not constitute final approval or implementation; rather, it reflects current good practice and anticipated requirements.

Decommissioning

16.4.11 An oDEMP and oDTMP will accompany the DCO Application. The oDEMP will outline measures relevant to the control and mitigation of effects that have a relationship to, or bearing on, receptors and interests scoped into the socio-economic and population assessment.

16.5 Proposed Scope of Assessment

16.5.1 The proposed scope of assessment is based on an understanding of the characteristics of the Site and technical study areas and the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Potential Likely Environmental Effects which are Not Significant

16.5.2 Where an environmental effect is unlikely to be significant based on baseline data, mitigation identified to date and / or initial analysis and evaluation, this will not be considered further within the EIA nor reported on in the ES. An evidence base is provided to justify the 'scoping out' of these effects below.

Construction Phase

Changes to Existing Employment Sites (Excluding Agricultural and Rural Land-based Businesses) and Allocated Development Land

16.5.3 There are no development land and strategic employment allocations at risk of interaction with the Site as a result of the Proposed Development. No parts of the Site are allocated for employment-led development and no new planning applications have been submitted for such developments within the Site boundary. This will be monitored up to the submission of the DCO Application.

16.5.4 Therefore, changes to existing employment sites and allocated development land during the construction phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Changes to Private Properties, Housing Market and Allocated Development Land

16.5.5 There are no commercial buildings or residential properties at risk of demolition as a result of the construction of the Proposed Development. No parts of the Site are allocated for residential development and no new planning applications have been submitted for residential developments within the Site boundary. This will be monitored up to the submission of the DCO Application.

16.5.6 Therefore, changes to private properties, housing market and allocated development land during the construction phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Operation and Maintenance Phase

Changes to Accommodation Occupancy Rates

16.5.7 There will be operational staff, associated particularly with the Data Centre Campus as the main Component generating operational employment. Despite the number of operational staff yet to be confirmed, it is anticipated that these positions will be permanent and therefore filled by staff living within a commutable distance of the Proposed Development. As a result of this, it is considered unlikely that there would be significant changes in local accommodation occupancy rates.

16.5.8 Therefore, changes to accommodation occupancy rates during the operation and maintenance phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Changes in the Capacity of Public Services

16.5.9 There will be operational staff, associated particularly with the Data Centre Campus as the main Component generating operational employment. Despite the number of operational staff yet to be confirmed, it is anticipated that these positions will be permanent and therefore filled by staff living within a commutable distance of the Proposed Development. As above, it is considered unlikely that there would be significant changes in local accommodation occupancy rates and therefore any additional demand for public services would be limited.

16.5.10 With the operational workforce from the Solar PV Panel and associated infrastructure, BESS Units, Substations and Cable Routes Components of the Proposed Development set to be limited and maintenance activity expected to be intermittent, any additional demand for public services from such activities would also be limited. Although the Data Centre Campus of the Proposed Development

would support a permanent, operational workforce, employment generated by the Proposed Development is not expected to result in a material increase in the resident population of the LSA.

16.5.11 Therefore, changes in the capacity of public services during the operation and maintenance phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Potential Likely Significant Environmental Effects

16.5.12 Where potential likely significant effects have been identified at this stage and are proposed to be 'scoped in', these are set out in **Table 16-4**. These environmental effects will be assessed within the EIA and reported on in the ES.

Table 16-4: Potential likely significant effects 'scoped in'

Potential likely significant effect	Receptor(s)	Phase(s)
Direct on-site employment	Sub-regional and regional economy and labour market (construction, information and communication and energy sectors)	Construction, operation and maintenance and decommissioning
Indirect / wider economic effects, including on supply chain and GVA	Sub-regional and regional economy and labour market (construction, information and communication and energy sectors)	Construction, operation and maintenance and decommissioning
Changes to the indicative employment capacity and output of the agricultural economy	Sub-regional agricultural economy	Construction, operation and maintenance and decommissioning
Changes to the viability of agricultural and non-agricultural rural land-based business as a result of land use change, access change or environmental change	Agricultural and non-agricultural rural land-based business	Construction, operation and maintenance and decommissioning

Potential likely significant effect	Receptor(s)	Phase(s)
Changes to land take or amenity on community land, assets and community facilities	Community land, assets and community facilities	Construction, operation and maintenance and decommissioning
Changes to the connectivity between communities and community resources via PRoW	PRoW and their users	Construction, operation and maintenance and decommissioning
Changes in the capacity of public services	Local (district) public services	Construction and decommissioning
Changes to the capacity and availability of tourist accommodation	King's Lynn and West Norfolk tourist accommodation market	Construction and decommissioning
Changes to the value, volume and key characteristics of the tourist economy and its components	Sub-regional tourist economy - King's Lynn and West Norfolk, and Norfolk	Construction, operation and maintenance and decommissioning

16.5.13 The potential for cumulative effects arising from the potential likely significant environmental effects identified in **Table 16-4**, both in terms of inter-project and intra-project effects, will be considered within the ES. The approach to the cumulative effects assessment in the ES is set out in **Chapter 18: Cumulative Effects Assessment Methodology**.

16.6 Proposed Approach to Detailed Assessment in the ES

Further Baseline Data Collection

16.6.1 Various data sources will be used within the detailed technical assessment for socio-economics and population to set the context before the assessment of likely significant effects during the construction, operation and maintenance and decommissioning phases of the Proposed Development.

16.6.2 The baseline information presented in this Scoping Chapter will be reviewed to ensure that the most up-to-date evidence is reported within the ES. Although Census 2021 is expected to remain the latest available Census dataset, the following datasets may have been updated by the time the detailed technical assessment is undertaken:

- ONS Population estimates – local authority based by single year of age.
- ONS UK Business Counts.
- ONS Annual Population Survey.
- ONS Claimant count by sex and age.
- ONS Business Register and Employment Survey (BRES).
- ONS Estimates for Regional GVA.
- ONS Subnational population projections for England.

16.6.3 Any additional baseline datasets published since the preparation of this Scoping Chapter will be incorporated into the ES, where relevant. The community facilities audit will also be reviewed and updated to ensure it reflects conditions at the time the ES is completed.

16.6.4 When looking at changes to the indicative employment capacity and output of the agricultural economy, the ES will be informed by the latest "structure of the agricultural industry in England and the UK Agriculture" dataset and any other available information on agricultural production.

16.6.5 When looking at changes to the viability of agricultural and non-agricultural land-based businesses and landholdings / tenancies, as a result of land use change or environmental change, the Applicant will also collect information on agricultural tenancies, with baseline information set to be gained through engagement with landowners of commercial agricultural land within the Site.

16.6.6 The ES will include a detailed estimate of the average and peak construction jobs and operational roles (as FTE), with a description of the types of skills and occupations available during each phase.

16.6.7 Ongoing stakeholder engagement between the preparation of the Scoping Report and the ES will provide a further source of information to inform the detailed technical assessment. This engagement will include discussions with KL&WNBC and NCC regarding commercial interests.

Study Areas

16.6.8 Due to the varying types of effects and scale of sensitive receptors for socio-economics and population, several different study areas will be used within the detailed technical assessment. Study areas are generally determined by the extent of the availability of baseline information, the potential effect and the sensitivity and scale of the receptor.

16.6.9 While there is no single specific guidance or requirement related to the effects considered within this Scoping Chapter, in some cases, the spatial scale of the assessment will be driven by the location and number of receptors and the physical extent of environmental change to these individual receptors (for example, in terms of environmental amenity effects on community facilities).

16.6.10 Study areas will also be determined or influenced by:

- The scale of administrative geography for baseline data collection.
- The footprint, reach or catchment of community facilities or public access land.
- The existing access requirements and land use footprint for commercial operations and businesses; the status of individual receptors in policy terms (such as ProW, which may be locally important and / or regionally significant in policy terms).
- Sector-specific levels of statutory planning.
- Functional Economic Market Areas (FEMAs)[12].

16.6.11 As such, effects are considered in some cases at the 'economic' or 'population' scale and in some cases at the 'community' scale (which may be determined by very local characteristics and the distribution of residential, neighbourhood or parish definitions, and community stakeholder feedback). It is also important to note that the scale of effects may be determined by the scale of indirect environmental change reported in the ES on socio-economic and population receptors.

[12] In general, socio-economic assessments are considered in terms of the effect of an intervention on an appropriate spatial scale of economy. When planning for economic growth, the NPPG states that economic needs should be assessed in relation to FEMAs. There is no standard practice for defining a FEMA. However, the NPPG considers that it is possible to define them taking account of factors including commuting patterns, the extent of any (former) LEP, the flow of goods, services or information within a local economy and administrative areas.

16.6.12 For some effects, such as those on agricultural and non-agricultural rural land-based businesses, landholdings and tenancies, effects will be considered at the scale of the individual landholdings (taking account of the influences of land use change, and environmental and access change on each identified receptor).

LSAs

16.6.13 Following the guidance set out in **Paragraph 16.2.1**, the assessment of potential effects on the following receptors will be based on where receptors are likely to experience change:

- Local businesses and development (to be assessed in terms of individual businesses, landholdings and tenancies).
- Local PRoW (and other routes including permissive paths used for community access and recreation) and their users.
- Recreational space, open space and their users.
- Local public services and community facilities.

16.6.14 LA 112 suggests that the assessment of socio-economic impacts should consider users of PRoW, recreational routes, active travel networks and local community services (i.e. healthcare, education facilities and open space), up to 500m from the Site boundary. This would include local receptors with the potential to be directly affected by the Proposed Development, based on professional judgement and experience from other electricity network schemes in England, including other solar farm developments and data centres.

16.6.15 Whilst the 500m buffer is considered an appropriate default, the extent of the assessment will be informed by the scale and characteristics of local communities. This will include a detailed consideration of landholdings within or beyond the Site boundary, the nature and policy status of PRoW, relevant environmental effects reported within the ES, and the geographic extent of communities. In light of this, community boundaries will be defined through both administrative boundaries and recognised community areas to ensure that effects are assessed in a manner that reflects local circumstances.

16.6.16 The LSA includes local receptors with the potential to be directly affected (e.g. land take) by the Proposed Development based on professional judgement and experience from other developments in England.

16.6.17 For the purposes of defining the geographic extent for demographic and economic baseline data collection, a best-fit of the LSA has been identified,

which includes the 16 LSOAs that fall fully or partially within the Site boundary: (LSA – LSOAs):

- South Holland 008E.
- Breckland 012B.
- King's Lynn and West Norfolk 014A.
- King's Lynn and West Norfolk 014B.
- King's Lynn and West Norfolk 015A.
- King's Lynn and West Norfolk 015B.
- King's Lynn and West Norfolk 011D.
- King's Lynn and West Norfolk 008D.
- King's Lynn and West Norfolk 013C.
- King's Lynn and West Norfolk 013D.
- King's Lynn and West Norfolk 013E.
- King's Lynn and West Norfolk 015C.
- King's Lynn and West Norfolk 014D.
- King's Lynn and West Norfolk 015D.
- King's Lynn and West Norfolk 018B.
- King's Lynn and West Norfolk 018C.

16.6.18 The best-fit of the LSA using LSOAs is shown in **Figure 16-1: Local Study Area – Lower Layer Super Output Areas (LSOAs)**.

16.6.19 The assessment of community facilities considers all facilities located within 500m of the Site boundary.

16.6.20 Where relevant, data will also be presented for the region (East of England) and at the national scale (England). For the baseline, Comparator data will also be provided for King's Lynn and West Norfolk district, Norfolk County, East of England, and England as a whole, where available and relevant.

16.6.21 The assessment of amenity effects on community facilities and businesses will draw on findings from study areas defined for the following relevant technical aspects:

- Transport and access.
- Noise and vibration.
- Air quality.
- Landscape and visual.
- Agricultural land and soils.

16.6.22 Receptors located outside the defined study areas will also be identified and considered where relevant. Their identification will be informed by other technical aspects, including:

- Transport and access.
- Noise and vibration.
- Landscape and visual.

Construction Labour Market Area

16.6.23 Construction employment is highly mobile, and travel-to-work patterns are far wider than average (i.e. for all sectors), with CITB surveys showing workers travelling up to 50 miles / 90 minutes daily on a regular basis.

16.6.24 In the East of England, 66% of workers have travelled more than 20 miles from their permanent home to work (35% have travelled more than 50 miles). As such, it is anticipated that the Proposed Development would draw construction labour from a substantial CLMA within 50 miles (circa 80km).

16.6.25 This CLMA is defined as the following 42 local authority district areas: North East Lincolnshire, Rutland, Peterborough, Bedford, Central Bedfordshire, North Northamptonshire, West Northamptonshire, Cambridge, East Cambridgeshire, Fenland, Huntingdonshire, South Cambridgeshire, Braintree, Colchester, Tendring, Uttlesford, North Hertfordshire, Charnwood, Harborough, Melton, Boston, East Lindsey, Lincoln, North Kesteven, South Holland, South Kesteven, West Lindsey, Breckland, Broadland, Great Yarmouth, King's Lynn and West Norfolk, North Norfolk, Norwich, South Norfolk, Newark and Sherwood, Rushcliffe, Babergh, Ipswich, Mid Suffolk, East Hertfordshire, East Suffolk and West Suffolk.

16.6.26 It is important to note that despite the extensive geographical area that falls within 50 miles of the Site boundary, the distribution of employment effects is unlikely to be uniform across the labour market, with a greater proportion of workers likely to be drawn from areas in closer proximity to the Site. The CLMA will be further refined as the design of the Proposed Development is developed and workforce requirements are established, to estimate the distribution of labour demand and assess where labour market effects may occur at a more local level.

WSAs

16.6.27 WSA (defined at a District and County scale (i.e. King's Lynn and West Norfolk and Norfolk respectively) are proposed to consider the labour market, supply

chain and effects on the wider economy (such as those relating to tourism and agricultural economies). These are influenced by the level at which socio-economic policy is set, and the FEMAs for economic sectors determined by the NPPG.

Detailed Assessment Methodology

16.6.28 The approach to the detailed technical assessment will draw on relevant guidance, established methodologies (where available) and policy advice as referred to within **Section 16.2**. Guidance is relatively limited in relation to data centres, but there is accepted, standard guidance that can apply to the socio-economic implications of broad land use changes and energy projects in particular that has been used to determine the methodology outlined in this Scoping Chapter.

16.6.29 Standard economic guidance and assumptions (e.g. regarding labour market mobility, additionality and supply chain effects) have been referenced and will be drawn upon for the following assessment areas. Specific methodology requirements for each effect are detailed below and, where relevant, further details will be presented in the ES. Where relevant, the optionality set out in **Chapter 2: EIA Methodology** and **Chapter 4: Initial Description of the Proposed Development** will be considered within the detailed technical assessment, with the 'lowest' or the 'highest' (therefore worst-case) potential effects to be reported in the ES.

Direct On-site Employment

Construction

16.6.30 The Proposed Development has the potential to support construction employment in a range of skills during the construction phase, which would result in access to work and training for local residents who may or may not be in employment.

16.6.31 Estimates of employment will be based on the application of per-worker rates of output (derived from GVA) to estimate the average FTE years of gross employment supported as a result of investment in construction activity. This may be supported by datasets that determine the number of jobs that are supported by economic activity in the sector, and through the application of tools such as the Labour Forecasting Tool. This would be considered and assessed in the context of the scale of employment supported within the local economy, using

information on the mobility and characteristics of the prevailing construction sector.

16.6.32 An assessment of additionality will be applied using guidance including the Green Book and industry standard guidance for application of additionality to identify the net FTE employment supported by the Proposed Development over the construction phase, with an assessment of the type and nature of employment and an estimate of the residual 'non-local' element.

Operation and Maintenance

16.6.33 The operation and maintenance phase of the Proposed Development will create direct employment opportunities, with the Data Centre Campus and Solar PV Panel Components of the Proposed Development set to generate operational staff.

16.6.34 The employment supported as part of the Solar PV Panel Component of the Proposed Development would likely include electrical engineering roles likely to require higher level skills and qualifications, as well as site management, administrative and process / elementary occupations including security and maintenance. The employment supported by the Data Centre Campus Component of the Proposed Development would likely include higher-skilled digital and technical roles, such as IT, network and facilities engineers alongside management, administrative, security and maintenance occupations.

16.6.35 Employment will be calculated using standard ratios of employment to output, floorspace and energy generation / data capacity using industry evidence and guidance where available.

16.6.36 For operational employment, additionality will be accounted for using methodology that is compliant with the HCA Additionality Guide and the more recently published HM Treasury's Green Book for Economic Appraisal and Evaluation. These sources establish that direct jobs created by developments may be subject to a degree of 'deadweight', 'displacement', 'leakage' and multiplier effects, with further details on the application of these to be provided in the ES.

Decommissioning

16.6.37 The same approach will be used for decommissioning as set out above for the construction phase.

Indirect / Wider Economic Effects, Including on Supply Chain and GVA

16.6.38 Indirect economic effects will arise from the procurement of materials, goods and labour required for construction of the Proposed Development. While direct employment effects and indirect GVA generated through worker output and expenditure are considered separately, the remaining indirect effects relate to supply chain expenditure.

16.6.39 Multiplier effects (the net additional economic benefit that will be created as a direct result of the income earned and spent and output produced by the employment supported, and as an indirect result of spend on materials in the supply chain) would effectively be considered under the benefits accrued by a combination of assessment of effects of workforce spending, contribution to construction output, and construction supply chain effects. It is noted that there is some overlap in how these elements are measured and so it is not appropriate to sum them to an overall gross total.

16.6.40 The reasonable 'worst-case' scenario will be derived from application of the HM Green Book 'low' employment multiplier for this sector. Those multipliers will result in the lowest level of 'spin-off' employment in the supply chain and, in turn, result in the lowest representation of indirect job creation to be conservative.

16.6.41 The level of construction and operational workforce expenditure will be estimated based on survey information carried out by research agency Loudhouse for Visa Europe[302], identifying an average spend per day of £11 per employee in 2014. This figure will be adjusted for inflation at the time when the detailed technical assessment is completed.

16.6.42 Additionally, non-local workers will spend money on accommodation in the area whilst temporarily staying at tourist accommodation. While the amount spent by workers is likely to be influenced by their own financial decisions, and the sector, availability and price-point of accommodation, as well as any subsidised amount from individual contractors, it is considered likely that the average nightly allowance for subsistence secured by Working Rule Agreements (such as the Construction Industry Joint Council Working Rule Agreement (March 2026) is an appropriate per-night estimate of spend (£51.97).

16.6.43 GVA resulting from direct jobs will be calculated by applying the average GVA per worker (specific to the construction sector for the construction and decommissioning phases and the energy and information and communication

sectors for the operation and maintenance phase) in the East of England Region to the number of direct FTE jobs supported by the Proposed Development.

Changes to the Indicative Employment Capacity and Output of the Agricultural Economy

16.6.44 Changes to the indicative agricultural employment capacity and output of the agricultural economy will be determined by the extent to which the Proposed Development changes the land available for supporting agricultural employment, and production and land availability in the agricultural economy at county, regional and national scales using DEFRA data on employment supported per land area.

16.6.45 The detailed technical assessment will consider the potential for the effect of land and employment reduction in the Proposed Development in agricultural uses relative to the scale of the regional agricultural economy and in the context of wider sectoral trends, policy and other sectors.

Changes to the Viability of Agricultural and Non-agricultural Rural Land-based Business as a Result of Land Use Change, Access Change or Environmental Change

16.6.46 ISEP Solar PV on Agricultural Land Guidance suggests that an EIA should consider the socio-economic impacts of displacement of tenant farmers, agricultural workers, and the impact of land-take on the continued viability of affected farms and wider local agricultural economy.

16.6.47 This guidance does not provide a specific methodology for assessing these socio-economic impacts, but refers to established methodologies within other guidance and for other projects, which generally identify significance relating to the nature of impacts which will comprise:

- The requirement of land from the farm holding in terms of the proportion of an agricultural operation being lost (permanent and temporary).
- The severance of land and agricultural infrastructure and the operation's reliance on this spatial relationship (permanent and temporary).
- The loss of key farm infrastructure (dwellings, buildings and other structures such as irrigation reservoirs and slurry pits).
- The imposition of disruptive effects (such as noise and dust) on land uses and the holding's operations.

16.6.48 At a local scale, baseline information gained through engagement with landowners and tenants of land within the Proposed Development will be used to consider construction and operation and maintenance effects from the Proposed Development related to the commercial activity and businesses operating within or relying upon access to the Proposed Development for their operations.

16.6.49 Where relevant, the detailed technical assessment will draw on the analysis of land changes considered within the following technical aspects reported in the ES:

- Transport and access.
- Noise and vibration.
- Air quality.
- Landscape and visual.
- Heritage.
- Agricultural land and soils.

16.6.50 There is no equivalent industry guidance relating specifically to the assessment of socio-economic effects on business viability arising from data centre developments. However, established socio-economic assessment practice recognises that construction and operation of major developments can affect the viability of existing businesses through land take, changes in access arrangements, and environmental effects.

16.6.51 The assessment will follow a similar approach to that set out in the guidance for solar developments, with assessment set to consider the potential for land take, changes in access arrangements, severance of sites or infrastructure, displacement of business activities, and environmental effects such as noise, traffic and dust to affect the continued operation and viability of existing businesses within and surrounding the Proposed Development.

Changes to Land Take or Amenity on Community Land, Assets and Community Facilities

16.6.52 Changes to land take or amenity of community assets and facilities will be assessed with reference to the presence of community, commercial, landscape and cultural heritage receptors that may be affected by the Proposed Development, particularly through changes in accessibility and amenity during construction, operation and maintenance and decommissioning. Further effects may be related to the change in availability, use or amenity of land allocated for

community purposes or land allocated or protected in planning policy and legislation for public access, including public open space and recreational areas.

16.6.53 Where relevant, the assessment will draw on the detailed technical assessments completed for the following technical aspects:

- Transport and access.
- Noise and vibration.
- Air quality.
- Landscape and visual.

Changes to the Connectivity Between Communities and Community Resources via PRoW

16.6.54 The detailed technical assessment for changes to the connectivity between communities and community resources via PRoW and users of those routes / links considers relevant legislation, policy and guidance referred to in this Scoping Chapter.

16.6.55 A link-level assessment will be undertaken to assess the potential for changes to each PRoW link (as determined by the NCC Definitive Map) where links interact with or are affected by the Proposed Development for any part of its length. The assessment will consider the spatial extent of stopping up / diversions in the context of the existing policy status and use of affected PRoW, their context in policy terms and importance within the wider network, the duration of change and the effects on community access. This will be considered in the context of the works to PRoW provided as part of the Proposed Development such as diverted / replacement diversions, new or alternative links, crossing and management.

16.6.56 The detailed technical assessment for socio-economics and population would be distinct from those set to be assessed within the transport and access technical aspect, with the assessment for this latter Chapter specifically considering the users of PRoW in relation to:

- Severance (for example, as a result of changes in traffic flows on roads crossed by PRoW).
- Non-motorised user delay (for example, where this relates to changes in traffic flows interacting with paths used by walkers, cyclists and horse riders).
- Non-motorised user delay and amenity (for example, where users of the highway including walkers, cyclists and horse riders may experience change in journey time or amenity as a result of a change in traffic flows).

- Fear and intimidation (for example, where changes in traffic flow, heavy vehicle composition, the speed at which vehicles are passing and the proximity of traffic to people discourage walkers, cyclists and horse riders from using PRoW).

16.6.57 The detailed technical assessment for socio-economics and population will also be distinct from those set to be assessed for landscape and visual, as this will instead consider changes in environmental amenity experienced by users of PRoW.

16.6.58 The detailed technical assessment in the ES will consider the ability for people to continue to use PRoW for recreational and connectivity purposes, to access commercial, recreational, community facilities and social networks and to undertake recreational active travel as intended by the purpose of the PRoW. It will consider whether the PRoW network is affected by temporary disruption or diversion which would increase journey length.

Changes in the capacity of public services

16.6.59 Non-local construction workers staying in the area temporarily may seek basic health services when they are in the local area and may also require GP and public ambulance / hospital services in very limited and urgent circumstances.

16.6.60 A review of industry characteristics for the construction sector based on CITB studies of labour mobility and the existing scale of available construction labour based on public datasets will be undertaken to ascertain the extent to which, if any, a non-local temporary workforce may be needed to construct the Proposed Development. This will also include setting out assumptions on their accommodation and social infrastructure demands.

16.6.61 An assessment will then be undertaken considering the net additional effect in terms of potential shift patterns and type of accommodation used and tenure at the Proposed Development and likelihood of registering with a local GP, based on the existing GP list sizes locally.

Changes to the Capacity and Availability of Tourist Accommodation

16.6.62 It is anticipated that any construction workers temporarily residing within the area would seek short-term accommodation in a range of types of tourist accommodation including serviced and self-catering sectors. The detailed technical assessment will consider the existing supply and occupancy level based on average construction workforce assumptions.

Changes to the Value, Volume and Key Characteristics of the Tourist Economy and its Components

16.6.63 The tourist economy is determined by the number and type of receptors, including attractions and facilities, accommodation and recreational interests that form the area's wider tourist 'draw'.

16.6.64 Changes to the employment capacity of the tourist sector and tourism patterns due to temporary and permanent land take are assessed by considering the presence of local recreational and commercial facilities, as well as landscape and cultural heritage receptors that contribute to the value, volume and character of tourism in the area, and the extent to which their accessibility or environmental amenity may be affected during the construction, operation and maintenance and decommissioning phases of the Proposed Development.

16.6.65 The detailed technical assessment in the ES will draw upon the following technical aspects to qualitatively assess the potential effects on tourism, the tourist economy and its components:

- Transport and access.
- Noise and vibration.
- Air Quality.
- Landscape and visual.
- Heritage.

Reporting Effects and Significance

16.6.66 The assessment of likely significant effects within the ES will consider the sensitivity of the receptor and the magnitude of impact to determine the level of effect on a scale of major, moderate, minor and negligible based on the matrix in **Chapter 2: EIA Methodology**. Whether the effect is Significant or Not Significant will be determined following this, using professional judgement alongside the application of ISEP Social Impact Assessment in Environmental Impact Assessment in the UK and LA 112.

16.7 Assumptions, Limitations and Uncertainties

16.7.1 The assumptions, limitations and uncertainties that have been identified to date are set out in **Table 16-5**.

Table 16-5: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• The socio-economics and population assessment will be based on professional judgment and best practice methodology and will consider both the negative and positive impacts that the Proposed Development may have upon existing and surrounding receptors. It will provide a broad, high-level indication of effects, reporting on the likely significant effects on tourism and recreation receptors impacting people and the local community. • The assessment of the significance of effects will be carried out against a benchmark of current socio-economic and population baseline conditions prevailing around the Proposed Development, as far as is possible within the limitations of such a dataset. The most recently available data sources will be used in the ES, although it should be noted that baseline data can be subject to a time lag between collection and publication. As with any dataset, these conditions may be subject to change over time, which may influence the findings of the assessment.

16.8 Summary

16.8.1 A summary of the potential effects 'scoped in' and 'scoped out' for socio-economics and population is provided in **Table 16-6**.

Table 16-6: Summary of potential effects 'scoped in' and 'scoped out' for socio-economics and population

Potential effect	Phase
'Scoped Out'	
Changes to existing employment sites (excluding agricultural and rural land-based businesses) and allocated development land	Construction, operation and maintenance and decommissioning
Changes to private property and housing market	Construction, operation and maintenance and decommissioning
Changes to accommodation occupancy rates	Operation and maintenance
Changes in the capacity of public services	Operation and maintenance
'Scoped In'	
Direct on-site employment	Construction, operation and maintenance and decommissioning

Potential effect	Phase
Indirect / wider economic effects, including on supply chain and GVA	Construction, operation and maintenance and decommissioning
Changes to the indicative employment capacity and output of the agricultural economy	Construction, operation and maintenance and decommissioning
Changes to the viability of agricultural and non-agricultural rural land-based business as a result of land use change, access change or environmental change	Construction, operation and maintenance and decommissioning
Changes to land take or amenity on community land, assets and community facilities	Construction, operation and maintenance and decommissioning
Changes to the connectivity between communities and community resources via PRoW	Construction, operation and maintenance and decommissioning
Changes in the capacity of public services	Construction, operation and maintenance and decommissioning
Changes to the capacity and availability of tourist accommodation	Construction and decommissioning
Changes to the value, volume and key characteristics of the tourist economy and its components	Construction, operation and maintenance and decommissioning

17 Technical Aspects to be 'Scoped Out'

17.1 Overview

17.1.1 There are a number of technical aspects that are proposed to be 'scoped out' of the detailed assessment within the EIA process that will be presented in the ES. This is on the basis that likely effects for these technical aspects in relation to the Proposed Development are not significant.

17.1.2 The justification for scoping these technical aspects out is based on an understanding of baseline conditions (from desk-based studies, site surveys, etc.), mitigation identified to date, initial analysis / evaluation and professional judgement. In accordance with the PINS Advice for Scoping Solar Development, this Scoping Chapter sets out each of the aspects that it is proposed are 'scoped out' from the detailed technical assessment, with justification and technical evidence provided.

17.1.3 This Chapter should be read in conjunction with the description of the Proposed Development presented in **Chapter 4: Initial Description of the Proposed Development** and **Technical Aspect Chapters 6 – 16**.

17.1.4 The technical aspects proposed to be 'scoped out' are as follows:

- EMF.
- Glint and glare.
- Human health.
- Land quality.
- Lighting.
- Major accidents and disasters.
- Microclimate.
- Waste and materials.

17.1.5 Each of these technical aspects is considered in turn below.

17.2 EMF

17.2.1 EMFs are created by differences in voltage. An electric field with constant strength will exist even when there is no current flowing. A magnetic field is created when current flows, with the strength of the magnetic field varying with power consumption. The focus of the section below is on human health effects

related to EMF. Potential effects related to ecology are addressed in **Chapter 9: Biodiversity**.

Summary of Relevant Legislation, Policy and Guidance

17.2.2 A list of legislation, policy and guidance relating to EMF relevant to the Proposed Development is as follows:

Legislation

- The Control of Electromagnetic Fields at Work Regulations 2016[303].
- The Electricity Safety, Quality and Continuity Regulations 2002[304].

Policy

- NPS EN-1.
- NPS EN-3.
- NPS EN-5.

Guidance

- PINS Advice for Scoping Solar Development.
- UK Health Security Agency (2026) Guidance – Electric and magnetic fields: Reducing exposure[305].
- ICNIRP Public Exposure Guidelines.

Baseline Conditions

17.2.3 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and provides an overview of the relevant baseline conditions for EMF and interference.

Baseline Data Collection Activities to Date

17.2.4 Baseline data has been collected using the following sources and methods:

- A desk study using publicly available mapping, including from the OS.

Baseline Conditions

17.2.5 There are several existing electricity assets, including overhead lines and underground cables within and in the vicinity of the Site. Therefore, there is anticipated to be elevated levels of EMF compared with background EMF levels already present, as recognised in UK Health Security Agency (2026) Guidance: Electric and magnetic fields: reducing exposure.

Mitigation Measures Identified to Date

17.2.6 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the initial description of the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Operation and Maintenance

17.2.7 The following measures to manage effects related to EMF will be implemented during the operation and maintenance phase:

- Compliance with required regulations, including The Control of Electromagnetic Fields at Work Regulations 2016 and The Electricity Safety, Quality and Continuity Regulations 2002.
- Compliance with the ICNIRP Public Exposure Guidelines.
- Fencing to prevent the public entering the operational Proposed Development.
- For the overhead lines, pylon towers will not be located within 100m of a residential receptor.

17.2.8 The above measures will be secured via design principles and the following management plan as set out in the Initial Commitments Register (**Appendix B**):

- oOEMP.

Potential Likely Environmental Effects which are Not Significant

17.2.9 Where an environmental effect is unlikely to be significant based on baseline data, mitigation identified to date and / or initial analysis and evaluation, this will not be considered further within the EIA nor reported on in the ES. An evidence base is provided below to justify the 'scoping out' of these environmental effects.

17.2.10 The focus is on the operation and maintenance phase when the overhead lines and underground cables will be present and operational and the potential maximum incidence of EMF may therefore occur.

Operation and Maintenance Phase

Changes in EMF

17.2.11 The occurrence of EMF and interference is primarily associated with the electrical equipment within the Proposed Development, including the underground cables and overhead lines (of up to 400kV) that are part of the Eastern Cable Route and Western Cable Route. However, EMF can also occur from electrical equipment, including that within buildings.

17.2.12 Where sources of EMF are situated within buildings, these structures can block electric fields. The strength of EMF also reduces rapidly as the distance from its source increases. Appropriate security fencing will be installed so that the operational Solar PV Panels, Data Centre Campus, BESS Units and Substation Components of the Proposed Development of the Site will not be accessible to the public. In addition, all equipment will be designed, installed and maintained in accordance with relevant legislation and standards, including The Electricity Safety, Quality and Continuity Regulations 2002, which contain statutory electrical safety clearances.

17.2.13 Therefore, changes in EMF from the Solar PV Panels, Data Centre Campus, BESS Units and Substation Components of the Proposed Development during the operation and maintenance phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

17.2.14 For the overhead lines, pylon towers will not be located within 100m of a residential receptor.

17.2.15 In terms of the Cable Routes, the design will comply with the guidelines and policies relating to EMFs stated in NPS EN-5, including the ICNIRP Public Exposure Guidelines, which note that "*overhead power lines at voltages up to and including 132 kV, underground cables at voltages up to and including 132 kV and substations at and beyond the publicly accessible perimeter*" are not capable of exceeding the ICNIRP exposure guidelines for EMF.

17.2.16 Therefore, changes in EMF from the Components of the Proposed Development carrying up to 132kV (being the Eastern Cable Route) during the operation and maintenance phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

17.2.17 Overhead lines and underground cabling are proposed over 132kV (and up to 400kV) as part of the Western Cable Route. The PINS Advice for Scoping Solar Development states "*Where proposed cables are over 132kV, an EMF assessment should be provided in an appendix to the Environmental Statement. This should include the location, routing and voltages of any cables over 132kV and a risk assessment to any human and ecological sensitive receptors within the Zone of Influence*". In line with this guidance, a standalone report for EMF will be produced for the Proposed Development and submitted with the DCO Application. This will include consideration of the actual and perceived effects of EMFs following the ISEP (formerly IEMA) Guide to: Effective Scoping of Human

Health in Environmental Impact Assessment[306], focussing on receptors that are in areas close to the Western Cable Route.

Assumptions, Limitations and Uncertainties

17.2.18 The assumptions, limitations and uncertainties that have been identified to date are set out in **Table 17-1**.

Table 17-1: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• None identified.

17.3 Glint and Glare

17.3.1 Solar panels are designed to absorb as much of the sunlight that illuminates them as possible. Notwithstanding this, a proportion of the incoming sunlight is reflected by solar panels. These reflections are often referred to in more technical terms as 'glint', which is a momentary flash of bright light, and 'glare', which is a continuous source of bright light. Reflected sunlight from solar panels can, under certain circumstances, be directed towards a location that will make it noticeable to an observer. This effect can present a nuisance (e.g. if it is experienced within a residential dwelling) or a safety hazard (e.g. if it prevents a distraction to the driver of a motor vehicle on a busy road).

Summary of Relevant Legislation, Policy and Guidance

17.3.2 A list of legislation, policy and guidance relating to glint and glare relevant to the Proposed Development is as follows:

Legislation

- None specifically identified.

Policy

- NPS EN-1.
- NPS EN-3
- King's Lynn and West Norfolk Local Plan 2021 – 2040.

Guidance

- PINS Advice for Scoping Solar Development.
- NPPG: Renewable and Low Carbon Energy[307].

- BRE Planning guidance for the development of large-scale ground mounted solar panels (2013)[308].
- UK Highway Code (2025)[309].
- Civil Aviation Authority (CAA) CAP 738 Safeguarding of Aerodromes (2020)[310].
- CAA Combined Aerodrome Safeguarding Team (CAST) Aerodrome Safeguarding Guidance Note: Renewable Energy Developments Solar Photovoltaic Developments (2023)[311].
- US Federal Aviation Administration (FAA) Review of Solar Energy System Projects on Federally-Obliged Airports (2021)[312].
- Pager Power Solar Photovoltaic and Building Development – Glint and Glare Guidance (2022)[313].

Baseline Conditions

17.3.3 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and provides an overview of the relevant baseline conditions for glint and glare.

Baseline Data Collection Activities to Date

17.3.4 Baseline data has been collected using the following sources and methods:

- A desk-based assessment has been completed, which used a series of screening distances from the Site boundary to identify sensitive receptors. The review also investigated the potential impact from glare at identified receptors through analysis of topography and / or obstructions.

Baseline Conditions

17.3.5 Whilst Solar PV Panels are being introduced into the environment, the main source of irradiance will be the sun. Effects that coincide with direct sunlight appear less prominent than those that do not, as the sun is a far more significant source of light than reflecting panels. Road users are already aware of safety implications when driving in bright sunlight. Dwellings will experience the most noticeable source of irradiance at sunset and sunrise.

17.3.6 There are no significant indices of glint and glare already present in the Site or surrounding area, though inadvertent incidences from reflections off vehicles and windows of properties are anticipated.

17.3.7 Receptors identified to date include:

- Aviation infrastructure within 5km of the Solar PV Panels, namely RAF Marham, Boughton North Airfield and Boughton South Airfield.
- Ground-based receptors:
  - Representative dwellings within 1km of the Solar PV Panels. Larger settlements within 1km from which representative dwellings will be identified include Tilney St Lawrence, Fincham and Barton Bendish.
  - Sections of A-roads within 1km of the Solar PV Panels, namely A47, A1122 and A134.
  - Sections of local roads within 100m of the Solar PV Panels, namely:
    - Western Site: Magdalen Road, Spice Chase, Church Road, Aylmer Hall Farm, Crabb Lane, New Road, Mill Lane, Lynn Road, Wiggenhall Road, Moorditch Lane, High Road, other unnamed public highways.
    - Eastern Site: Black Drove, Lynn Road, Marham Road, Boughton Road, Fincham Road, White Lane, Narborough Hill, Chalk Lane, Gallow Lane, Eastmoor Road, Murgot's Lane, Oxborough Road, Stoke Road, Churchill Crescent, Hill View, Church Farm Walk, Downham Walk, other unnamed public highways.

Mitigation Measures Identified to Date

17.3.8 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the initial description of the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

17.3.9 Initial glare assessment analysis for aviation receptors has been undertaken. Following initial revisions to the Solar PV Panel design and the introduction of tracker panels in the central fields of the Eastern Site, the residual impact risk on aviation receptors is acceptable. The introduction of tracker panels will be secured via design principles for the Proposed Development.

17.3.10 There is no glare predicted toward Air Traffic Control Towers within 5km of the Proposed Development. There is no significant yellow glare predicted toward flight paths for RAF Marham, with the only yellow glare identified impacting flight path (FP) 05 for a total of 50 hours annually and in all cases before 7.30am, which is prior to the normal operating start time of 8.00am.

17.3.11 The effects of the Proposed Development on ground-based receptors (residential dwelling and road) can only reliably be determined via detailed geometric modelling. This will be undertaken in accordance with the methodology and

guidance as stated in **Paragraph 17.3.2**. If relevant, common mitigation strategies for ground-based receptors are:

- Site surveys to inform visibility (and landscaping plans) more accurately.
- Provision of screening (planting or opaque fence) at the Site boundary or elsewhere between the observer and the reflecting panel areas.
- Changes to the site configuration. This may involve:
  - Changes to the orientation angle of the solar panels.
  - Changes to the tilt angle of the solar panels.

17.3.12 These mitigation measures will be secured via design principles or an oLEMP.

Potential Likely Environmental Effects which are Not Significant

17.3.13 Where an environmental effect is unlikely to be significant based on baseline data, mitigation identified to date and / or initial analysis and evaluation, this will not be considered further within the EIA nor reported on in the ES. An evidence base is provided below to justify the 'scoping out' of these environmental effects.

17.3.14 The focus is on the operation and maintenance phase when all of the Solar PV Panels will be in place and the potential maximum incidence of glint and glare may therefore occur.

Operation and Maintenance Phase

Incidences of Glint and Glare

17.3.15 As identified above, initial glare assessment analysis for aviation receptors has been undertaken. Following initial revisions to the Solar PV Panel design, the residual impact risk on aviation receptors at RAF Marham is not considered to be significant.

17.3.16 Glare toward Boughton North Airfield and Boughton South Airfield is not anticipated to pose a significant risk to aviation as the 900m final approach paths do not extend directly above the Proposed Development and the aerodrome's operational volumes are low.

17.3.17 The impact of the Proposed Development on ground-based receptors can only reliably be determined via detailed geometric modelling. Following geometric modelling of ground-based receptors, appropriate mitigation will be determined (e.g. screening afforded by vegetation). This will be set out within an oLEMP, which will be secured by a DCO Requirement. Subsequent to the implementation

of mitigation to remove any significant impacts, no significant effects are anticipated to remain upon the receptors.

17.3.18 As there are no consented solar developments within the relevant distance for cumulative effects at residential dwellings (1km), there are no cumulative effects. It is not possible to assess cumulative effects at aviation and road receptor types due to the assessment methodology.

17.3.19 A stand-alone Solar Photovoltaic Glint and Glare Assessment, which will be appended to the ES, will be submitted in support of the DCO Application. This approach is in accordance with the PINS Advice for Scoping Solar Development and follows the precedents set by other solar NSIPs (e.g. Botley West (PINS reference: EN010147), Byers Gill (PINS reference: EN010139) and Clean Air Solar Farm (PINS reference: EN0110018)).

17.3.20 In the absence of a UK Government approved methodology for glint and glare assessment, the following methodology for the Solar Photovoltaic Glint and Glare Assessment is derived from good practice considerations and will address the relevant guidance listed in **Paragraph 17.3.2**:

- Light-sensitive receptors are identified in their respective study areas surrounding the Site.
- The visibility of the Solar PV Panels from the identified receptors is considered. If the panels are not visible from the receptor, then no glare can occur.
- Solar PV Panel glare from the Proposed Development towards the identified receptors is considered by undertaking geometric modelling calculations.
- Where solar glare is predicted, factors such as duration, time of day and, for aviation receptors, the glare intensity are considered to determine the magnitude of impact.
- Mitigating factors are also to be considered (e.g. glare coinciding with direct sunlight) to determine the magnitude of impact.
- Determination is made whether a significant impact is likely, drawing on professional judgement alongside the sensitivity of the receptor and the magnitude of impact.
- Detail on the methodology will be included within the standalone technical report to be submitted alongside the ES.

17.3.21 In general, light-sensitive receptors with a view of Solar PV Panels have the potential to experience solar panel glare. While no technical distance limits /

thresholds are reported, glare is possible for such receptors; the potential or significance of a reflection decreases with distance due to an observer's decreasing field of vision capability with increasing distance, as well as possible obstructions such as shielding caused by terrain and vegetation.

17.3.22 Industry guidance provided by the US FAA Review of Solar Energy System Projects on Federally-Obliged Airports states that a 1km study area is considered appropriate for assessing glint and glare effects on local dwellings and M- and A-road users. A study area of 500m is commonly used for railway operations and infrastructure. The CAA Aerodrome Safeguarding Guidance Note: Renewable Energy Developments Solar Photovoltaic Developments states that 5km is the screening distance of choice, although larger aerodromes may be considered out to 10km. Only in exceptional circumstances may assessments of aerodromes be required beyond 10km.

17.3.23 An initial judgement will be made based on review of aerial mapping or photography. Where it is clear no line of sight is possible, receptors are excluded from further assessment. Where line of sight is possible, a more detailed assessment will be undertaken using modelling software to determine if glare is geometrically possible.

17.3.24 The Solar Photovoltaic Glint and Glare Assessment, in conjunction with development of mitigation set out in the oLEMP, will sufficiently mitigate any significant effects. Therefore, a separate chapter on glint and glare within the ES is not considered to be required.

17.3.25 This Assessment will account for the optionality set out in **Chapter 2: EIA Methodology** and **Chapter 4: Initial Description of the Proposed Development**, with the greatest extent of Solar PV Panels tested (i.e. in the scenario without the Data Centre Campus). This optionality does not change the approach and methodology set out above for the Assessment.

Assumptions, Limitations and Uncertainties

17.3.26 The assumptions, limitations and uncertainties that have been identified to date are set out in **Table 17-2**.

Table 17-2: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• Uncertainties at this stage are the layout as well as the siting of the solar panel.

Assumptions, limitations and uncertainties
• Professional judgement will be used to assess views of ground-based receptors, aided by aerial photography and street view photography as well as ZTVs and site photography prepared by the wider team. • The length of glare and possible intensity of glare in the construction and decommissioning phases will be less than or equal to the operation and maintenance phase. The worst-case scenario for glint and glare effects is therefore the operation and maintenance phase.

17.4 Human Health

Summary of Relevant Legislation, Policy and Guidance

17.4.1 A list of legislation, policy and guidance relating to human health relevant to the Proposed Development is as follows:

Legislation

- Health and Safety at Work etc. Act 1974.
- Environmental Protection Act 1990.
- Environment Act 1995.
- Countryside and Rights of Way Act 2000.
- Health Protection (Notification) Regulations 2010[314].
- The Equality Act 2010[315].

Policy

- NPS EN 1.
- NPS EN-3.
- NPS EN-5.
- NPPF.
- UK National Data Strategy (2020).
- UK Modern Industrial Strategy (2025).
- UK AI Growth Zones (2025).
- UK Compute Roadmap (2026).
- The Norfolk and Waveney Integrated Care Strategy and Norfolk Joint Health and Wellbeing Strategy (2024)[316].
- The Better Together, for Norfolk: Delivering Change and Setting the Course Ahead (2026 – 2028) document (2026).
- King's Lynn and West Norfolk Local Plan 2021 – 2040.
- King's Lynn and West Norfolk Corporate Strategy (2026).

- King's Lynn and West Norfolk Climate Change Policy and Strategy (2026)[317].

Guidance

- National Highways (formerly Highways England) DMRB LA112: Population and Human Health (2020) ('LA 112').
- ISEP (formerly IEMA) Guide to: Effective Scoping of Human Health in Environmental Impact Assessment 2022 (the 'ISEP Human Health Scoping Guidance') (2022).
- ISEP (formerly IEMA) Guide to: Determining Significance for Human Health in EIA Guidance (the 'ISEP Human Health Significance Guidance') (2022)[318].
- ISEP Social Impact Assessment in Environmental Impact Assessment in the UK and Ireland (2025).
- UK Health Security Agency (UKHSA) (formerly Public Health England (PHE)) Spatial Planning for Health: An Evidence resource for designing healthier places (2017)[319].
- UKHSA (formerly PHE) Health and Environmental Impact Assessment: A Briefing for Public Health Teams in England (2017)[320].
- Institute of Public Health: Impact Assessment Guidance: A Manual. Standalone Health Impact Assessment and health in environmental assessment. Health Impact Assessment Guidance (2021)[321].
- PINS' Advice on Preparing Applications for Linear Projects.
- UKHSA Electric and magnetic fields: health effects of exposure (2013)[322].
- ICNIRP Guidelines for limiting exposure to EMFs (100 kHz to 300 GHz) (2020).
- Department for Health and Social Care (DHSC) Government response to the Stakeholder Advisory group on extremely low frequency electric and magnetic fields (2011)[323].

17.4.2 The following additional reports provide context for undertaking a human health assessment:

- UKHSA Strategy 2026 to 2029 (2026)[324].
- Institute of Health Equity The Marmot Review: Fair Society Healthy Lives (2010)[325].
- Institute of Health Equity Health Equity in England: The Marmot Review 10 Years On (2020)[326].
- Institute of Health Equity Build Back Fairer: The Covid-19 Marmot Review (2020)[327].

- National Health Service (NHS) 10 Year Health Plan for England: Fit for the future (2025)[328].

Baseline Conditions

17.4.3 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and provides an overview of the relevant baseline conditions for human health.

Baseline Data Collection Activities to Date

17.4.4 Baseline data has been collected through a desk-based research exercise using publicly available sources, documents and web-based applications. The following overview of baseline human health indicators is based on the following data sources:

- ONS Census 2021.
- ONS Population estimates – local authority based by single year of age (2025).
- ONS Annual Population Survey (January 2025 to December 2025).
- ONS Claimant count by sex and age (May 2026).
- ONS Subnational population projections for England: 2022-based (2025).
- Department for Health and Social Care (DHSC) Fingertips (2026)[329].

Study Areas

17.4.5 The study areas have been defined to include populations and sub-populations likely to be at risk from the possible direct and indirect health impacts that might arise from the Proposed Development. The study areas are therefore based both on the extent and characteristics of the Proposed Development and the populations and sub-populations assessed to be likely directly and indirectly affected by it. Therefore, the study areas vary by the type of effect being considered.

17.4.6 LA 112 suggests that the assessment of human health should consider users of PRoW, recreational routes, active travel networks and local community services (e.g. healthcare, education facilities and open space), up to 500m from a site boundary. This would include local receptors with the potential to be directly affected by the Proposed Development, based on professional judgement and experience from other energy developments, including electricity network schemes and solar farm developments. There is no recognised guidance that would justify defining a separate Human Health Local Study Area (LSA) for the

Data Centre Campus Component. The Human Health LSA has therefore been defined based on relevant guidance listed in **Paragraph 17.4.1** and impact pathways, with appropriate professional judgement applied.

17.4.7 For the purposes of defining the geographic extent for human health baseline data collection, the Human Health LSA has been identified as nine Middle Super Output Areas (MSOAs) that fall fully or partially within 500m of the Site boundary (LSA – MSOAs):

- E02005558: King's Lynn and West Norfolk 008 – Terrington and Clenchwarton.
- E02005561: King's Lynn and West Norfolk 011 – Town, South Lynn and West Lynn.
- E02005563: King's Lynn and West Norfolk 013 – Marshland, Walpole and Walton.
- E02005564: King's Lynn and West Norfolk 014 – West Winch, Marham and Shouldham.
- E02005565: King's Lynn and West Norfolk 015 – Watlington, Wiggenhall and Terrington St John.
- E02005568: King's Lynn and West Norfolk 018 – Stoke Ferry, Hilgay and Wimbotsham.
- E02005514: Breckland 012 – Mundford, Weeting and Forest.
- E02005472: South Holland 008 – Long Sutton East and Sutton Bridge.
- E02003742: Fenland 001 – Leverington, Gorefield and Tydd St Giles.

17.4.8 The Human Health LSA is shown in **Figure 17-1: Local Study Area – Middle Layer Super Output Areas (MSOAs)**.

17.4.9 For the baseline, comparator data is also provided for King's Lynn and West Norfolk Borough, Norfolk County, East of England and England as a whole, where available and relevant.

17.4.10 Study areas for technical aspects relevant to the potential for effects on human health are set out in the relevant Scoping Chapters, including:

- **Chapter 6: Transport and Access**.
- **Chapter 7: Noise and Vibration**.
- **Chapter 8: Air Quality**.
- **Chapter 10: Landscape and Visual**.
- **Chapter 11: Built Heritage**.
- **Chapter 14: Agricultural Land and Soils**.

- **Chapter 15: Greenhouse Gases and Climate Change**.
- **Chapter 16: Socio-economics and Population**.

Baseline Conditions

17.4.11 **Tables 17-3** and **17-4** set out a summary of key human health indicators across the Human Health LSA and the local authority (KL&NWBC) compared to the county authority (NCC), regional (East of England) and national (England) averages.

17.4.12 The majority of the data included in **Table 17-3** is unavailable at the MSOA level; therefore, MSOA geographies have not been included within this table.

17.4.13 As noted above, a number of human health indicators are not available at MSOA level and are therefore reported at the local authority level. This is considered appropriate in the context of the assessment, as six of the nine MSOAs within the Human Health LSA (defined as the area within 500m of the Site boundary) are located within King's Lynn and West Norfolk. Collectively, these six MSOAs account for approximately 33% of the borough's total population, representing a substantial proportion of residents within King's Lynn and West Norfolk. As such, borough-level socio-economic characteristics are considered to provide an appropriate proxy for baseline conditions within the Human Health LSA where more localised data are unavailable.

17.4.14 Note that within **Tables 17-3** and **17-4**, green shading indicates better than the national average, yellow shading indicates equal to the national average and red shading indicates worse than the national average.

Table 17-3: Health profile summary

Health indicator	King's Lynn and West Norfolk	Norfolk	East of England	England
Health Outcomes				
Life Expectancy at Birth (years) 1-year range (2023) (Male)	81.1	80.5	80.7	80.0
Life Expectancy at Birth (years) 1-year range (2023) (Female)	84.1	84.4	84.4	83.8
Under 75 mortality rate from all causes considered preventable (2025)	142.6	139.2	125.6	145.8

Health indicator	King's Lynn and West Norfolk	Norfolk	East of England	England
(Directly standardised rate per 100,000)				
Under 75 mortality rate from cardiovascular disease (2025) (Directly standardised rate per 100,000)	64.6	57.4	62.3	71.5
Under 75 mortality rate from cancer (2025) (Directly standardised rate per 100,000)	121.0	113.6	109.1	114.6
Under 75 mortality rate from respiratory disease (2025) (Directly standardised rate per 100,000)	25.6	27.1	26.4	31.5
Suicide rate, directly standardised rate per 100,000 population (2022 – 24)	9.5	11.9	10.0	10.9
Depression: Quality and Outcomes Framework prevalence (+18 years) (2024 / 2025)	-	13.9%	13.0%	14.3%
Emergency hospital admissions for coronary heart disease, standardised admission ratio (2016/17 – 2020 / 2021)	135.3	93.2	-	100.0
Emergency hospital admissions for myocardial infarction (heart attack), standardised admission ratio (2016 / 2017 – 2020 / 2021)	119.3	107.2	-	100.0
Emergency hospital admissions for intentional self-harm, standardised admission ratio (2023 / 2024)	108.7	129.9	108.1	117.0
Utilisation of outdoor space for exercise or health reasons (March 2015)	-	18.8	18.7	17.9
Percentage of adults meeting the '5-a-day' fruit and vegetable consumption recommendations (new method) (2023 / 2024) (Persons, 16+ years)	38.2%	37.1%	33.4%	31.4%
Risk Factors				

Health indicator	King's Lynn and West Norfolk	Norfolk	East of England	England
Overweight (including obesity) prevalence in adults (using adjusted self-reported height and weight) (2024/25)	70.7%	65.1%	65.2%	64.6%
Excess weight (overweight and obese) prevalence in children (3 years data combined from 2022 / 2023 – 2024 / 2025) in Year 6	24.9%	21.6%	20.1%	22.3%
Excess weight (overweight and obese) prevalence in children (3 years' data combined from 2022 / 2023 – 2024 / 2025) in Reception	25.7%	22.5%	20.8%	22.3%
Percentage of physically active adults (2024 / 2025)	65.1%	69.4%	68.3%	68.0%
Percentage of physically active children and young people (2024 / 2025)	34.5%	44.7%	48.6%	49.1%
Wider Determinants				
Proportion living in fuel poverty (low income, low energy efficiency methodology) (2023)	12.6%	11.7%	-	11.4%
Child poverty, income deprivation affecting children index (IDACI) (2019) (%)	15.9	15.5	-	17.1
Older people in poverty, income deprivation affecting older people Index (IDAOPI) (2019) (%)	12.4	12.1	-	14.2
16 to 17 year olds not in education, employment or training (NEET) or whose activity is not known (2024 / 2025)	-	5.8	5.1	5.6
19 to 24 year olds not in education, employment or training (%) (2021)	-		13.1	13.2
Average attainment 8 score (2024 / 2025)	42.9	45.1	46.2	46.0

Health indicator	King's Lynn and West Norfolk	Norfolk	East of England	England
Violent Crime (violent offences per 1,000 population) (2024 / 2025)	24.9	26.1	26.8	31.4
Pollution: fine particulate matter (concentration of PM2.5) (2024)	6.9	7.0	7.2	7.1
Fraction of mortality attributable to particulate air pollution (2024)	5.2	5.2	5.4	5.3
The percentage of the population exposed to road, rail and air transport noise of 65dB(A) or more during daytime (2021)	2.9	2.1	2.5	4.3
The rate of complaints about noise (per 1,000 population) (2023 / 2024)	2.6	3.6	4.1	5.9

Source: (Department for Health and Social Care, 2026)

Table 17-4: Self-reported health and disability summary

Health indicator	LSA	King's Lynn and West Norfolk	Norfolk	East of England	England
Self-Reported General Health (Census 2021)					
'Very Good' and 'Good'	78%	79%	80%	83%	82%
'Fair'	16%	15%	15%	12%	13%
'Bad' and 'Very Bad'	6%	6%	6%	5%	5%
Disabled (Census 2021)					
Disabled under the Equality Act: Day-to-day activities limited a lot	8.9%	8.5%	8.2%	7.3%	6.6%
Disabled under the Equality Act: Day-to-day activities limited a little	11.7%	11.7%	12.0%	10.0%	10.0%

Source: Census 2021.

Health Outcomes

17.4.15 Data from the Office for Health Improvement and Disparities (OHID) Public Health Profiles (2023)[330] indicates that male life expectancy in King's Lynn and

West Norfolk Borough (81.1 years) exceeds the Norfolk, East of England and England averages. Female life expectancy in King's Lynn and West Norfolk Borough is also higher than the national average but slightly below county and regional levels.

17.4.16 Despite relatively favourable life expectancy outcomes, King's Lynn and West Norfolk Borough record the highest under 75 mortality rates from cancer when compared with county, regional and national averages, suggesting ongoing health inequalities within the borough.

17.4.17 Census 2021 data show that 78% of residents within the LSA report their health as 'very good' or 'good', slightly below rates across King's Lynn and West Norfolk Borough (79%), Norfolk (80%), the East of England (83%) and England (82%). Within the Human Health LSA, Town, South Lynn and West Lynn (82%) and West Winch, Marham and Shouldham (79%) report the highest levels of self-perceived 'very good' or 'good' health.

17.4.18 Census 2021 data on disability indicate that both the Human Health LSA and King's Lynn and West Norfolk Borough have higher proportions of residents whose day-to-day activities are limited by a disability or long-term health condition than county, regional and national averages. The highest proportions of individuals whose day-to-day activities are limited within the Human Health LSA are recorded in Long Sutton East and Sutton Bridge (24%) and Leverington, Gorefield and Tydd St Giles (22%).

Risk Factors

17.4.19 The Norfolk and Waveney Integrated Care Strategy and Norfolk Joint Health and Wellbeing Strategy highlight the county's commitments to use resources and assets to address wider factors that impact health and wellbeing, and support people to be healthy, independent and resilient throughout life.

17.4.20 PHE data (2025) shows that adult obesity rates in King's Lynn and West Norfolk Borough (70.7%) and Norfolk (65.1%) exceed the national average, with higher rates concentrated in more deprived communities. Childhood obesity is also a concern, with 24.9% of Year 6 children in King's Lynn and West Norfolk classified as obese, above county, regional and national rates. PHE data also indicates that levels of physical activity among adults and children in King's Lynn and West Norfolk Borough are below county, regional and national averages.

Mental Health

17.4.21 Mental health and physical health are intricately linked: poor physical health can cause mental health problems and vice versa. Those who suffer from obesity, substance misuse, smoking, cancer and cardiovascular disease are particularly likely to also have a mental health problem[331].

17.4.22 A chronic physical condition is also associated with having a lower level of mental wellbeing. Chronic health conditions (including, but not limited to asthma, cancer, high blood pressure) have a strong association with mental ill-health[332]. In people with severe 'common medical disorders (CMD)', 37% reported a chronic physical condition[332].

17.4.23 Suicide is a significant cause of death in young adults (when considering the overall mortality rate of this group) and is an indicator of underlying rates of mental ill-health. The suicide rate within King's Lynn and West Norfolk Borough is recorded to be at 9.5 per 100,000 population, which is lower than rates at the county, regional and national levels (at 11.9, 10 and 10.9 suicides per 100,000 population, respectively).

17.4.24 Despite the prevalence of depression in King's Lynn and West Norfolk Borough (13.9%) being lower than the national average (14.3%), it is higher than the regional average (13.0%), suggesting that mental health outcomes in the borough are comparatively less favourable than across the wider region.

Air Quality

17.4.25 Poor air quality and air pollution can be recognised as contributing factors towards cancer, heart disease, increases in hospital admissions, exacerbation of asthma and mortality. Air pollution is known to have a particular effect on the elderly population, children and those with preexisting health conditions, with air pollution expected to be responsible for a reduction in healthy life expectancy equivalent to 29,000 to 43,000 deaths per year in the UK[333].

17.4.26 The King's Lynn and West Norfolk Air Quality Strategy[334] sets out the plan to reduce concentrations of air pollutants and exposure to air pollution, recognising poor air quality as an important issue in light of growing evidence of the adverse effects that poor air quality can have on human health.

17.4.27 There are two declared Air Quality Management Areas (AQMAs) within King's Lynn and West Norfolk Borough due to exceedances in nitrogen dioxide (NO_2) over the long-term (annual mean) objective of 40ug/m^3. Further details are provided in **Chapter 8: Air Quality**. The main pollutants of concern are PM and

NO_2, with concentrations of NO_2 having historically exceeded relevant air quality standards in urban areas, though within the vicinity of the Site, the pollutant concentrations are below the Air Quality Objectives. Further details on baseline air quality conditions are provided in **Chapter 8: Air Quality**.

17.4.28 Fractions of mortality attributable to air pollution in King's Lynn and West Norfolk Borough and Norfolk are equal to 5.2% in both areas, which is lower than rates across the East of England (5.4%) and England (5.3%).

17.4.29 When looking at the site-specific population, emergency hospital admissions for coronary heart disease and myocardial infarction (heart attack) are significantly higher in King's Lynn and West Norfolk Borough when compared to county and national levels, noting that air quality is only one contributing factor to these admissions.

Noise

17.4.30 Very high noise levels can have direct impacts on health (hearing loss or tinnitus). Lower levels (nuisance or annoyance levels) have indirect health effects, including stress-related illness and disturbances in sleep. These nuisance levels do not affect people equally. Nuisance and annoyance can have higher or lower relative importance assigned by those affected by them. Such importance varies within and across populations, and this importance or variability can be uncertain. As such, it is challenging to predict with any certainty the degree to which nuisance and annoyance from noise will affect people at an individual level.

17.4.31 When looking at environmental health factors, only 2.9% of King's Lynn and West Norfolk Borough residents and 2.1% of Norfolk residents were recorded to have been exposed to road, rail and air transport noise of 65 dB(A) or more during the daytime, which is lower than the national average (4.3%).

17.4.32 The rates of complaints about noise per 1,000 population in King's Lynn and West Norfolk Borough (2.6) and Norfolk (3.6) were recorded to be lower than rates at the regional (4.1) and national (5.9) levels.

Other Wider Determinants

17.4.33 Data from the DHSC indicates that King's Lynn and West Norfolk Borough have lower rates of children in poverty and older people in poverty when compared to rates at the national level. In contrast, 12.6% of households in King's Lynn and West Norfolk Borough are affected by fuel poverty, higher than proportions in Norfolk (11.7%) and England (11.4%).

17.4.34 Average Attainment 8 scores[13] are lower in both King's Lynn and West Norfolk Borough (42.9) and Norfolk (45.1) than regional (46.2) and national (46.0) averages, indicating relatively poorer educational outcomes across the local authority and county. This is also reflected in the proportion of 16 - 17 year olds classified as not in education, employment or training, which in 2024 / 2025 was higher in Norfolk (5.8%) than both the regional (5.1%) and national (5.6%) averages, suggesting ongoing challenges in supporting young people to remain engaged in education and employment.

17.4.35 The rates of violent offences per 1,000 people in 2024 / 2025 were reported to be lower in King's Lynn and West Norfolk Borough (24.9) and Norfolk (26.1) when compared to rates at the regional (26.8) and national (31.4) levels.

Deprivation Associated with Poor Health

17.4.36 The UK Government's IMD (2025) measures deprivation by combining a range of social, economic and housing factors to establish a single deprivation score and rank for each small area (LSOA)) across England. All LSOAs are ranked relative to one another according to their level of deprivation. There are seven "domains" of deprivation, outlined as follows:

- Income deprivation.
- Employment deprivation.
- Education, skills and training deprivation.
- Health deprivation and disability.
- Crime.
- Barriers to housing services.
- Living environment deprivation.

17.4.37 Health deprivation and disability measures "*the risk of premature death and the impairment of quality of life through poor physical or mental health*". Measures of health include morbidity, disability and premature mortality.

17.4.38 IMD (2025) data indicate that pockets of relatively high deprivation are concentrated within the eastern and south-eastern parts of King's Lynn and West Norfolk Borough, with Walpole Highway, Lakes End and Upwell falling within the 10–20% most deprived areas in England. LSOAs intersecting the Site at Walpole Marsh, Walpole St Andrew, Walpole St Peter and Tilney St Lawrence are among

[13] This metric measures student achievement across eight designated GCSE-level subjects, with English and maths double-weighted.

the 20–30% most deprived areas nationally, while parts of the Site to the east of Wiggenhall St Germans fall within the 10% most deprived areas in England.

17.4.39 Portions of the Site to the east of Wiggenhall St Germans and to the south of Tilney St Lawrence are recorded to fall amongst the top 10% and 20%-30% most deprived areas for the health domain in England, respectively.

17.4.40 More widely within King's Lynn and West Norfolk Borough, there are pockets of deprivation within South Lynn, North Lynn, King's Reach and Gaywood that fall amongst the top 20% most deprived areas in England for the health domain.

Local Health Data

17.4.41 As noted in **Paragraph 17.4.12**, most datasets published through PHE Fingertips are not available at the MSOA level. Where MSOA-level data is available, it has been collected and reviewed, with the key findings summarised below:

- Male life expectancy exceeds the King's Lynn and West Norfolk Borough, Breckland, Fenland and South Holland averages across all MSOAs within the LSA, with highest life expectancies recorded in Mundford, Weeting and Forest (82.3 years) and Stoke Ferry, Hilgay and Wimbotsham (81.4 years).
- Female life expectancy is generally comparable to, but more variable than, the local authority averages, with life expectancy in the Human Health LSA ranging from 81.6 to 85.6 years compared with King's Lynn and West Norfolk (83.2), Breckland (83.4), Fenland (82.0) and South Holland (83.0), respectively. The highest life expectancies can be found in Leverington, Gorefield and Tydd St Giles (85.6 years) and West Winch, Marham and Shouldham (84.6 years).
- Premature mortality is a notable health issue within the Human Health LSA. Four or more MSOAs record higher mortality rates from cancer, cardiovascular disease and respiratory disease than the averages reported across King's Lynn and West Norfolk Borough, Breckland and South Holland, whilst several also exceed the corresponding rates in Fenland. The highest mortality rates are consistently recorded in Town, South Lynn and West Lynn.
- Older people living in poverty are more prevalent across much of the Human Health LSA than in the comparator authorities. Five of the nine MSOAs exceed the King's Lynn and West Norfolk average, whilst six exceed the averages recorded in Breckland and South Holland. The highest rate is recorded in Town, South Lynn and West Lynn (23.1%), substantially above all four local authority comparators.

- Fuel poverty is widespread across the Human Health LSA when compared with the surrounding authorities. Six of the nine MSOAs record rates above the King's Lynn and West Norfolk Borough average, seven exceed the Fenland and South Holland averages, and five exceed the Breckland average. The highest rates are recorded in Stoke Ferry, Hilgay and Wimbotsham (14.9%), Town, South Lynn and West Lynn (14.2%), and Terrington and Clenchwarton (14.1%).
- Childhood obesity levels within the Human Health LSA are generally higher than those reported across the wider local authority areas. Four of the nine MSOAs report Reception obesity rates above the King's Lynn and West Norfolk Borough average, whilst five exceed the South Holland average. For Year 6 children, five MSOAs exceed the averages reported in King's Lynn and West Norfolk Borough and South Holland, and six exceed the Breckland average. The highest rates are recorded in Terrington and Clenchwarton (28.9%) and Long Sutton East and Sutton Bridge (28.2%).

17.4.42 Overall, the MSOA-level data suggests that the Human Health LSA benefits from relatively strong health outcomes, particularly in terms of life expectancy, which is consistently above the national average. However, this positive picture is tempered by evidence of health inequalities, with a number of MSOAs experiencing higher levels of premature mortality, older person poverty and childhood obesity. This indicates that, while overall health outcomes are generally favourable, pockets of deprivation and poorer health persist across parts of the Human Health LSA.

Mitigation Measures Identified to Date

17.4.43 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the initial description of the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Consultation and Engagement

17.4.44 The ISEP Human Health Significance Guidance makes specific reference to good practice in considering mental health and wellbeing in developing EIA (which is defined as the "*state in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community*"), noting that engagement can act as key mitigation, by helping to improve community understanding of the project and practitioner understanding of the community.

Each management plan referenced above will have regard for community feedback, where relevant. Feedback will also be used to inform the refinement of mitigation measures where appropriate. Consultation and engagement can also actively alleviate effects upon mental health by providing a sense of control, inclusion and participation. As such, clear and transparent mechanisms for communication with the community, including a formal complaints and enquiries procedure to be secured in relevant management plans below.

Construction

17.4.45 An oCEMP will accompany the DCO Application, which will set out site rules and responsibilities, and a means to monitor and enforce compliance with on-Site health and safety standards. The oCEMP will also set out BPM to minimise noise and vibration during construction and mitigation to minimise generation of dust during the construction phase to minimise dust exposures. The oCTMP will also provide mitigation, including restriction on times during which deliveries can take place (including start and end times of construction staff shifts and HGV delivery hours to avoid peak traffic, if necessary).

17.4.46 An oROWAS may be provided to maintain access to the local Rights of Way network during the construction phase, helping to minimise potential effects on physical activity, recreation and wellbeing. Potential measures would include protection and provision of any necessary diversions of PRoW.

Operation and Maintenance

17.4.47 An oROWAS may be provided if required to maintain access to the local Rights of Way network during the operation and maintenance phase, helping to minimise potential effects on physical activity, recreation and wellbeing. Potential measures would include the protection and provision of any necessary diversions (for example, for temporary maintenance activities) of PRoW.

17.4.48 An oOEMP and oTP will set out mitigation measures relevant to human health that would manage operational traffic and seek to encourage use of sustainable modes of transport.

17.4.49 The oLEMP will set out mitigation to retain the current value of existing landscape features as far as practicable and to minimise potential effects on health and wellbeing. Potential measures could include landscape planting and screening to reduce visual effects, the enhancement of opportunities for walking and outdoor

recreation and the promotion of inclusive access through the Rights of Way network.

17.4.50 In addition to these plans listed above, the oBSMP will demonstrate the mitigation of the safety risks posed by the BESS Units in the Proposed Development.

Decommissioning

17.4.51 The oDEMP and oDTMP will minimise potential health effects through the application of health and safety procedures, and the management of noise, vibration, air quality and other environmental effects.

Health-Relevant Impact Pathways Considered within the EIA

Identifying Wider Determinants of Health

17.4.52 Mental and physical health[14] and wellbeing is influenced by a combination of largely fixed or inherent biological factors (including individual age, sex, constitutional and genetic factors), and environmental factors including wider or broader determinants of health. Environmental factors can be influenced through the design and management of a proposed development, which may be able to impact health outcomes.

17.4.53 Dahlgren and Whitehead's model[335] of the main determinants of health illustrates the breadth of possible influences on health and has been developed to show the elements of the built environment and communities that are the key determinants of health and which have informed the scope of the human health assessment.

17.4.54 These are recognised as the 'wider determinants of health' and include the following (as defined by the World Health Organisation (WHO) and used by guidance such as that published by the ISEP (formerly IEMA). These are highlighted in **Table 17-5**.

Table 17-5: Wider determinants of health

Categories	Wider determinants of health
Health-related behaviours	Physical activity
	Risk taking behaviours

[14] The World Health Organisation (WHO) defines health as a state of complete physical, mental and social well-being, and not the absence of disease or infirmity.

Categories	Wider determinants of health
	Diet and nutrition and access to healthy food
Social environment	Housing, including design and affordability
	Relocation
	Access to open space, nature, leisure and play
	Transport modes, accessibility, active travel and connections
	Community safety and crime
	Community identity, culture, resilience and influence
	Social participation, cohesion, interaction and support
	Access to health and social care services and other social infrastructure
Economic environment	Education and training
	Employment and income
Bio-physical environment	Climate change and adaptation
	Air quality
	Water quality or availability
	Land quality
	Noise and vibration
	Radiation
Institutional and built environment	Health and social care services
	Built environment
	Wider societal infrastructure and resources

Source: WHO.

17.4.55 The potential for effects of the Proposed Development on human health is considered through the application of 'wider determinants of health' advised by guidance, policy and legislation set out earlier in this Chapter.

Potential Effects Likely to be 'Not Significant'

17.4.56 Where an environmental effect driving the 'wider determinant of health' is unlikely to be significant based on a review of baseline data, mitigation identified to date

and / or initial analysis and evaluation in this Scoping Report, this will not be considered further within the EIA nor reported on in the ES.

17.4.57 The assessment extent will be informed by those technical aspects identified as having the potential to give rise to significant health and wellbeing effects. Technical aspects 'scoped out' of the ES due to the absence of likely significant effects will not be taken forward as health impact pathways. These include:

- Land quality.
- Lighting.
- Major accidents and disasters.
- Microclimate.
- Waste and materials.

Effects Considered within the Wider DCO Application

17.4.58 It is proposed that the following technical aspects relevant to human health will also be 'scoped out' of the ES (as set out elsewhere within this Chapter) and addressed through the preparation of technical stand-alone reports that will be submitted with the DCO Application. However, the human health implications will be summarised in the ES (refer to **Paragraphs 17.4.77** – **17.4.84**):

- Glint and glare: A Solar Photovoltaic Glint and Glare Assessment will be undertaken, which will consider the potential human health effects from glint and glare. Further details on the potential environmental effects are provided under the 'Glint and Glare' section of this Scoping Chapter.
- Electromagnetic fields and interference: An EMF Report will be produced to measure electromagnetic energy impacts and ensure that the Proposed Development is policy compliant and able to operate safely.

Effects with the Potential to be 'Significant'

17.4.59 In accordance with the PINS Advice for Scoping Solar Development and the ISEP Human Health Scoping Guidance, it is proposed that the consideration of potential effects on human health due to both physical and mental changes to health determinants such as access to open space and nature, active travel, community safety and access to work and training as a result of the Proposed Development will be covered through the findings of detailed technical assessments undertaken for other technical aspects as part of the EIA, as outlined in **Table 17-6**.

17.4.60 In some instances, determinants of health are influenced by more than one technical aspect and there is therefore some duplication in **Table 17-6**.

Table 17-6: Wider determinants of health in technical aspects

Categories	Wider determinants of health
Transport and access	Physical activity
	Access to open space, nature and leisure play
	Transport modes, accessibility, active travel and connections
	Community safety and crime
	Social participation, cohesion, interaction and support
	Access to health and social care services and other social infrastructure
Noise and vibration	Noise and vibration
Air quality	Air quality
Water environment	Water quality or availability
Landscape and visual	Physical activity
	Access to open space, nature, leisure and play
	Community identity, culture and resilience
Socio-economics and population	Social participation, cohesion, interaction and support
	Education and training
	Employment and income

17.4.61 Each of the technical aspects with the potential to influence 'wider determinants of health' within this Scoping Report and the ES will consider the potential effects on human health within their own assessments, noting that:

- The Proposed Development will be designed to avoid or minimise adverse effects through option appraisal, selection and refinement, with details on alternatives and design evolution to be provided in the ES.
- The Proposed Development will adhere to the mitigation hierarchy to prioritise avoidance of effects. However, as part of a developing design process, primary mitigation measures are also proposed to limit potential effects on the

environment. Primary mitigation measures are defined as "*mitigation measures that have been incorporated into a project's description and form an inherent part of the project's design*"[336].

17.4.62 Potential effects on human health are addressed through the assessment and mitigation of relevant wider determinants of health within the EIA, including transport and access, noise and vibration, air quality and heritage. Mitigation measures identified within the relevant technical aspects chapters would therefore inherently mitigate associated health and wellbeing effects. Further details are provided within 'Mitigation Measures Identified to Date' above and the respective technical aspect chapters.

Changes to Air Quality, Noise and Vibration and Landscape and Visual Amenity (All Phases)

17.4.63 The Proposed Development may impact human health and wellbeing through temporary or permanent changes to air quality, noise and vibration, landscape and visual amenity, and transport and access. The wider health determinants most relevant to this effect are noise and vibration, air quality, physical activity, and access to open space, nature, leisure and play.

17.4.64 The detailed technical assessments of the following technical aspects will inherently consider health and wellbeing within standards and thresholds used for defining effects (in terms of sensitivity, magnitude, level and / or significance of effects) and consider the potential for effects to influence health and wellbeing in the resident population and sub-populations:

- Transport and access.
- Noise and vibration.
- Air quality.
- Landscape and visual.

Changes to Transport and Access (All Phases)

17.4.65 The Proposed Development may impact human health and wellbeing through temporary or permanent changes to the accessibility of PRoW, recreational routes and active travel routes. The Proposed Development may also influence the degree of community severance experienced by local residents where temporary changes to travel routes, accessibility or connectivity affect access to services, facilities, recreational assets and opportunities for active travel.

17.4.66 The Proposed Development will be compliant with both NPS EN-1 and NPS EN-3 by designing the layout and appearance of the Site to facilitate continued recreational use of PRoW, where possible, minimising visual effects of the Proposed Development for those using PRoW where possible, and enhancing PRoW, where possible and appropriate. The wider health determinants most relevant to this effect are transport modes, accessibility, active travel and connections and physical activity.

17.4.67 The detailed technical assessments for **Chapter 6: Transport and Access**, and **Chapter 16: Socio-economics and Population** will indirectly consider the potential for effects to influence health and wellbeing in the resident population and sub-populations. The results of these detailed technical assessments will be presented in a summary table in the ES that will set out the health-related implications.

Changes to Access to Health and Social Care Services and Other Social Infrastructure, Health and Social Care Services, Built Environment and Wider Societal Infrastructure and Resources (All Phases)

17.4.68 As the Proposed Development does not include residential uses, it will not have a direct effect on the capacity of local community services. There are also no local community services (e.g. schools, GP surgeries) or public areas (e.g. parks) within the Site. However, the presence of a temporary, non-local construction workforce may result in changes in access or capacity of local public services and community facilities (including healthcare, education facilities and open space). The wider health determinants most relevant to this effect are access to open space, nature, leisure and play, community identity, culture, resilience and influence, access to health and social care services and other social infrastructure, health and social care services, built environment and wider societal infrastructure and resources.

17.4.69 The detailed technical assessments for **Chapter 6: Transport and Access**, **Chapter 10: Landscape and Visual** and **Chapter 16: Socio-economics and Population** will indirectly consider the potential for effects to influence health and wellbeing in the resident population and sub-populations. The results of these detailed technical assessments will be presented in a summary table in the ES that will set out the health-related implications.

Changes to Community Identity, Culture and Resilience and Social Participation, Cohesion, Interaction and Support (All Phases)

17.4.70 The Proposed Development will not displace existing residential communities or introduce new residential uses into the area. However, the Proposed Development may impact human health and wellbeing through changes to social cohesion as a result of severance (for example, from temporary diversions and closures of PRoW and roads) and changes in population, and landscape and visual amenity. The wider health determinants most relevant to this effect are community identity, culture, resilience and influence and transport modes, accessibility, active travel and connections.

17.4.71 Potential effects on health and wellbeing arising from changes to access, connectivity and amenity will be considered within the detailed technical assessments for **Chapter 6: Transport and Access** and **Chapter 16: Socio-economics and Population**. This would include consideration of community severance associated with road diversions and changes to PRoW, including effects on route amenity, and indirectly the extent to which these changes may influence health and wellbeing outcomes for the resident population and relevant sub-groups. The results of these detailed technical assessments will be presented in a summary table in the ES that will set out the health-related implications.

Changes to Education and Training and Employment and Income (All Phases)

17.4.72 Employment and income are intrinsically linked to health, with good-quality employment leading to positive impacts on health and wellbeing and the availability of high-quality jobs being key to achieving inclusive economic growth. In the same way, employment can also be associated with health inequality, with adverse physical and psychological conditions of work, the risk of job loss or redundancy and poor pay having the potential to have an adverse impact on human health[337]. The wider health determinants most relevant to this effect are education and training and employment and income.

17.4.73 The Proposed Development will generate temporary employment during the construction and decommissioning phases and permanent, operational employment. There may also be effects on existing businesses, commercial activity and the wider economy as a result of changes to the environment, access and construction activity, reducing land availability in the agricultural sector.

17.4.74 The detailed technical assessment for **Chapter 14: Agricultural Land and Soils** and **Chapter 16: Socio-economics and Population** will consider the potential for socio-economic effects, which will indirectly influence health and wellbeing and changes to agricultural employment, training opportunities and business activity arising from effects on agricultural land and holdings. The results of these detailed technical assessments will be presented in a summary table in the ES that will set out the health-related implications.

Changes to Physical or Mental Health and Wellbeing Linked to the Water Environment (All Phases)

17.4.75 **Chapter 13: Water Environment** presents an assessment of the likely significant effects arising during the construction, operation and maintenance and decommissioning phases of the Proposed Development on the water environment. The results of this detailed technical assessment will be presented in a summary table in the ES that will set out the health-related implications.

Changes to Physical or Mental Health and Wellbeing Linked to Land and Water Contamination (All Phases)

17.4.76 The potential for human health to be affected by contamination of land and water (for example, from spills, refuelling or mobilisation of contamination during construction, operation and maintenance and decommissioning activities) is reported in the 'Land Quality' Section of this Scoping Chapter. This will be 'scoped out' from further assessment of health-related implications within the ES.

Overview of Approach

17.4.77 As set out above, it is recognised that there will be some 'wider determinants of health' driven by effects to be assessed in technical aspects that may have the potential to be significant.

17.4.78 As directed by NPS EN-1 (paragraph 4.4.7) "*Generally, those aspects of energy infrastructure which are most likely to have a significantly detrimental impact on health are subject to separate regulation (for example for air pollution) which will constitute effective mitigation of them*". In accordance with this approach, it is recognised that these potential effects on human health are 'scoped in' but are assessed through individual detailed technical assessments and subject to the guidance, thresholds, policy and legislation that inherently consider significance in terms of health effects.

17.4.79 It is important, however, to consider these 'wider determinants of health' in the context of the sensitivity of the population and sub-populations affected.

17.4.80 Within a population there can also be health inequalities, defined by the WHO as "*differences in health status or in the distribution of health determinants between different population groups. For example, differences in mobility between elderly people and younger populations or differences in mortality rates between people from different social classes*".

17.4.81 Sub-population(s) are identified in the ISEP Human Health Scoping Guidance ISEP Human Health Significance Guidance as those with vulnerability due to:

- Young age.
- Older age.
- Income or unemployment.
- Health status.
- Social disadvantage.
- Access or geographic factors.

17.4.82 In general, populations and sub-populations are considered to have greater sensitivity if they experience higher levels of deprivation and wider pre-existing health inequalities, more limited access to shared resources, higher levels of anxiety, uncertainty or concern relating to an intervention and poor health indicators with an overall limited capacity to adapt to change.

17.4.83 Within a defined population, individuals will range in their levels of sensitivity to health outcomes due to factors such as age, socio-economic deprivation and pre-existing health conditions. It is clear that some groups may be particularly vulnerable to changes whereby they could experience differential or disproportionate effects when compared to the general population.

17.4.84 As such, a summary table will be provided within the ES to clearly identify and summarise the sensitivity of receptors (populations and sub-populations) through a health lens, the magnitude of change (where relevant), the mitigation applied (in terms of primary, tertiary or secondary mitigation) and a summary of potential health effects reported in individual chapters and the relevant standalone reports (e.g. the Solar Photovoltaic Glint and Glare Assessment and EMF Report) in a single location.

Summary

17.4.85 As outlined above, it is proposed that the consideration of potential effects related to human health will be primarily covered through the findings of other detailed technical assessments undertaken as part of the EIA process and as separate technical documentation (e.g. the Solar Photovoltaic Glint and Glare Assessment and EMF Report). The human health implications of these findings will be set out in a table in the ES.

17.4.86 With reference to the 'Effects with the Potential to be Significant' section above, a summary of the potential human health effects that could arise as a result of the Proposed Development, whether these effects have been 'scoped into' the EIA, and the technical aspects that these effects are or will be assessed under is set out in **Table 17-7**.

Table 17-7: Summary of potential likely human health effects

Potential effect	'Scoped in' or 'Scoped out'	Technical aspect where the effect will be considered
Changes to air quality, noise and vibration and landscape and visual amenity	'Scoped in'	**Chapter 6: Transport and Access**, **Chapter 7: Noise and Vibration**, **Chapter 8: Air Quality** and **Chapter 10: Landscape and Visual**
Changes to transport and access	'Scoped in'	**Chapter 6: Transport and Access** and **Chapter 16: Socio-economics and Population**
Changes to access to health and social care services and other social infrastructure, health and social care services, built environment and wider societal infrastructure and resources	'Scoped in'	**Chapter 6: Transport and Access**, **Chapter 10: Landscape and Visual** and **Chapter 16: Socio-economics and Population**
Changes to community identity, culture and resilience, and social participation, cohesion, interaction and support	'Scoped in'	**Chapter 16: Socio-economics and Population**

Potential effect	'Scoped in' or 'Scoped out'	Technical aspect where the effect will be considered
Changes to education and training, and employment and income	'Scoped in'	**Chapter 16: Socio-economics and Population**
Changes to physical or mental health and wellbeing linked to the water environment	'Scoped in'	**Chapter 13: Water Environment**
Changes to physical or mental health and wellbeing linked to land contamination	'Scoped out'	'Land Quality' in this Scoping Chapter

Assumptions, Limitations and Uncertainties

17.4.87 The assumptions, limitations and uncertainties that have been identified to date are set out in **Table 17-8**.

Table 17-8: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• The assessment of human health effects has been based on professional judgement and best practice methodology and has considered both the negative and positive impacts that the Proposed Development could have upon existing and surrounding receptors. It has provided a broad, high-level indication of the likelihood of potential significant effects occurring, reporting on these effects to people and the local community • The assessment of human health effects will be covered under other technical aspects, setting out the impact of the Proposed Development on human health receptors. The assumptions and limitations set out in these detailed technical assessments will inherently apply within the assessment of human health impacts. • Reasonable worst-case assumptions regarding the likely baseline conditions have been made when assessing the likelihood of significant effects in the ES, determined from the desk study information.

17.5 Land Quality

17.5.1 Land quality includes both land and groundwater conditions.

Summary of Relevant Legislation, Policy and Guidance

17.5.2 A list of legislation, policy and guidance relating to land quality relevant to the Proposed Development is as follows:

Legislation

- The European Water Framework Directive (WFD) 2000/60/EC.
- The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017.
- Environmental Protection Act 1990.
- The Environmental Permitting (England & Wales) Regulations 2016.

Policy

- NPS EN-1.
- NPS EN-3.
- NPS EN-5.
- King's Lynn and West Norfolk Local Plan 2021 – 2040.

Guidance

- Environment Agency Land Contamination Risk Management (LCRM) (2020)[338].
- Construction Industry Research and Information Association (CIRIA) Report C552 Contaminated Land Risk Assessment: A Guide to Good Practice (2001)[339].
- DEFRA Contaminated Land Statutory Guidance (2012)[340].
- KL&WNBC Land Contamination Investigations Leaflet (2024)[341].

Baseline Conditions

17.5.3 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and provides an overview of the relevant baseline conditions for land quality.

Baseline Data Collection Activities to Date

17.5.4 A 250m study area with regard to land and soil-related receptors and a 1km study area with regard to controlled waters has been assumed to date ahead of regulator engagement. This applies to the Phase 1 Land Contamination Desk Studies that have been prepared (refer to **Appendix E**) and will be confirmed through engagement to be carried out.

17.5.5 Baseline data has been collected using the following sources of data and project specific methods:

- OS mapping (Historical and Present Day).
- BGS mapping and borehole records.

- BGS Aquifer Designations, Environment Agency Groundwater Vulnerability Mapping, and groundwater SPZ Mapping.
- Groundsure® Reports comprising Enviro Insight and Geo Insight (Western Site report reference: GS-8NE-61P-KC1-N22, dated April 2026 and Eastern Site report reference: GS-JMK-UC3-2BM-26N, dated April 2026).
- Open-Source aerial and street view images, including Google Earth®.
- MAGIC website.
- Environment Agency and LPA websites for information including flood risk and water quality and planning history.
- Site walkovers of the Eastern and Western Sites were carried out by a competent expert between 5th and 21st May 2026 to confirm the desk-based baseline information obtained.

17.5.6 The above-mentioned Groundsure® Reports, which comprise a database report incorporating records and mapping from KL&WNBC, Environment Agency and BGS have been obtained and reviewed and are presented in full within the supporting Phase 1 Land Contamination Desk Studies (referred to as 'Desk Studies') for the Main Site and the Detailed Technical Notes for the Cable Routes (including Walpole Substation), which are appended to this Scoping Report (in **Appendix E**).

17.5.7 These documents are as follows:

- Desk Study for the Western Site produced by Turnkey Regeneration Ltd (report reference: 0212-R003i2 dated August 2026).
- Desk Study for the Eastern Site produced by Turnkey Regeneration Ltd (report reference: 0212-R004i2 dated August 2026).
- Technical Notes for the Western Cable Route produced by Turnkey Regeneration Ltd (report reference: 0212-TN006i1 dated August 2026, and Eastern Cable Route produced by Turnkey Regeneration Ltd (report reference: 0212-TN005i1 dated August 2026).

17.5.8 The documents listed above provide information on potential source, pathway, receptor linkages and detailed recommendations for mitigation measures and further works, where considered appropriate. A detailed review of the site-specific baseline information outlined in the Desk Studies has been undertaken and is summarised in the following sections of this Scoping Chapter. The complete Desk Studies and Technical Notes are to be read in conjunction with this Scoping Chapter. Note that, where relevant, different parts of the Main Site have been

given Parcel reference numbers. The internal access / cable routes within the Eastern Site have also been addressed under the Eastern Cable Route.

Baseline Conditions

Walpole Substation

Site Setting

17.5.9 Walpole Substation includes open agricultural land and the existing Walpole NGET GSP, which was originally built in the 1960s and has undergone various phases of upgrade works since its original construction. There are some residential areas to the east of Walpole Substation, within the villages of Walpole St Peter and Walpole St Andrew and along French Road. Walpole Marsh lies to the north.

Site History

17.5.10 Historically, Walpole Substation has been dominated by the electricity transformer station since the 1960s. Prior to this, Walpole Substation comprised undeveloped agricultural land, with Grange Farm and Flower Farm located just to the west and White House and Bank House Farm to the east. There are also sewage farms to the west and to the north-east, with sewage farm settling ponds marked around 500m to the north circa 1975-80.

Geology, Hydrogeology, Hydrology, Ecology

17.5.11 Walpole Substation is underlain by superficial deposits comprising Tidal Flat Deposits and the bedrock is the Ampthill Clay Formation. Both strata are Unproductive Strata.

17.5.12 Walpole Substation does not lie within a groundwater SPZ.

17.5.13 The River Nene (Kindersley's Cut) lies around 750m to the west and north of the Walpole Substation. There are drainage features across the area which link to an unnamed small tributary of the River Nene to the west.

Industrial Land Use and Waste

17.5.14 Except for the existing Walpole NGET GSP, no other industrial land uses are recorded.

17.5.15 There are no records of historical or active landfills within the boundary of the Walpole Substation within the Groundsure® Report. In addition, there are no active or historical landfills present on-site.

Risk Assessment

17.5.16 The existing Walpole NGET GSP represents a potential source of contamination due to the ground disturbance during its construction and possible presence of Made Ground of unknown origin. In addition, due to the age of the substation (1960s) there is the potential that transformer oil, including polychlorinated biphenyls (PCBs), was used in electrical equipment. On this basis, a low to moderate risk classification for risks to human and controlled waters receptors was concluded.

Western Cable Route

Site Setting

17.5.17 The Western Cable Route predominantly consists of arable farmland and the Walpole Bank Solar Farm in its western extents. No significant commercial or industrial development is present within the Western Cable Route (the Walpole NGET GSP is considered below).

Site History

17.5.18 Large areas of the Western Cable Route have comprised open, undeveloped land including fields, woodland, allotments and orchards and have remained undeveloped since historical OS mapping records began. A series of farm buildings and residential properties have also been present on-site. Two significant historical pits are recorded by GroundSure®, relating to Fruit Farm Pit for the extraction of clay and shale. Operations at this pit have ceased.

17.5.19 Wider historical unspecified pits, a sewage works and a helicopter landing pad are also recorded within a 125m radius of the Western Cable Route.

Geology, Hydrogeology, Hydrology and Ecology

17.5.20 Based on information published by the BGS, the Western Cable Route is underlain by Tidal Flat Deposits. This stratum is designated as Unproductive Strata. The bedrock geology comprises the Kimmeridge Clay Formation (within the eastern half) and the Ampthill Clay Formation (within the western half). The bedrock is Unproductive Strata.

17.5.21 There are no groundwater SPZs on-site and no groundwater or surface water abstractions recorded on-site or within 125m of the Western Cable Route.

17.5.22 Various land drains and Ordinary Watercourses are present within the Western Cable Route.

17.5.23 There are no sensitive land uses recorded on-site or within a 250m radius of the Western Cable Route.

Industrial Land Use and Waste

17.5.24 There are no records of current industrial sites recorded within the Western Cable Route.

17.5.25 There are no records of historical or active landfills within the boundary of the Western Cable Route within the Groundsure® Report. In addition, there are no active or historical landfills present on-site.

Risk Assessment

17.5.26 Significant sources of contamination were not identified within the Western Cable Route and a low-risk classification for risks to human and controlled waters receptors was concluded.

Western Site

Site Setting and Site Walkover

17.5.27 The Western Site lies to the west of the River Great Ouse and east of the settlement of Tilney St. Lawrence. The Western Site lies at a ground elevation of approximately 1m to 3m above Ordnance Datum (AOD), appearing mostly level.

17.5.28 During the site walkover carried out by Turnkey Regeneration Ltd in May 2026, there was no visual or olfactory evidence of contamination observed. There was no evidence of historical tanks, surface excavation workings or gas valve compounds seen.

Site History

17.5.29 Most of the Western Site comprises undeveloped land and consists predominantly of open fields used for agricultural purposes and isolated woodland. Based on the historical OS maps, there have not been significant changes to field boundaries or site usage since the 1990s.

17.5.30 The surrounding land use has consisted predominantly of open fields since mapping records began. Tilney St. Lawrence and associated farmhouses are present at the western boundary. Other farmhouses and the village of Islington are present at the eastern boundary. Tilney High End is present to the north, with the A47 road trending north-east to south-west. Only a small number of potentially historic contaminative uses were identified from the historical maps within 250m of the Western Site, including a smithy, nursery, unspecified tanks and a pumping station with an electrical sub-station and tank.

Geology, Hydrogeology, Hydrology and Ecology

17.5.31 Based on information published by the BGS, the Western Site is underlain by superficial Tidal Flat Deposits, which typically comprise clay and silt. The bedrock is indicated to comprise Kimmeridge Clay Formation and Ampthill Clay Formation. The former is present beneath much of the Western Site, with the latter present in the southernmost section of the Western Site, south of Magdalen Road.

17.5.32 Both the superficial and bedrock geology are designated as Unproductive Strata with low permeability and negligible significance for water supply.

17.5.33 There are no groundwater SPZs within the Western Site or within 1km. There are no groundwater abstractions (including potable abstractions) within the Western Site or within a 1km radius.

17.5.34 There are multiple surface water bodies within the Western Site relating to drainage systems, which extend across the Western Site. There are no surface water abstractions recorded within the Western Site or within a 1km radius.

17.5.35 There are four records within the Western Site relating to former mineral workings which relate to Fruit Farm Pit (ceased), Aylmer Hall Pit (ceased), Salgate Field Pit (ceased) and Aylmer Hall Kiln (ceased). These relate to former clay and shale extraction.

17.5.36 One SSSI is present within the northern section of the Western Site, Islington Heronry. Further details are provided in **Chapter 9: Biodiversity**.

Industrial Land Use and Waste

17.5.37 There are no records of current industrial sites recorded on the Western Site. There are overhead pylons that run across the northern part of the Western Site.

17.5.38 There are no records of historical or active landfills within the boundary of the Western Site within the Groundsure® Report. In addition, there are no active landfills present within 500m.

Risk Assessment

17.5.39 Significant sources of contamination were not identified at the Western Site. Based on the preliminary Conceptual Site Model (CSM) and Qualitative Risk Assessment (QRA), the potential pollutant linkages for the Western Site were given a low-risk classification for risks to human and controlled waters receptors within the Desk Study.

Eastern Site

Site Setting and Site Walkover

17.5.40 The Eastern Site comprises four interconnected land parcels that broadly lie to the south and south-west of RAF Marham (present at the north-eastern boundary of Parcel 3 and north of Parcel 2), east of Stradsett, north of Stoke Ferry, and immediately in the vicinity of Fincham.

17.5.41 In addition to the four main land parcels there are three connecting cable routes which form part of the Eastern Site. For the purposes of the land quality assessment and associated Groundsure® Reports, these are referenced as Parts 2 to 4, where relevant, with Part 1 comprising the Eastern Cable Route itself, considered separately in **Paragraphs 17.5.68** – **17.5.79**.

17.5.42 The Eastern Site predominantly consists of agricultural fields used for arable farming. The Eastern Site lies at a ground elevation of approximately 5m to 25m AOD, appearing locally undulating and sloping down from north to south.

17.5.43 During the site walkover carried out by Turnkey Regeneration Ltd in May 2026, no visual or olfactory evidence of contamination was observed. There was no evidence of historical tanks or surface excavation workings seen.

Site History

17.5.44 Most of the Eastern Site comprises undeveloped land, predominantly made up of open fields used for agricultural purposes and isolated woodland. Based on the historical OS maps, there have not been significant changes to field boundaries or Eastern Site usage since the 1990s.

17.5.45 RAF Barton Bendish, an unpaved airfield, was present in the northern section of Parcel 1 from approximately 1939 to 1942 (but is not shown in historical mapping due to the sensitive nature of this former land use during WWII).

17.5.46 To the north of Parcel 3 of the Eastern Site lies RAF Marham. RAF Marham was originally commissioned in 1916, before a brief period of closure until 1937, before reopening, and continued operation until the present day.

17.5.47 The immediate surrounding land around the Eastern Site has consisted predominantly of open fields since mapping records began. Fincham and associated farmhouses are present at the central section of the Eastern Site. Other farmhouses and the village of Stradsett are present beyond the western boundary. Barton Bendish lies centrally within Parcels 1 – 4.

17.5.48 There are records relating to chalk extraction within Parcels 2 and 3 of the Eastern Site.

17.5.49 Parts 2 – 4 comprise undeveloped land, predominantly made up of open fields used for agricultural purposes and isolated woodland. Based on the historical OS maps, there have not been significant changes to field boundaries or usage of these Parts since the 1990s.

17.5.50 RAF Barton Bendish was present in the eastern half of Part 4

17.5.51 A disused chalk pit (dating to the 1980s) is recorded within Part 4, with additional chalk pits and workings present in the nearby area (dating between 1884 and 1983).

Geology, Hydrogeology, Hydrology and Ecology

17.5.52 Based on information published by the BGS, the Eastern Site is underlain by several different superficial units. Parcel 1 is underlain by the Lowestoft Formation and Peat. Parcel 3 is underlain by the Lowestoft Formation and Alluvium. Parcel 4 is directly underlain by the Lowestoft Formation. No superficial deposits are recorded below Parcel 2, with this section indicated to be directly underlain by Chalk bedrock. The superficial geology is designated as a Secondary A Aquifer (Alluvium), Secondary Undifferentiated Aquifer (Lowestoft Formation) and Unproductive Strata (Peat).

17.5.53 The bedrock geology comprises West Melbury Marly Chalk Formation, Holywell Nodular Chalk Formation and New Pit Chalk Formation (undifferentiated) and Melbourn Rock Member. Within Parcel 2, no superficial deposits are recorded, and the Chalk bedrock outcrops at ground level. These strata are Principal Aquifers with high intergranular or fracture permeability, providing a high level of water storage and may support water supply / river base flow at a strategic level.

17.5.54 There are two groundwater SPZs within the Eastern Site. A groundwater SPZ1 is located on the easternmost boundary of Parcel 1, with a groundwater SPZ3 located in the eastern half of Parcel 2. Parcels 3 and 4 do not contain any groundwater SPZs. Wider groundwater SPZs around the Eastern Site include a groundwater SPZ1 and SPZ3. There are no groundwater abstractions (including potable abstractions) within the Eastern Site, or within 250m of any land parcel boundaries.

17.5.55 There are multiple surface water bodies within the Eastern Site relating to drainage systems, small lakes and inland rivers (Lode Dike). Stringside Stream is

within / adjacent to Parcels 1 and 3. Old Carr Stream is within / adjacent to Parcel 1.

17.5.56 No SSSIs are present within the Eastern Site. One SSSI is present near to the southern boundary of Parcel 1, Boughton Fen. Further details are provided in **Chapter 9: Biodiversity**.

17.5.57 Part 2 is directly underlain by the Lowestoft Formation. No superficial deposits are recorded below Parts 3 and 4, with these areas indicated to be directly underlain by Chalk bedrock. The superficial geology is designated as a Secondary A Aquifer (Alluvium), Secondary Undifferentiated Aquifer (Lowestoft Formation) and Unproductive Strata (Peat).

17.5.58 Within Parts 3 and 4, no superficial deposits are recorded, and the Chalk bedrock outcrops at ground level.

17.5.59 Parts 2 – 4 do not contain any groundwater SPZs.

17.5.60 There are no groundwater abstractions (including potable abstractions) within the Eastern Site, or within 250m of any land parcel boundaries.

17.5.61 There are also no surface water abstractions recorded within the Eastern Site.

Industrial Land Use and Waste

17.5.62 There are no records of current industrial sites recorded on the Eastern Site.

17.5.63 There are no records of historical or active landfills within the boundary of the Eastern Site within the Groundsure® Report. There is one small historical landfill adjacent to the northern boundary of Parcel 3, along A1122 (Swaffham Road) but this is outside the Eastern Site boundary. There are no active landfills present within 500m of the Eastern Site.

Risk Assessment

17.5.64 Significant sources of contamination were not identified at the Eastern Site. Based on the preliminary CSM and QRA, the potential pollutant linkages for the Eastern Site were given a low-risk classification for risks to human and controlled waters receptors within the Desk Study.

17.5.65 The exception is Part 4, which has been given an overall low to moderate risk classification due to the potential for contamination to be present associated with either the potentially infilled chalk pit and / or RAF Barton Bendish (which occupied a section of Part 4) and the potential for any such contamination to impact the underlying Chalk aquifer and surface waters (land drain). As the

detailed design and construction methodology are identified for the Proposed Development, the requirement for further targeted ground investigation prior to the commencement of construction activities in this area will be reviewed. This requirement will be secured by DCO Requirement.

17.5.66 Most of the Eastern Site is identified as low risk from Unexploded Ordnance (UXO). However, the Desk Study highlighted that UXO assessment and investigation are required in (i) the north of Parcel 1 due to the fact that this was the former location of historical RAF Barton Bendish and (ii) in the north of Parcel 2 and the north-east of Parcel 3 due to the proximity of RAF Marham (<0.3km). These areas are classified as a moderate risk.

17.5.67 The Desk Study also highlighted that UXO assessment and investigation are required in (i) the north of Part 4 due to the fact that this was the former location of historical RAF Barton Bendish and (ii) in the north-east of Part 3 due to the proximity of RAF Marham (<0.3km). These areas are classified as a moderate risk.

Eastern Cable Route

Site Setting

17.5.68 The Eastern Cable Route connects the Western Site and Eastern Site. (It is referenced as Part 1 of the Eastern Cable Route for the purposes of this land quality assessment and associated Groundsure® Reports).

17.5.69 The Eastern Cable Route predominantly consists of arable farmland, woodland, fenland, residential areas, farm buildings and a public house. No significant commercial or industrial development is present. The Fen Railway Line crosses the Eastern Cable Route, and the area is covered by an extensive network of land drains and the River Great Ouse and the Great Ouse Relief Channel.

Site History

17.5.70 A former brick yard, brick works and pits are recorded across the Eastern Cable Route. Large areas of the Eastern Cable Route have comprised open, undeveloped land including fields, woodland and orchards and have remained undeveloped since historical OS mapping records began.

17.5.71 Wider historical pits, a brickyard, kilns, ground workings and nurseries are also recorded within a 125m radius of the Eastern Cable Route.

Geology, Hydrogeology, Hydrology and Ecology

17.5.72 Based on information published by the BGS, the Eastern Cable Route is in part directly underlain by bedrock strata and in part underlain by various superficial units including Tidal Flat Deposits, Tottenhill Sand and Gravel Member, Lowestoft Formation and Head Deposits. These strata are designated as Secondary A and Secondary Undifferentiated Aquifers and Unproductive Strata.

17.5.73 The bedrock geology comprises the Kimmeridge Clay Formation, West Melbury Marly Chalk Formation, and New Pit Chalk Formation (undifferentiated), Melbourn Rock Member, Leziate Member, Roxham Member and Runcton Member, Carstone Formation, Mintlyn Member and Gault Formation, which comprise both Principal Aquifers and Unproductive Strata.

17.5.74 There are no groundwater SPZs on-site and no groundwater abstractions recorded on-site or within 125m of the Eastern Cable Route. Some surface water abstractions relating to farm operations are recorded within the Eastern Cable Route.

17.5.75 Various land drains are present within the Eastern Cable Route. The River Great Ouse and the Relief Channel also cross the Eastern Cable.

17.5.76 There is one SSSI recorded at Setchey which is located to the north of the Eastern Cable Route. This is geologically designated. No further sensitive land uses are recorded on site or within a 250m radius of the Eastern Cable Route.

Industrial Land Use and Waste

17.5.77 There are no records of current industrial sites recorded within the Eastern Cable Route.

17.5.78 There are no records of historical or active landfills within the Eastern Cable Route within the Groundsure® Report. In addition, there are no active or historical landfills present on-site.

Risk Assessment

17.5.79 Significant sources of contamination were not identified within the Eastern Cable Route. However, the possibility of localised Made Ground and infilling is possible based on the records of former brick yards and works, pits and ground workings cannot be discounted and, on this basis, an overall low to moderate risk classification was concluded due to risks to underlying aquifers and surface waters (land drains).

Mitigation Measures Identified to Date

17.5.80 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the initial description of the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

17.5.81 As detailed above, Desk Studies have been prepared for the Western Site and Eastern Site to support the DCO Application. Detailed Land Contamination Technical Notes for the Western and Eastern Cable Routes have also been produced. The Western Cable Route includes a consideration of Walpole Substation. These documents provide supplementary information to the baseline assessment carried out to support this Scoping Chapter. They provide a preliminary assessment of potential land quality effects and have included the following scope of works:

- Establishing the environmental setting and Site context.
- Determining the historical land use of the Site, including a review of available historical mapping and any supporting information.
- Developing a preliminary CSM and conducting a Preliminary Risk Assessment (PRA) of potential contamination on-site.
- Outlining recommendations for further works, such as ground investigation and remedial action, if deemed necessary.

Construction Phase

17.5.82 Whilst the risk of encountering significant contamination across the various Areas of the Site has been assessed as low to moderate, the following recommendations were provided within the Desk Studies and Technical Notes (in **Appendix E**) to ensure robust risk management post-consent and pre-commencement of the main construction phase:

- Limited ground investigation to assess topsoil quality. This is due to possible spreading of sludges, waste ash and pesticides on fields, with possible contaminant build-up over time due to the historical agricultural use of the Main Site and the horticultural uses of the Western Sites. Where appropriate, information will be sought from the landowner / farmer and KL&NWBC records to establish whether treated sewage sludge, pesticides or other potentially contaminative materials were historically applied to the land. Where such activities are confirmed, targeted soil sampling and analysis may need to be undertaken for relevant contaminants, including Per- and Poly-fluoroalkyl Substances (PFAS) and pesticide compounds, where supported by

the identified source-pathway-receptor linkage. Although topsoil may be stripped as part of any future development, it is possible this may be re-used in landscaping areas. Thus, the testing of topsoil has been recommended to ensure confidence in its safe reuse. This will be secured by DCO Requirement.

- Limited ground investigation may also be undertaken in the vicinity of the redundant agricultural fertiliser tanks within the Western Site and to investigate the presence of areas of potential infill identified from historical mapping. The requirement for ground investigation in these areas will be determined having regard to the Proposed Development layout once finalised and undertaken post-consent, where potential sources of contamination coincide with proposed infrastructure or other areas of proposed ground disturbance. This will be secured by DCO Requirement.
- Implementation of a Discovery Strategy as part of the oCEMP to ensure any visual or olfactory evidence of contamination is identified.

17.5.83 Where ground investigations identify contamination or unsuitable materials, appropriate measures for their management, treatment, removal or reuse will be implemented. This may include targeted remediation, soil management, segregation and / or testing of excavated materials, and measures to facilitate the appropriate re-use or disposal of site-won soils. These measures would be resolved ahead of the main construction works and the completion and operation of the Proposed Development. This would be secured by DCO Requirement.

17.5.84 Ground investigation will therefore form a mitigation and risk-management measure by reducing uncertainty regarding existing ground conditions and ensuring that any subsequent mitigation is proportionate and based on site-specific evidence.

17.5.85 Within the northern part of Parcel 1 of the Eastern Site, where significant excavation or other intrusive works are proposed in this area, an appropriate level of UXO assessment and, where necessary, specialist UXO oversight will be undertaken. The findings will inform the requirements for safe intrusive works and any associated mitigation measures. This will be secured within the oCEMP.

17.5.86 Measures to prevent and minimise land quality and groundwater effects during construction include, but are not limited to, the following:

- Environmental management, emergency response and incident procedures, in line with the Guidance for Pollution Prevention (GPP) 21 Pollution incident

response planning (albeit this has been withdrawn in England but remains industry standard)[342].

- Adherence to the CDM Regulations 2015 and other relevant health and safety legislation.
- Use of Personal Protective Equipment (PPE), Respiratory Protective Equipment (RPE), where required.
- Pollution prevention measures in accordance with relevant guidance and industry good practice, including CIRIA's Control of Water Pollution from Construction Sites[343] and GPP 5: Works and maintenance in or near water[344] (albeit these have been withdrawn in England but remain industry standard).
- Piling and Earthworks Risk Assessments, as appropriate, to assess and manage potential risks to controlled waters on-site during construction in accordance with Environment Agency Guidance (CL:AIRE 2025)[345].
- Installation and maintenance of a temporary drainage management / system. The surface water, drainage and sediment control measures as part of this temporary drainage will be in line with British Standard 8582:2013 – Code of practice for surface water management for development sites[346].
- Waste management and materials handling procedures, Discovery strategy, watching brief and unexpected contamination protocol.
- Site inspection, monitoring, auditing and corrective action procedures.
- Testing of re-used and imported soils in line with Waste Classification technical guidance[347].

17.5.87 The above measures will be delivered through the following management plan, which will be secured by DCO Requirement:

- oCEMP.

17.5.88 Measures to manage / control effects are also set out across this Scoping Report for noise and vibration (see **Chapter 7: Noise and Vibration**), dust (see **Chapter 8: Air Quality**), ecology (see **Chapter 9: Biodiversity**), flood risk and drainage (**Chapter 13: Water Environment**) and agricultural land and soils (see **Chapter 14: Agricultural Land and Soils**).

Operation and Maintenance Phase

17.5.89 The design principles will evolve as the Proposed Development progresses and will maximise opportunities to safeguard land quality and protect sensitive environmental receptors. The design process will principally focus on the protection of the underlying aquifers and will involve the siting of infrastructure, including the BESS Units and Substations within the Main Site, together with the

design of piles and foundations, where required for buried and overhead line cables within the Cable Routes. The siting and design of the Data Centre Campus, BESS Units and Substations will, where practicable, seek to minimise ground disturbance and penetration into underlying permeable strata and aquifers. These will be addressed through design principles.

17.5.90 The oOEMP will set out the measures, management procedures and mitigation to be implemented during the operation and maintenance phase of the Proposed Development to prevent and minimise potential effects on land quality. The principal risks during the operation and maintenance phase relate to the storage and handling of oils, fuels and chemicals associated with plant and equipment, including the Data Centre Campus and BESS Units and Substations.

17.5.91 The oOEMP will include measures such as sealed drainage systems, impermeable surfacing and secondary containment for any transformers, storage tanks and associated infrastructure, together with procedures for the safe storage, handling and disposal of fuels, oils, chemicals and wastes as appropriate. It will also include spill response procedures, emergency incident management measures and inspection and maintenance requirements. Operational controls for the BESS Units, including leak detection, fire water management and routine inspection and maintenance procedures, will also be included where relevant and will comply with the NFCC guidance for this infrastructure. Further specific technical details will be provided in the oBSMP that will accompany the DCO Application.

17.5.92 The oOEMP will further set out monitoring, reporting and auditing procedures throughout the lifetime of the Proposed Development to ensure that operational activities do not result in unacceptable risks to human health, controlled waters, the built environment or ecological receptors, and that the Proposed Development is operated in accordance with relevant legislation and industry good practice guidance.

17.5.93 A Surface Water Drainage Strategy will set out measures to manage surface water during the operation and maintenance phase. Surface water drainage will be appropriately designed and, where practicable, restricted to maintain appropriate discharge rates and minimise the potential for uncontrolled run-off. The design will locate potentially contaminative infrastructure away from sensitive environmental receptors, including groundwater SPZs. Appropriate drainage features, designated drainage areas and containment measures, including bunding, where required, will be incorporated into the design to manage,

attenuate and, where appropriate, treat surface water run-off and reduce the potential for impacts to underlying soils and groundwater. This will be secured via design principles and the oDS.

17.5.94 The FRA will ensure that all flood risks associated with the Proposed Development are appropriately identified, assessed and managed. The FRA will also set out measures to prevent uncontrolled discharges during flash flood events and minimise the risk of surface water run-off to ground. Further details are provided in **Chapter 13: Water Environment**.

Decommissioning Phase

17.5.95 An oDEMP will be submitted as part of the DCO Application. The oDEMP will set out the measures, management procedures and mitigation to be implemented during decommissioning to minimise potential effects on land quality and to prevent pollution. The procedures and measures will be similar to those noted for construction, where these could be relevant to decommissioning activities. It will also include an unexpected contamination protocol, monitoring and inspection procedures, reporting requirements, and verification measures to demonstrate that decommissioning activities would not result in unacceptable risks.

Potential Likely Environmental Effects which are Not Significant

17.5.96 Where an environmental effect is unlikely to be significant based on baseline data, mitigation identified to date and / or initial analysis and evaluation, this will not be considered further within the EIA nor reported on in the ES. An evidence base is provided below to justify the 'scoping out' of these environmental effects.

Construction Phase

Effects on Human Health from Dust and Contamination via Oral, Dermal and Inhalation Exposure during Construction Activities (including Made Ground Stripping, Excavation, Soil Disturbance and Removal)

17.5.97 The earthwork and excavation activities and removal of hardstanding and Made Ground during construction could potentially expose construction workers and the general public via oral, dermal and inhalation exposure.

17.5.98 The Desk Studies and Technical Notes (refer to **Appendix E**) have concluded that there is a low risk of contamination of soils and groundwater across the Main Site and Cable Routes.

17.5.99 Measures to protect construction workers from exposure to any contaminated material which is unexpectedly encountered will be required of the appointed contractor under the CDM Regulations 2015 and other health and safety legislation. Construction activities will also be controlled by the oCEMP, with the control of soils management through the oSMP. Measures will be incorporated into the oCEMP, including the use of Personal Protective Equipment (PPE), the preparation of method statements and provision of environmental awareness training. Relevant dust mitigation measures will be included in the oCEMP informed by IAQM Construction Dust Assessment Guidance (see **Chapter 8: Air Quality**).

17.5.100 Therefore, effects on human health from dust and contamination via oral, dermal and inhalation exposure during the construction phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Effects on Human Health from any Imported Fill Materials and Soils and Re-use of Site-won Materials during Construction Activities

17.5.101 The use and re-use of imported and site-won soils will be controlled by the oCEMP and oSMP to ensure the integrity and suitability of materials used within the Proposed Development. These will be tested in line with Waste Classification Technical Guidance.

17.5.102 Therefore, effects on human health from any imported fill materials and soils and re-use of site-won materials during the construction phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Effects on Human Health, Buildings and Infrastructure due to Ground Gas and / or Vapours

17.5.103 There is a potential risk to on-site workers during the construction phase associated with elevated ground gas due to the generating sources identified associated with organic materials in superficial deposits on-site and off-site (associated with Made Ground and infilled ponds or pits).

17.5.104 During construction, the potential risks from ground gases will be dealt with by the contractor(s) in accordance with health and safety legislation, including the Confined Space Regulations. In addition, the oCEMP will contain appropriate measures to mitigate the potential risk of exposure to hazardous gas and vapours and / or depleted oxygen levels, such as the use of appropriate PPE, monitoring equipment, safe-entry procedures and use of Respiratory Protective Equipment (RPE), where required.

17.5.105 Therefore, effects on human health, buildings and infrastructure due to ground gas and / or vapours during the construction phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Effects of Contamination on Groundwater (Principal Aquifer Bedrock Overlain by Secondary A and Undifferentiated Aquifers in Eastern Site) from Soil Disturbance which may lead to Mobilisation of any Residual Contamination. Potential for New Contamination Pathways from Construction Activities, including Excavation Works, Installation of Infrastructure, Foundations, Drainage and Possible Dewatering and Accidental Spills or Leaks of Fuels, Oils and Chemicals during Plant Operation

17.5.106 During the construction phase, the storage and use of fuel, oil and other potentially polluting materials during periods of heavy rainfall and spillages could cause the release / vertical migration of contaminants to the underlying groundwater. There is also a potential for contamination to be mobilised during earthworks and the formation of foundations and to migrate vertically into the underlying groundwater. However, available information indicates a low risk of contaminants being present in soils.

17.5.107 A temporary drainage strategy will be implemented as part of the oCEMP, which will reduce the risk of mobilisation of contamination into underlying groundwater within and in the proximity of the Site via overland flow / run-off during construction.

17.5.108 Construction activities will be controlled by the oCEMP, with the control of surface and waste waters. All on-site construction activities will be undertaken in accordance with the CDM Regulations 2015 and good practice measures (e.g. toolbox talks, PPE, and method statements, as required) led by the appointed contractor. Guidance will also be adhered to, such as CIRIA's Control of Water Pollution from Construction Sites and GPP 5: Works and maintenance in or near water.

17.5.109 For piled foundations, the method of construction will be carefully selected to ensure that the migration of contamination into sensitive resources is kept to a minimum. Such activities will be undertaken in line with guidance, such as the Environment Agency's Piling and penetrative ground improvement methods on land affected by contamination: guidance on pollution prevention. This will be led by the appointed contractor. Where required, a piling risk assessment will be completed to understand the risk of piling activities associated with impacted soils and receptors.

17.5.110 Detailed drainage design, the implementation of an oDS and FRA will ensure appropriate surface water run-off management and no uncontrolled discharges to surface water, which could in turn affect groundwater and infiltration to ground.

17.5.111 Therefore, effects of contamination on groundwater during the construction phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Effects of Contamination on Surface Water, including Potential for Sediment and Surface Water Runoff during Construction Works to Impact Surface Watercourses

17.5.112 During the construction phase, the storage and use of fuel, oil and other potentially polluting materials during periods of heavy rainfall and spillages could cause the release / lateral migration of contaminants to surface waters.

17.5.113 The Desk Studies and Technical Notes (refer to **Appendix E**) indicate a low risk of contaminants being present in soils. A temporary drainage strategy will be implemented as part of the oCEMP, which will reduce the risk of mobilisation of contamination into surface waters within and in the proximity of the Site via overland flow / run-off during construction.

17.5.114 Construction activities will be controlled by the oCEMP, with the control of surface and waste waters. All on-site construction activities will be undertaken in accordance with the CDM Regulations 2015 and good practice measures (e.g. toolbox talks, PPE, and method statements, as required) led by the appointed contractor. Guidance will also be adhered to, such as CIRIA's Control of Water Pollution from Construction Sites and GPP 5: Works and maintenance in or near water.

17.5.115 Detailed drainage design, the implementation of an oDS and FRA will ensure appropriate surface water run-off management and no uncontrolled discharges to surface water.

17.5.116 Therefore, effects of contamination on surface waters during the construction phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Effects of Contamination on Ecological Receptors (Flora and Fauna)

17.5.117 The potential release or migration of contamination could affect ecological receptors within and in the vicinity of the Site, where there is hydrologically or hydrogeological connectivity.

17.5.118 The Desk Studies and Technical Notes (refer to **Appendix E**) have concluded that there is a low risk of contamination of soils and groundwater across the Main Site and Cable Routes.

17.5.119 A temporary drainage strategy will be implemented as part of the oCEMP, which will reduce the risk of mobilisation of contamination into surface waters within and in the proximity of the Site via overland flow / run-off during construction.

17.5.120 The implementation of the oCEMP will ensure potential wider risks to on and off-site vegetation and ecological receptors are managed during construction.

17.5.121 Therefore, effects of contamination on ecological receptors during the construction phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Operation and Maintenance Phase

Effects on Human Health from Dust and Contamination via Oral, Dermal and Inhalation Exposure during Operation from Limited Maintenance Works

17.5.122 Once the Proposed Development has been completed, the areas of built development within the Site will be covered predominantly with hardstanding and building slabs, which will break the plausible contamination linkages for future site users (such as ingestion and dermal contact) in these areas. The areas of Solar PV Panels will remain unsealed. Any contaminants encountered during the construction phase will be remediated in line with the requirements for the proposed end use.

17.5.123 There will be very limited excavation associated with maintenance and replacement activities, with associated limited soil disturbance. Such operational and maintenance activities will be controlled by the oOEMP, with the control of materials management through the oSMP.

17.5.124 Therefore, effects on human health from dust and contamination via oral, dermal and inhalation exposure during the operation and maintenance phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Effects on Human Health, Buildings and Infrastructure due to Ground Gas and / or Vapours

17.5.125 The potential for localised elevated levels of ground gas has been identified on-site.

17.5.126 Any measures required will be implemented during construction (in accordance with health and safety legislation and / or measures secured in the oCEMP) and therefore any potential risks associated with ground gas will be appropriately mitigated prior to the completion of the construction phase. All new structures and buildings will be designed in line with relevant guidance and standards, such as CIRIA C665[348].

17.5.127 Therefore, effects on human health, buildings and infrastructure due to ground gas and / or vapours during the operation and maintenance phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Effects of Contamination on Groundwater (Principal Aquifer bedrock overlain by Secondary A and Undifferentiated Aquifers in Eastern Site) from Soil disturbance which may lead to Mobilisation of any Residual Contamination. Potential for New Contamination Pathways from Site Activities, including Accidental Spills or Leaks of Fuels, Oils and Chemicals during Operation

17.5.128 Once the Proposed Development has been completed, the areas of built development within the Site will be covered predominantly with hardstanding and building slabs, which will break the plausible contamination linkages for underlying groundwater in these areas. The areas of Solar PV Panels will remain unsealed. Any contaminants encountered during the construction phase will be remediated in line with the requirements for the proposed end use.

17.5.129 There is a potential for localised spillages of fuel from sources and vehicles. Contaminants from fuel spillages are likely to occur on areas of hardstanding. These areas will be subject to a controlled drainage scheme as part of the drainage strategy, which will include necessary pollution prevention measures including oil interceptors in line with guidance. This will prevent the release / migration of contamination to underlying groundwater during operation.

17.5.130 Operational and maintenance activities will be controlled by the oOEMP, with the control of surface and waste waters. The detailed drainage design, the implementation of an oDS and FRA will ensure appropriate surface water run-off management and no uncontrolled discharges to surface water which could in turn, affect groundwater and no infiltration to ground.

17.5.131 Therefore, effects of contamination on groundwater during the operation and maintenance phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Effects of Contamination on Surface Water, including Potential for Sediment and Surface Water Runoff during Maintenance Works to Impact Surface Watercourses

17.5.132 Once the Proposed Development has been completed, the areas of built development within the Site will be covered predominantly with hardstanding and building slabs, which will break the plausible contamination linkages for surface waters in these areas. The areas of Solar PV Panels will remain unsealed. Any contaminants encountered during the construction phase will be remediated in line with the requirements for the proposed end use.

17.5.133 There is a potential for localised spillages of fuel. Contaminants from fuel spillages are likely to occur on areas of hardstanding. These areas will be subject to a controlled drainage scheme as part of the drainage strategy, which will include necessary pollution prevention measures including oil interceptors in line with guidance. This will prevent the release / migration of contamination to surface waters during operation.

17.5.134 Operational and maintenance activities will be controlled by the oOEMP, with the control of surface and waste waters. Detailed drainage design, the implementation of an oDS and FRA will ensure appropriate surface water run-off management and no uncontrolled discharges to surface water.

17.5.135 Therefore, effects of contamination on surface waters during the operation and maintenance phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Effects of Contamination on Ecological Receptors (Flora and Fauna)

17.5.136 The implementation of the oLEMP and oOEMP will ensure potential wider risks to on and off-site vegetation and ecological receptors are managed during operation.

17.5.137 Therefore, effects of contamination on ecological receptors during the operation and maintenance phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Effects on Future Built Environment Including Buildings and Infrastructure via Direct Contact with Soil or Groundwater and Chemical Attack

17.5.138 Detailed design will ensure the appropriate design of buildings and infrastructure (i.e. concrete, cables) for the ground conditions present. Auditing and maintenance of buildings and infrastructure set out as a requirement within the oOEMP will also be carried out.

17.5.139 Therefore, effects of contamination on the built environment during the operation and maintenance phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Decommissioning Phase

Effects on Human Health from Dust and Contamination via Oral, Dermal and Inhalation Exposure during Decommissioning Activities (including Made Ground Stripping, Excavation, Soil Disturbance and Removal)

17.5.140 Decommissioning activities will be controlled by the oDEMP, with the control of waste and materials management through the oDEMP and oSMP.

17.5.141 Therefore, effects on human health from dust and contamination via oral, dermal and inhalation exposure during the decommissioning phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Effects on Human Health due to Ground Gas and / or Vapours

17.5.142 Decommissioning activities will be controlled by the oDEMP, with the control of ground gas and / or vapours.

17.5.143 Therefore, effects on human health from ground gas and / or vapours during the decommissioning phase are unlikely to be significant and will not be considered further within the EIA or reported ES.

Effects of Contamination on Groundwater (Principal Aquifer Bedrock overlain by Secondary A and Undifferentiated Aquifers in Eastern Site) from Soil Disturbance, which may lead to Mobilisation of any Residual Contamination. Potential for New Contamination Pathways from Decommissioning Activities, including Removal of Infrastructure, Foundations, Drainage and Possible Dewatering

17.5.144 Decommissioning activities will be controlled by the oDEMP, with the control of surface and waste waters. Appropriate surface water run-off management will be implemented, ensuring that there are no uncontrolled discharges to surface water, which could in turn affect groundwater.

17.5.145 Therefore, effects of contamination on groundwater during the decommissioning phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Effects of Contamination on Surface Water, including Potential for Sediment and Surface Water Runoff during Decommissioning to Impact Surface Watercourses

17.5.146 Decommissioning activities will be controlled by the oDEMP, with the control of surface and waste waters. Appropriate surface water run-off management will be

implemented, ensuring that there are no uncontrolled discharges to surface water.

17.5.147 Therefore, effects of contamination on surface waters during the decommissioning phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Effects of Contamination on Ecological Receptors (Flora and Fauna)

17.5.148 The implementation of the oDEMP will ensure potential wider risks to on and off-site vegetation and ecological receptors are managed during decommissioning.

17.5.149 Therefore, effects of contamination on ecological receptors during the decommissioning phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Assumptions, Limitations and Uncertainties

17.5.150 The assumptions, limitations and uncertainties that have been identified to date are set out in **Table 17-9**.

Table 17-9: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• There are no records of historical ground investigation works having been carried out within the Main Site. • Desk-based information obtained from publicly available datasets, statutory consultees and third-party sources is assumed to be accurate and complete at the time of writing. • Historical mapping and records utilised to support this Scoping Chapter are assumed to reasonably represent past land use, though it is acknowledged that not all contaminative activities are always recorded. • The assessment reflects conditions at the time of writing; future anticipated changes in land use, climate, regulatory standards, or guidance may affect the Land Quality conclusions drawn.

17.6 Lighting

17.6.1 Lighting refers to human made / artificial sources of lighting. The focus of this Scoping Chapter is on light spill and glare in terms of disturbance and nuisance to human receptors (e.g. residential properties). Effects of lighting on ecological receptors will be addressed in **Chapter 9: Biodiversity,** changes in visual amenity due to lighting are addressed within **Chapter 10: Landscape and**

Visual and lighting in the context of changes in setting will be addressed in **Chapter 11: Built Heritage**.

Summary of Relevant Legislation, Policy and Guidance

17.6.2 A list of legislation, policy and guidance relating to lighting relevant to the Proposed Development is as follows:

Legislation

- Environmental Protection Act 1990.
- Clean Neighbourhoods and Environment Act 2005[349].

Policy

- NPS EN-1.
- NPS EN-3.
- NPS EN-5.
- NPPF.
- King's Lynn and West Norfolk Local Plan 2021 – 2040.

Guidance

- PINS Advice for Scoping Solar Development.
- NPPG: Light pollution[350].
- Institute of Lighting Professionals (ILP) PLG04: Guidance on Undertaking Environmental Lighting Impact Assessments (2013)[351].
- ILP GN01: Guidance Notes for the Reduction of Obtrusive Light (2021)[352].

Baseline Conditions

17.6.3 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and provides an overview of the relevant baseline conditions for lighting.

Baseline Data Collection Activities to Date

17.6.4 Baseline data has been collected using the following sources and methods:

- A desk study using publicly available mapping, including OS, MAGIC and local stargazing online information[353].

Baseline Conditions

17.6.5 The Site is not located within or in proximity to an International Dark Sky Reserve or a Dark Sky Site. The Site is also not within or immediately adjacent to a National Park or National Landscape or a local stargazing site.

17.6.6 There are existing lighting installations within the Site, such as at the existing Walpole NGET GSP and intermittent lighting associated with the Walpole Bank Solar Farm. However, the majority of the Site is not directly lit by lighting installations. As such, the lighting conditions within the Site are anticipated to be a mixture of Environmental Zones E1 / E2 ('intrinsically dark / low district brightness') up to E3 ('medium district brightness'), as defined by the ILP GN01: Guidance Notes for the Reduction of Obtrusive Light.

17.6.7 Within the settlements near the Site (see further details in **Chapter 3: Location and Context of the Site**), there are highway lighting installations as well as security / decorative light fixtures on properties in the settlements. Some more isolated roads, such as Church Road as it crosses the A47, are also lit. Agricultural land and woodlands near to the Site are predominantly unlit, with lower lighting levels also anticipated in these areas. As such, the lighting conditions within the area surrounding the Site are anticipated to be a mixture of Environmental Zones E1 / E2 ('intrinsically dark / low district brightness') up to E3 ('medium district brightness').

Mitigation Measures Identified to Date

17.6.8 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the initial description of the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Construction

17.6.9 The construction works will be carried out following relevant guidance in the ILP GN01: Guidance Notes for the Reduction of Obtrusive Light.

17.6.10 Lighting during the construction phase will be controlled via the following measures:

- The development of a construction phase lighting strategy, which will set out the details of the proposed temporary lighting installations (including directionality, locations, type and heights), duration and timing and sensitive receptors identified.

- Limiting lighting / perimeter security lighting close to nearby properties, as far as practicable.
- Use of directional lighting and hoods / cowls, where appropriate, to reduce light spill and glare to off-site areas, in particular with regard to light spill into residential properties.
- The reduction of fixed lighting outside working hours.

17.6.11 The management plan that will deliver control measures for lighting during the construction phase includes the following as set out in the Initial Commitments Register (**Appendix B**):

- oCEMP.

Operation and Maintenance

17.6.12 An Operational Lighting Strategy will set out the details of the proposed permanent lighting installations (including location, directionality, type and heights), duration and timing and sensitive receptors identified. The Outline Operational Lighting Strategy will ensure that operational lighting will be designed and installed with regard to relevant standards and guidance, including BS 5489-1:2020 'Design of road lighting – Part 1: Lighting of roads and public amenity areas – Code of practice'[354], BS 12464-2: 2014 'Light and lighting – Light of workplaces Part 2: Outdoor workplaces'[355] and the Chartered Institute of Building Services Engineers (CIBSE) LG01: The industrial environment[356], LG06: The exterior environment[357] and LG21: Protecting the night-time environment[358].

17.6.13 An outline version of the Operational Lighting Strategy (oOLS) will be prepared and submitted as part of the DCO Application as a standalone document, with the Operational Lighting Strategy to be secured by a DCO Requirement.

Decommissioning

17.6.14 The measures are anticipated to be similar to those proposed for the construction phase above in **Paragraphs 17.6.9** and **17.6.10**.

17.6.15 The management plan that will secure control measures for lighting during the decommissioning phase includes the following as set out in the Initial Commitments Register (**Appendix B**):

- oDEMP.

Potential Likely Environmental Effects which are Not Significant

17.6.16 Where an environmental effect is unlikely to be significant based on baseline data, mitigation identified to date and / or initial analysis and evaluation, this will not be considered further within the EIA nor reported on in the ES. An evidence base is provided below to justify the 'scoping out' of these environmental effects.

17.6.17 Effects of lighting on ecological receptors will be addressed in **Chapter 9: Biodiversity,** changes in visual amenity due to lighting are addressed within **Chapter 10: Landscape and Visual** and lighting in the context of changes in setting will be addressed in **Chapter 11: Built Heritage**.

Construction Phase

Changes in Light Spill and Glare

17.6.18 During the construction phase, temporary lighting may be required to support on-site activities. This has the potential to cause light pollution through light spill and glare to nearby receptors, primarily residential properties due to their static nature and inhabitation during the hours of darkness / overnight.

17.6.19 As set out in **Paragraph 17.6.7**, receptors within settlements nearby to the Site are considered to be located within Environmental Zones up to E3 ('medium district brightness'). Some receptors are therefore considered to currently experience elevated levels of lighting and therefore there is unlikely to be a significant deviation from these baseline conditions due to construction lighting. Where existing lighting conditions are lower, the lighting from construction may be more noticeable.

17.6.20 Light spill and glare during construction will be controlled through the implementation of good practice measures, informed by the ILP Guidance Notes for the Reduction of Obtrusive Light outlined above in **Paragraph 17.6.9** as part of the oCEMP.

17.6.21 Therefore, changes in light spill and glare during the construction phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Operation and Maintenance Phase

Changes in Light Spill and Glare

17.6.22 The majority of the Proposed Development will not require operational lighting, although infra-red lighting sensors for security purposes will be deployed around

key electrical infrastructure, including BESS Units, Substations and inverter / transformer locations.

17.6.23 The Data Centre Campus will include additional lighting installations, associated with access, circulation, and car parking to meet health, safety and security requirements. There will be a minimum distance of 300m to the nearest residential properties from this Component of the Proposed Development. There will also be landscaping introduced, which, as it matures, will screen views of the Data Centre Campus and associated lighting.

17.6.24 The development within Walpole Substation will also include lighting associated with the pre-existing infrastructure. The Proposed Development is not anticipated to cause a significant change in lighting in this location, given the context of the existing lighting at Walpole NGET GSP and intermittent lighting at the Walpole Bank Solar Farm.

17.6.25 As set out in **Paragraph 17.6.7**, receptors within settlements nearby to the Site are considered to be located within Environmental Zones up to E3 ('medium district brightness'). Some receptors are considered to currently experience elevated levels of lighting and therefore there is unlikely to be a significant deviation from these baseline conditions due to operational lighting. Where existing lighting conditions are lower, the lighting from the completed Proposed Development may be more noticeable.

17.6.26 As noted in **Chapter 4: Initial Description of the Proposed Development**, operational lighting will be designed and installed with regard to relevant standards and guidance, including BS 5489-1:2020, ILP Guidance Notes for the Reduction of Obtrusive Light and CIBSE Lighting Guides.

17.6.27 Therefore, changes in light spill and glare during the operation and maintenance phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Decommissioning Phase

Changes in Light Spill and Glare

17.6.28 During the decommissioning phase, temporary lighting will be required to support on-site activities. This has the potential to cause light pollution through light spill and glare to nearby receptors, primarily residential properties due to their static nature and inhabitation during the hours of darkness / overnight.

17.6.29 The potential effects and mitigation measures are as outlined for the construction phase in **Paragraphs 17.6.9** and **17.6.10**.

17.6.30 Therefore, changes in light spill and glare during the decommissioning phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Assumptions, Limitations and Uncertainties

17.6.31 The assumptions, limitations and uncertainties that have been identified to date are set out in **Table 17-10**.

Table 17-10: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• None identified.

17.7 Major Accidents and Disasters

17.7.1 Major accidents and disasters are defined as follows in the ISEP (formerly IEMA) Major Accidents and Disasters in EIA: A Primer (2020) ('ISEP Major Accidents and Disasters Primer')[359]:

> *"A major accident is an event (for instance, train derailment or major road traffic accident) that threatens immediate or delayed serious environmental effects to human health, welfare and / or the environment and requires the use of resources beyond those of the client or its appointed representatives (i.e. contractors) to manage.*
>
> *A disaster is a man-made / external hazard (such as an act of terrorism) or a natural hazard (such as an earthquake) with the potential to cause an event or situation, which meets the definition of a major accident above".*

Summary of Relevant Legislation, Policy and Guidance

17.7.2 A list of legislation, policy and guidance relating to major accidents and disasters relevant to the Proposed Development is as follows:

Legislation

- Health and Safety at Work etc. Act 1974.
- The Control of Major Accident Hazards (COMAH) Regulations 2015[360].

- The Control of Substances Hazardous to Health (COSHH) Regulations 2002[361].
- The CDM Regulations 2015.

Policy

- NPS EN-1.
- NPS EN-3.
- NPS EN-5.
- NPPF.
- King's Lynn and West Norfolk Local Plan 2021 – 2040.

Guidance

- ISEP Major Accidents and Disasters Primer.
- European Commission Environmental Impact Assessment of Projects, Guidance on the Preparation of the Environmental Impact Assessment Report (2017)[362].
- Health and Safety Executive (HSE) Guidance on ALARP Decisions in COMAH (2010)[363].

Baseline Conditions

17.7.3 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and provides an overview of the relevant baseline conditions for major accidents and disasters.

Baseline Data Collection Activities to Date

17.7.4 Baseline data has been collected using the following sources and methods:

- A desk study has been undertaken to identify the available information in relation to major accidents and disasters relevant to the Proposed Development. The sources used include:
  - National Risk Register (2025 edition)[364].
  - HSE's COMAH 2015 Public Information Search[365].
  - BGS website[366] and specific geohazard notes on volcanic hazards[367] and seismic hazards[368].
  - The GroundSure reporting obtained for the Site (see **Appendix E**).

Baseline Conditions

Major Accident Hazards Sites and Pipelines

17.7.5 The Site lies within a number of HSE Consultation Zones associated with Major Accident Hazard Pipelines and Major Accident Hazard Site at Walpole Substation, the Western Cable Route and the northern part of the Western Site (though outside of the Data Centre Campus / BESS Units / Substation).

17.7.6 There are no COMAH sites located within the Site. There are no COMAH sites located in the vicinity of the Site.

17.7.7 There are no Regulated Explosive Sites within the Site.

Utilities

17.7.8 There are a number of utilities and services within and in the vicinity of the Site, including a potable and foul water network and electricity cables, particularly at the existing Walpole NGET GSP and at Walpole Bank Solar Farm.

Ground and Geotechnical Hazards

17.7.9 The Groundsure Reporting (refer to **Appendix E**) notes that ground stability hazards related to landslides and ground dissolution of soluble rocks are considered to be negligible at the Site. The Groundsure Reporting (refer to **Appendix E**) also outlines that hazards related to shrink swell clays, collapsible deposits, running sands and compressible deposits are considered to be up to moderate (i.e. noticeable) in the area.

17.7.10 The Site is not located within a Coal Mining Reporting Area.

17.7.11 There are known mineral workings within and in the vicinity of the Site.

Infrastructure

17.7.12 There are several large-raised reservoirs within the vicinity of the Site, including the lake at Stradsett Hall.

17.7.13 The Fen Railway Line crosses the Site (at the Eastern Cable Route).

17.7.14 There are a number of aerodromes in proximity to the Site, including Boughton North Airfield and Boughton South Airfield. There is also RAF Marham to the north of the Eastern Site.

Natural Disasters

17.7.15 Based on information from the BGS website and Geohazard notes, the UK is not located in an active volcanic region nor does it lie in a region frequently affected

by tropical cyclones (also known as hurricanes, typhoons, or cyclones) or tsunamis.

17.7.16 Based on available information published by BGS, the Site is also located within an area of low seismic hazard risk.

Natural Hazards

17.7.17 Hazards resulting from severe weather events which could impact the Proposed Development include:

- Storms and gales.
- High temperatures and heatwaves.
- Drought.
- Events of reduced visibility due to air quality (poor air quality).

Mitigation Measures Identified to Date

17.7.18 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the initial description of the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Construction

17.7.19 The measures for the construction phase include:

- Restriction of construction site access to suitably qualified workers only.
- Adherence to relevant legislation, including the Health and Safety at Work etc. Act 1974, COSHH Regulations 2002 and the CDM Regulations 2015. Good practice working measures, including risk assessments and method statements, will be put in place in accordance with this legislation.
- Adherence to relevant guidance, including the HSE's Avoiding danger from overhead[369] and underground services[370], Fire Prevention on Construction Sites: Joint Code of Practice[371] and the HSE's Fire Safety in Construction[372].
- Preparation of a Construction Phase Plan, required by the CDM Regulations 2015 prior to construction commencing.
- Detailed ground investigations with regard to relevant standards and guidance, including BS 3930:2015+A1:2020[373] and BSEN1997: Part 2: 2007 Eurocode 7[374].
- Earthworks and foundation design in accordance with national standards and guidance, including BS 6031:2009: Code of Practice for Earthworks[375] and Building Regulations Approved Document A – Structure[376].

- Appropriate storage, handling and disposal of chemicals following the COSHH Regulations 2002.
- Use of appropriate working standoff distances from utilities.

17.7.20 These measures will be delivered as part of the following management plan, which will be secured as part of a DCO Requirement as set out in the Initial Commitments Register (**Appendix B**):

- oCEMP.

Operation and Maintenance

17.7.21 The measures for the operation and maintenance phase include:

- The buildings will be fitted with an active fire protection system that will detect flames, heat, gas, and smoke, alert personnel and rescue services and activate fire suppression or extinguishing systems.
- All operational plant / infrastructure will be designed, installed and maintained with regard to relevant legislation, standards and guidance, including Electrical Equipment (Safety) Regulations 2016[377] and Electricity Safety, Quality and Continuity (Amendment) Regulations 2006.
- The buildings will have a lightning protection system, with appropriate grounding.
- Appropriate storage, handling and disposal of chemicals with regard to the COSHH Regulations 2002.
- The installation of appropriate fire safety design measures, including the provision of firewater tanks.
- All chemical and fuel stores / tanks will be designed, installed and maintained in accordance with relevant guidance (refer to **Table 17-11** for further details). Pollution prevention features will be included, such as the use of impermeable surfacing, bunding for tanks, with the bund sized at least 110% of the volume of the tank, and isolation from the surface water drainage network. All fuel stores will be designed, installed and maintained with regard to relevant legislation (refer to **Table 17-11** for further details). No bulk fuel storage will be located in sensitive locations (e.g. source protection zones) and not adjacent to watercourses.
- All chemical and fuel stores / tanks will be designed, installed and maintained with regard to relevant legislation (refer to **Table 17-11** for further details). Operational protocols may include fuel transfer systems that feature fire-safe

remotely operated shut-off valves. Bulk storage would be within locked, fenced compounds to deter accidental impacts.

- The Proposed Development will not introduce infrastructure exceeding 4.5m in height within 4km of RAF Marham, or infrastructure exceeding 8m in height within 9km of the runways of RAF Marham.
- The design of any drainage or ecological features will be such as to prevent increases in flocks of birds, thereby increasing the risk of birdstrike.
- Mitigation measures can be implemented to prevent degradation of radar performance at nearby aerodromes (e.g. the removal of infrastructure or the use of landscaping bunds).

17.7.22 A number of the measures outlined above will be secured through the design principles for the Proposed Development, with other measures being delivered as part of the following management plans, which will be secured by DCO Requirement:

- oOEMP.
- oBSMP.
- oLEMP.

17.7.23 The securement of the above is set out in the Initial Commitments Register (**Appendix B**).

Decommissioning

17.7.24 The measures for the decommissioning phase are anticipated to be the same as those outlined for the construction phase above, where relevant.

17.7.25 The measures will be secured as part of the following management plan which will be secured by DCO Requirement as set out in the Initial Commitments Register (**Appendix B**):

- oDEMP.

Potential Likely Environmental Effects which are Not Significant

17.7.26 For the purposes of major accidents and disasters, events that have the potential to cause a major accident or disaster are termed ‘risk events’ and are defined in the ISEP Major Accidents and Disasters Primer as:

> *“An identified, unplanned event, which is considered relevant to the development and has the potential to result in a major accident and*

> */ or disaster, subject to assessment of its potential to result in a significant adverse effect on an environmental receptor".*

17.7.27 The likelihood of the risk event is considered within the appraisal, alongside the potential consequence. The principle of As Low as Reasonably Practicable (ALARP), established in the legislative framework related to public safety and risk management set out in **Paragraph 17.7.2** has also been used in this Scoping Chapter. ALARP describes the level to which regulators (e.g. the HSE) expect to see workplace risks controlled, taking account of being 'reasonably practicable' (i.e. weighing a risk against the effort, time and money needed to control it). This is reinforced by the ISEP Major Accidents and Disasters Primer, which includes the following definition of ALARP:

> *"Involves weighing a risk against the trouble, time and money needed to control it. Thus, ALARP describes the level to which we expect to see risks controlled".*

17.7.28 Where a risk event is either highly unlikely due to the location or nature of the Proposed Development or the measures identified mitigate the risk event to be ALARP, the resulting effect is considered unlikely to be significant and will not be considered further within the EIA nor reported on in the ES. An evidence base is provided below to justify the 'scoping out' of these risk events.

All Phases

17.7.29 Due to the nature of effects for major accidents and disasters, a consolidated appraisal has been undertaken across all phases of the Proposed Development, which is presented in **Table 17-11**.

17.7.30 The appraisal has drawn upon the risk events listed in the National Risk Register and development-specific risk events associated with the Proposed Development due to its location and nature, drawing on professional judgement.

17.7.31 The following effects relevant to major accidents and disasters are addressed elsewhere within this Scoping Report, so are not included in **Table 17-11** to avoid duplication:

- Accidents and safety and hazardous / large loads, which are considered in **Chapter 6: Transport and Access**.
- Changes in flood risk and leakage of contaminants from fire suppressant water related to the BESS Units and the Data Centre Campus as well as

contaminants from the cooling process for the Data Centre Campus, which are considered in **Chapter 13: Water Environment**.

- Effects due to extreme weather events as a result of climate change are addressed within **Chapter 13: Water Environment** and **Chapter 15: Greenhouse Gases and Climate Change**.
- Glint and glare effects (in relation to vehicles and aircraft) are addressed under the 'Glint and Glare' section of this Chapter above.
- Contamination and UXO are addressed under 'Land Quality' in this Scoping Chapter.

Table 17-11: Appraisal of major accidents and disasters

Risk event	Appraisal
Major accidents associated with international terrorist attacks with strategic implications and terrorist attacks in publicly accessible locations, on transport, conventional attacks and cyber-attacks on infrastructure	The Site is in a predominantly rural / sparsely populated area and does not fall within the definition of a crowded place (e.g. sports arenas, retail outlets and entertainment spaces where large numbers of people gather), which are typical locations for terrorist attacks. Due to the nature of the Proposed Development (as described in **Chapter 4: Initial Description of the Proposed Development**), it is unlikely to attract large crowds during construction, operation and maintenance and decommissioning phases and, as such, it is unlikely to be a target for this type of event due to the low number of exposed targets and based on known terrorist acts to date. Therefore, the risk is considered to be highly unlikely. Cyber-attacks occur frequently on key national and commercial electronic information, control systems and digital industries. The increasing reliance on technology to control the Proposed Development, rather than manual control of systems, could make it more vulnerable to a cyber-attack. The Proposed Development is not considered to be more vulnerable to attack than the existing baseline and similar infrastructure installed and running in the UK and it is unlikely that there would be a direct, specific attack on telecommunications or operating systems as part of the Proposed Development. Therefore, the risk is considered to be highly unlikely. Appropriate physical security measures (such as fencing, lighting and CCTV) and on-site security personnel will help to minimise the likelihood of such events occurring. It is also assumed that appropriate emergency planning has been undertaken by KL&WNBC, NCC and local emergency services. Therefore, the risk is considered to be ALARP.

Risk event	Appraisal
Major accidents associated with railway lines	The Site crosses the Fen Railway Line, with Overhead Line on the Eastern Cable Route. Strict safety protocols will be put in place for works over and near the railway line with regard to Network Rail's Asset Protection General Guidance Note – Works on or adjacent to the railway[378]. Therefore, the risk is considered to be ALARP.
Major accidents associated with aircraft / drones	There are several airfields near the Site, the closest of which is RAF Marham to the north of the Eastern Site. The Site lies within the height and technical safeguarding zones that ensure air traffic approaches and the line of sight of navigational aids and transmitters / receivers are not impeded. The Proposed Development will not introduce any structure above 4.5m in height within 4km and above 8m in height within 9km and the design of any drainage or ecological features will be such as to prevent increases in flocks of birds, thereby increasing the risk of birdstrike. These will be secured by design principles and the oLEMP. Due to the relative topography of the Site and radar apparatus at RAF Marham, there is considered to be limited line of sight and where this does occur, mitigation measures can be implemented to prevent degradation of radar performance (e.g. the removal of infrastructure or the use of landscaping bunds). These will be secured by design principles and the oLEMP. Therefore, the risk is considered to be ALARP. The use of drones has increased significantly in recent years, although malicious drone incidents are infrequent within the UK and have largely been associated with airports to date. Therefore, the risk in relation to drones is considered to be highly unlikely.
Major accidents associated with national / regional failure of the electricity network	Instances of electricity failure (also referred to as power loss or blackout) can be caused by a number of things, such as severe weather (e.g. very strong winds, lightning and flooding), which damage the distribution network. These tend to be mainly specific to a particular locality (e.g. a metropolitan area) and less frequently regional (e.g. East Anglia) and very rarely on a more national scale. Electrical transmission lines are present within the Site, the responsibilities of which lie with the relevant local operator or company, should this infrastructure fail. In the event of power outages, portable / backup generators would be used to ensure that tasks / activities of the Proposed Development are safely completed or halted. Therefore, the risk is considered to be ALARP.
Major accident associated with	Operators of these sites have a legal duty to prevent accidental large toxic releases from occurring and to mitigate their

Risk event	Appraisal
accidental fire or explosion at an onshore Major Accident Hazard Site	consequences. The HSE also develops and enforces legislation, standards, codes of practice and guidance to ensure that operators fulfil these responsibilities effectively. Therefore, there are stringent controls and management regimes in place at the nearby Major Accident Hazard Sites with regard to relevant regulatory requirements. Given its rural location, there would also be no 'domino effects' (i.e. the risk of accidental release of sufficient quantities of combustible gases to result in fire and / or explosion at neighbouring industrial facilities). Therefore, the risk is considered to be ALARP.
Major accident associated with accidental large toxic chemical release from an onshore Major Accident Hazard Site	Operators of these sites have a legal duty to prevent accidental large toxic releases from occurring and to mitigate their consequences. The HSE develops and enforces legislation, standards, codes of practice and guidance to ensure that operators fulfil these responsibilities effectively. Therefore, there are stringent controls and management regimes in place at the nearby Major Accident Hazard Sites with regard to relevant regulatory requirements. Given its rural location, there would also be no 'domino effects'. Therefore, the risk is considered to be ALARP.
Major accident associated with accidental fire or explosion at an onshore Major Accident Hazard Pipeline	The Proposed Development accords with the land use planning restrictions for the Consultation Zones present across the Site as set out in relevant guidance published by the HSE (in terms of the proposed land uses, number of employees, etc.). As with COMAH sites above, all Major Hazard Accident Sites and Major Accident Hazard Pipelines are subject to stringent controls and management regimes. Therefore, the risk is considered to be ALARP.
Major accident associated with reservoir / dam collapse	The Proposed Development is located in proximity to areas classified by the Environment Agency to be at risk of flooding in the event of catastrophic reservoir or dam failure. However, the infrastructure within the Proposed Development is predominantly located outside of these catchments from the reservoirs. No direct works will be undertaken on the reservoirs / dams as part of the Proposed Development, as these fall outside of the Site. For example, the lake at Stradsett Hall, which is classified as a large-raised reservoir. There is a legal requirement for all owners of large raised reservoirs to have on-site emergency flood plans. Reservoir owners, local authorities and local resilience forums (LRFs)

Risk event	Appraisal
	have emergency plans and produce locally specific off-site flood plans from reservoir flood maps. The Environment Agency leads operational preparedness and response to flood impacts and, during local-level operational responses, would work as part of a multi-agency team, coordinated through the LRF, drawing on resources including the National Flood Asset Register, which has over 100 specialist flood rescue teams on standby to be deployed across the country. The joint DEFRA / Cabinet Office National Flood Response Centre would coordinate the national UK response. Therefore, the risk is considered to be ALARP.
Major accident associated with water infrastructure failure or loss of drinking water	Instances of water infrastructure failure can be caused by a number of events, such as severe weather or flooding. Water infrastructure is present within the Site. The responsibilities for the operation and maintenance of this infrastructure lie with Anglian Water. As water companies in England are required to plan for disruptive scenarios, in the event of infrastructure failure, water companies will implement a number of mitigations including rezoning of their network, tankering water from alternative treatment sites, the use of mutual aid from other water companies and the provision of an alternative water supply to affected consumers as soon as possible, but within 24 hours. Therefore, the risk is considered to be ALARP.
Major accident associated with natural and environmental hazards	The probability, frequency and likelihood of natural disasters arising from climatic occurrences (i.e. hurricanes) are considered to be very low due to the natural climatic conditions in the UK and within neighbouring countries within the global climate system. Specific geological events (i.e. volcanic eruptions, tropical cyclones or tsunamis, earthquakes / seismic activity) are also considered to be very low due to the general absence of required geological conditions (i.e. an area of tectonic plate interaction) within or near the UK. Whilst earthquakes have occurred in the UK, the magnitude of such events has generally been low. The UK regularly experiences storms, including high winds and precipitation and consequential impacts in terms of tree fall. The UK also regularly experiences lightning strikes and electrical storms. During operation, the infrastructure will be designed to withstand storms, including lightning strikes. The UK increasingly experiences periods of high temperatures and heatwaves. During operation, the infrastructure will be

Risk event	Appraisal
	designed to withstand high temperatures, including the use of ventilation and cooling for electronics. The UK experiences periods of low temperatures and 'coldwaves'. Due to the relatively low-lying elevation of the Proposed Development and its location in the East of England, it is anticipated to experience a lower amount of snow on average compared to areas of higher elevation across the UK. The infrastructure will be designed to withstand low temperatures. Over the past few decades, England has experienced a number of droughts, including over the summers of 2025 and 2026. The Proposed Development will not give rise to droughts or increase the likelihood of drought. The area of the Proposed Development is not known to experience regular dust or sandstorms. The Proposed Development is predominantly located in a rural setting, which is not known to experience poor air quality (as indicated in **Chapter 8: Air Quality**) and is not located within or in proximity to an AQMA. The Proposed Development is also not specifically vulnerable to poor air quality, as this is not an essential requirement during the construction, operation and maintenance or decommissioning phases. Therefore, the risk is considered to be highly unlikely.
Major accident associated with pandemic, animal disease outbreak and plant pest / disease outbreak	The spread of such diseases would be controlled by the UK Government (e.g. through the containment of infected animals or plants and the prohibition of their transportation). Therefore, the risk is considered to be highly unlikely.
Major accident associated with public disorder	The Proposed Development is located in a developed country that has steady, yet small population growth. England is politically stable with no direct border with countries experiencing conflicts. The Proposed Development is unlikely to give rise to public disorder due to its nature. The Proposed Development is also not located near densely populated areas or an area that would attract a mass gathering of people. Therefore, the risk is considered to be highly unlikely.

Risk event	Appraisal
Major accident associated with industrial action	The Proposed Development is unlikely to give rise directly to industrial action due to its nature. Therefore, the risk is considered to be highly unlikely.
Major accident associated with utility strikes	During construction, working areas will be secured with restricted access so only suitably qualified personnel are present. Works to confirm the location of utilities will be undertaken before the commencement of construction activities, in liaison with the relevant asset owners and operators and pursuant to protective provisions included in the DCO. Good practice working measures will be put in place in accordance with the CDM Regulations 2015 and other health and safety regulations and relevant guidance will be adhered to, including GS6 Avoiding danger from overhead lines and HSG47 Avoiding danger from underground services. This will include the preparation of specific method statements and making workers aware of the location of utilities and their easements where works are undertaken near to utilities, secured by the oCEMP / oDEMP. Therefore, the risk is considered to be ALARP.
Major accident associated with ground subsidence and associated structural / building collapse	All earthworks and foundation design will be in accordance with relevant industry guidance, including BS 6031:2009: Code of Practice for Earthworks and Building Regulations Approved Document A – Structure. Therefore, the risk is considered to be ALARP.
Major accidents associated with firewater or chemical leakage / spills on-site	The process equipment installation and maintenance will be undertaken in accordance with all relevant legislation, standards and guidance, including the COSHH Regulations 2002. c Quantities of fuel, chemicals and other substances will be needed for the operational processes. All chemical and fuel stores / tanks will be designed, installed and maintained in accordance with relevant guidance, including L5 Control of substances hazardous to health ACOP and guidance[379]. Pollution prevention features will be included, such as the use of impermeable surfacing, bunding for tanks, with the bund sized at least 110% of the volume of the tank, and isolation

Risk event	Appraisal
	from the surface water drainage network. All fuel stores will be designed, installed and maintained with regard to The Dangerous Substances and Explosive Atmospheres Regulations 2002[380] and The Control of Pollution (Oil Storage) (England) Regulations 2001[381]. No bulk fuel storage would be stored in sensitive locations (e.g. source protection zones) and not adjacent to watercourses. Therefore, the risk is considered to be ALARP.
Major accidents associated with fire	Given the nature of the Proposed Development, including energy generation and electrical and mechanical plant, and the materials being used within the processes on-site, which are combustible, any potential occurrence of a fire on-site could result in a risk event. Construction works will be undertaken with regard to relevant guidance, such as Fire Prevention on Construction Sites: Joint Code of Practice and HSE's Fire safety in construction. Stringent control measures for fire will be implemented throughout the Proposed Development, including in relation to the BESS Units as well as storage of material / chemicals, electrical and mechanical plant and delivery areas. These matters will be addressed through the design of the operational plant / infrastructure. An oBSMP will be prepared for the DCO Application. This will set out the proposed safety strategy, requirements, and processes necessary to meet derived safety objectives and to set a level of safety performance that the BESS Units are to be measured against. This includes good practice guidance, including National Fire Protection Association (NFPA) NFPA 855: Standard for the Installation of Stationary Energy Storage Systems[382]. All fuel stores / tanks will be designed, installed and maintained with regard to The Dangerous Substances and Explosive Atmospheres Regulations 2002[383] and The Control of Pollution (Oil Storage) (England) Regulations 2001[384]. Operational protocols may include fuel transfer systems that feature fire-safe remotely operated shut-off valves. Bulk storage would be within locked, fenced compounds to deter accidental impacts. All electrical and mechanical plant within the Proposed Development will be designed, installed and maintained with regard to relevant legislation, including Electrical Equipment

Risk event	Appraisal
	(Safety) Regulations 2016 and Electricity Safety, Quality and Continuity (Amendment) Regulations 2006. The control measures for the prevention of fire will be in accordance with legislation, standards and guidance, including the Equipment and Protective Systems for Use in Potentially Explosive Atmospheres Regulations 2016[385]. The relevant Components of the Proposed Development will include appropriate electrical earthing and bonding systems. The design and maintenance of these systems will reduce the likelihood of a fire being initiated by a lightning strike. In terms of responding to a fire event, access to the Proposed Development for fire engines will be provided in accordance with Approved Document B[386] and appropriate fire-water storage with regard to NFPA 850[387] requirements will be provided on-site. Adequate means of escape for personnel to evacuate safely will be provided from all plant areas, regardless of frequency of occupation. Escape routes will be readily accessible, unobstructed, clearly marked and take the most direct route away from a hazardous area to safety. As part of the oOEMP, a fire evacuation plan will also be prepared. Therefore, the risk is considered to be ALARP.

17.7.32 As set out in **Table 17-11**, the risk of the major accidents and disasters identified is either highly unlikely or managed to be ALARP and therefore the likelihood of these risk events occurring is so low that further assessment is not considered to be warranted within the EIA process. The Proposed Development is also not especially more vulnerable to the effects of major accidents and disasters than existing development present in the area of the Site and other types of development. Therefore, major accidents and disasters during all phases are unlikely to be significant and will not be considered further within the EIA or reported in the ES. However, further details on control measures will be provided in the ES.

Assumptions, Limitations and Uncertainties

17.7.33 The assumptions, limitations and uncertainties that have been identified to date are set out in **Table 17-12**.

Table 17-12: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• The assessment presented within this Scoping Chapter is based on available information.

17.8 Microclimate

17.8.1 Microclimate includes daylight and sunlight amenity levels (including overshadowing of external amenity areas) as well as the wind environment and this section considers whether the Proposed Development would change the microclimate to the extent that likely significant effects would occur.

Summary of Relevant Legislation, Policy and Guidance

17.8.2 A list of legislation, policy and guidance relating to microclimate relevant to the Proposed Development is as follows:

Legislation

- None specifically identified.

Policy

- NPPF.

Guidance

- Building Research Establishment (BRE) Guidelines: Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice (2022)[388].
- Lawson Criteria (2001)[389].
- City of London Corporation (2018) Wind Microclimate Guidelines for Developments in the City of London[390].

Baseline Conditions

17.8.3 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and provides an overview of the relevant baseline conditions for microclimate.

Baseline Data Collection Activities to Date

17.8.4 Baseline data has been collected using the following sources and methods:

- A desk study using publicly available information, including OS mapping and meteorological data from the Met Office.

Baseline Conditions

17.8.5 The existing buildings within the Site and in the surrounding area are typically low-rise. Therefore, existing buildings are unlikely to cause an obstruction to nearby residents and amenity spaces in respect of daylight / sunlight amenity levels.

17.8.6 The prevailing winds are from the south-west. Given the existing buildings within the Site and in the surrounding area are typically low-rise, unusually windy conditions are not anticipated.

Mitigation Measures Identified to Date

17.8.7 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the initial description of the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

- None identified.

Potential Likely Environmental Effects which are Not Significant

17.8.8 Where an environmental effect is unlikely to be significant based on baseline data, mitigation identified to date and / or initial analysis and evaluation, this will not be considered further within the EIA nor reported on in the ES. An evidence base is provided below to justify the 'scoping out' of these environmental effects.

17.8.9 As microclimate-related effects relate to built form, during construction and decommissioning, effects will gradually increase or decrease, respectively, in magnitude. The focus therefore is on the operation and maintenance phase when the potential maximum incidence of changes in microclimatic conditions may occur.

Operation and Maintenance Phase

Changes in Local Daylight and Sunlight Amenity and Levels of Overshadowing

17.8.10 The Proposed Development will introduce built form to the Site, which could result in changes to daylight and sunlight amenity levels and levels of overshadowing.

17.8.11 As outlined in **Chapter 4: Initial Description of the Proposed Development**, the majority of structures and buildings across the Proposed Development will be up to 4.5m. Where structures exceed this level (for example, the Data Centre Campus / BESS Units / Substation in the Western Site and the BESS Units and Substation in the Eastern Site), these are located more than 300m from the nearest residential receptor and therefore there is unlikely to be a significant deviation from the levels of daylight / sunlight received by existing residential properties. There is also unlikely to be any significant changes in the levels of overshadowing of existing external amenity areas. For the overhead lines, pylon towers will not be located within 100m of a residential receptor and the oversail cable is unlikely to cause significant changes in daylight and sunlight amenity and levels of overshadowing.

17.8.12 Due to the proposed uses of the Proposed Development, daylight and sunlight and overshadowing are not considered to be relevant to the future site users (e.g. employees and visitors).

17.8.13 Therefore, changes in local daylight and sunlight amenity and levels of overshadowing during the operation and maintenance phase are unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Changes in the Local Wind Environment

17.8.14 The Proposed Development will introduce built form, which could result in changes to the local wind environment.

17.8.15 As outlined in **Chapter 4: Initial Description of the Proposed Development**, the majority of structures and buildings across the Proposed Development will be up to 4.5m. Where structures exceed this level (for example, the Data Centre Campus / BESS Unit / Substation in the Western Site), these are up to 25m in height. Wind microclimate effects are anticipated to become noticeable in terms of driving wind gusts when buildings exceed circa 40m / 10 stories. There will also be spaces between the buildings and structures within the Data Centre Campus / BESS Units / Substation in the Western Site, allowing wind to pass through the Site, and not acting as a solid continuous block of development.

17.8.16 Therefore, changes in the local wind environment during the operation and maintenance phase are unlikely to be significant and will not be considered further in the EIA or reported in the ES.

Assumptions, Limitations and Uncertainties

17.8.17 The assumptions, limitations and uncertainties that have been identified to date are set out in **Table 17-13**.

Table 17-13: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• None identified.

17.9 Waste and Materials

17.9.1 Waste is defined as "*any substance or object which the holder discards or intends or is required to discard*"[391]. 'Materials' are physical resources that are used across the lifecycle of a development, such as concrete, aggregate, asphalt, bricks, ballast, mortar, glass and timber.

Summary of Relevant Legislation, Policy and Guidance

17.9.2 A list of legislation, policy and guidance relating to waste and materials relevant to the Proposed Development is as follows:

Legislation

- Environmental Protection Act 1990.
- The Hazardous Waste (England and Wales) Regulations 2005[392].
- The Waste (England and Wales) Regulations 2011[393].
- The Environmental Permitting (England and Wales) Regulations 2016.

Policy

- NPS EN-1.
- NPS EN-3.
- NPS EN-5.
- NPPF.
- NCC Minerals and Waste Local Plan.
- King's Lynn and West Norfolk Local Plan 2021 – 2040.

Guidance

- ISEP (formerly IEMA) Guide to: Materials and Waste in Environmental Impact Assessment, Guidance for a Proportionate Approach (2020) ('ISEP Materials and Waste Guidance')[394].
- DEFRA Applying the Waste Hierarchy (2011)[395].

- Waste and Resources Action Programme (WRAP) Designing Out Waste: A Design Team Guide for Civil Engineering (undated)[396].
- WRAP Quality Protocol: Aggregates from Inert Waste (2013)[397].

Baseline Conditions

17.9.3 This section provides an overview of the baseline data collection activities undertaken to date to inform this Scoping Chapter and provides an overview of the relevant baseline conditions for waste and materials.

Baseline Data Collection Activities to Date

17.9.4 Baseline data has been collected using the following sources and methods:

- A desk study has been undertaken using publicly available data, including the Environment Agency's Hazardous Waste Interrogator[398] and Waste Interrogator[399] and NCC's Waste Management Capacity and Forecast Arisings (2024)[400].

Baseline Conditions

The Site

17.9.5 The Site is predominantly currently in arable agricultural use, with other areas containing ditches, trees, etc. and hardstanding as well as the Walpole NGET GSP and Walpole Bank Solar Farm. Overall, it is anticipated that limited waste arisings will currently occur from these land uses.

Waste Management and Disposal Capacity

17.9.6 The East of England region has a total inert and non-hazardous landfill capacity of 58.7 million m^3 as of 2023. Compared to 2018, this is a 14.7% increase, generated by substantial new landfill void space being created by mineral extraction sites. However, waste management forecasts for the East of England have identified some areas in which forecast waste arisings may exceed handling capacity, with some void capacity reduction, though there is also further future landfill void capacity creation. These forecasts extend into the 2030s and 2040s at the latest.

17.9.7 As of 2023, hazardous merchant landfill void capacity in England was 9.68 million m^3. The East of England does not have any hazardous waste landfill facilities with capacity information published under Environment Agency conditional licensing. Hazardous waste data interrogator information for 2023 identifies that approximately 6.04 million tonnes of hazardous waste are handled annually

nationally, of which 703,000 tonnes (11.6%) – estimated to be equivalent to between 580,000m^3 and 710,000m^3 – were sent to landfill.

17.9.8 NCC Minerals and Waste Local Plan provided an assessment of the existing waste management capacity in Norfolk and concluded that sufficient capacity already exists to accommodate the forecast growth in waste arisings over the Local Plan period to 2038 and no additional allocations were required. As of 2021, there were 88 operational waste treatment and transfer sites in NCC's area. These sites handle a range of waste types, including municipal, commercial and industrial, hazardous, clinical, and construction and demolition waste. In 2021, they received over 2.248 million tonnes of waste, and in 2022, over 2.188 million tonnes.

17.9.9 Norfolk has two non-hazardous landfill sites: Blackborough End and Feltwell. Only Blackborough End accepted waste in both 2021 and 2022, receiving over 131,000 tonnes and 156,000 tonnes respectively. By the end of 2022, it had 2.325 million m^3 of permitted space, though 2.225 million m^3 of this is reserved for inert waste, leaving 0.1 million m^3 for other non-hazardous waste. Feltwell had 1.204 million m^3 of remaining space. Together, this gives Norfolk a total of 1.304 million m^3 of capacity available for non-hazardous waste disposal.

17.9.10 NCC's Waste Management Capacity and Forecast Arisings update 2024 identifies that, in Norfolk, the maximum existing waste management capacity of operational sites is 3.755 million tonnes per annum, of which 1.1 million tonnes per annum is dedicated to the handling of inert and construction and demolition waste arisings.

17.9.11 Information regarding capacity data for waste management is publicly available through permits, etc. However, the permitted capacity does not necessarily reflect the actual operational capacity of the infrastructure or indicate how much waste these sites process. A summary of tonnes received by facility type in the East of England region is provided in **Table 17-14**. Inputs are not totalled since the double counting of waste moving between the site types listed in the Environment Agency's Waste Data Interrogator cannot be discounted.

Table 17-14: Summary of waste inputs by facility type for the East of England (2023)

Facility type	East of England (tonnes received)
Associated process	2,725

Facility type	East of England (tonnes received)
Combustion	164,181
Incineration	1,561,925
Landfill	7,775,684
Mining	105,390
Metal recycling site	3,853,363
On / in land	1,731,774
Processing	472,222
Storage	314,351
Transfer	5,075,056
Treatment	11,741,551

Minerals

17.9.12 The Eastern Cable Route lies partially within a Minerals Safeguarding Area related to Silica Sand and Leziate sand resources (the high potential for glass sand) as defined in the NCC Minerals and Waste Local Plan.

Materials

17.9.13 At the end of 2024[401], reserves of primary aggregates (land-won sand and gravel) in the East of England stood at 119.2 million tonnes (mt). Based on a rolling average of 10-year sales indicates a landbank of 10.6 years at the end of 2024. Using the 10-year average sales figure methodology as set out in the NPPF indicates that all mineral planning authorities within the East of England (except Hertfordshire) could demonstrate sand and gravel landbanks in excess of the NPPF seven-year threshold as at the end of 2024.

17.9.14 The East of England maintains a volume of operational aggregate recycling sites, port facilities and rail depots, which indicates that there is a supply of secondary / recycled aggregates available.

17.9.15 There are a number of construction material suppliers in the area who could supply the Proposed Development.

Mitigation Measures Identified to Date

17.9.16 This section sets out mitigation measures identified to date based on the relevant baseline conditions and the initial description of the Proposed Development (as set out in **Chapter 4: Initial Description of the Proposed Development**).

Construction

17.9.17 The Proposed Development will use pre-fabrication predominantly. This approach reduces construction waste, with much less waste produced during unit manufacturing and this is managed by the companies producing the Solar PV Panels, BESS Units, as well as temporary construction site office units, cabling, and, where practicable, Substations. Therefore, the majority of the on-site construction waste is packaging. Whilst waste is generated during the pre-fabrication process, it is significantly less compared to on-site fabrication, as accepted by the ISEP Materials and Waste Guidance. This will be secured via design principles and the oCEMP.

17.9.18 Additional measures that will be implemented during the construction phase include:

- Co-ordination with suppliers enabling them to take / buy back surplus stock, where practicable.
- Purchase of materials pre-cut to length to avoid excess scrap waste generated on-site, where practicable.
- Request that suppliers use the least amount of packaging possible for materials to be delivered.
- Ensure correct storage and handling of goods to avoid unnecessary damage that would result in their disposal.
- Use of reclaimed materials in the construction works, where practicable.

17.9.19 These measures will be delivered as part of the following management plan, which will be secured by DCO Requirement as set out in the Initial Commitment Register (**Appendix B**):

- oCEMP.

Operation and Maintenance

17.9.20 The measures that will be implemented during the operation and maintenance phase include:

- Adherence to the waste hierarchy by prioritising waste prevention, followed by the reuse, recycling, and recovery of equipment during the replacement of items. Landfill disposal will be considered only as a last resort.
- All waste management will comply with relevant regulations, and waste will be transported by licensed hauliers to authorised waste management sites with the necessary permits for the consigned wastes.
- The Proposed Development is expected to generate waste electrical and electronic equipment (WEEE). These items will be recovered and recycled by an authorised reprocessor in compliance with the relevant regulations. To ensure this is done according to 'Best Available Treatment Recovery and Recycling Techniques', a list of up-to-date authorised reprocessors will be established prior to the operation and maintenance phase of the Proposed Development and kept up-to-date.
- Batteries must be separated from WEEE streams so they can be recovered, recycled, or disposed of in accordance with the relevant regulations. This is most likely to be undertaken by the battery manufacturer or supplier.

17.9.21 These measures will be delivered as part of the following management plan, which will be secured by DCO Requirement, as set out in the Initial Commitments Register (**Appendix B**):

- oOEMP.

Decommissioning

17.9.22 During decommissioning, the Solar PV Panels across the Main Site, Eastern Site BESS Units and Substations and Eastern Cable Route (including underground cables and overhead lines) will be removed, re-used, recycled, recovered, or disposed of in accordance with good practice and market conditions at that time.

17.9.23 Where practicable, items will be re-used at the end of their operational life. There are already organisations around the UK and Europe specialising in solar recycling, such as PV Cycle and the European Recycling Platform. These organisations work with solar developers to minimise electrical waste and recycle old panels with regard to relevant regulations. Additionally, companies like SECONDSOL offer a marketplace service for buying and selling second-hand PV panels and equipment, where there is still a good level of life remaining. Panels that have developed faults or damage can also be refurbished and repowered by specialist companies and manufacturers, then resold or reinstalled. It is also a

reasonable assumption that by the time of decommissioning there will be a greater number of facilities for recycling available.

17.9.24 Additional measures during decommissioning, including on-site segregation of waste streams to aid with recycling and re-use and the correct storage of materials on-site to avoid damage.

17.9.25 These measures will be delivered as part of the following management plan, which will be secured by DCO Requirement, as set out in the Initial Commitments Register (**Appendix B**):

- oDEMP.

Potential Likely Environmental Effects which are Not Significant

17.9.26 Where an environmental effect is unlikely to be significant based on baseline data, mitigation identified to date and / or initial analysis and evaluation, this will not be considered further within the EIA nor reported on in the ES. An evidence base is provided below to justify the 'scoping out' of these environmental effects.

Construction Phase

Generation of Waste

17.9.27 The Proposed Development will generate construction and excavation (CD&E) waste during construction as a result of the removal of on-site structures and breaking out of hardstanding and below-ground obstructions (where required), site clearance (including removal of vegetation, etc.), earthworks (e.g. changes in levels) and construction activities (e.g. offcuts of materials, canisters and containers, etc.).

17.9.28 Removal activities will be limited to replacement watercourse crossings (for instance, the existing farm access track bridge over Reeds Drain in the Western Site). There will also be waste associated with the breakup of hardstanding and below-ground obstructions (where present). The intention is for waste recovery on-site, with re-use or recycling for the majority of this waste. Those unable to be recovered will be disposed of at landfill. However, this is assumed to be a limited quantity of material.

17.9.29 Waste will be generated through earthworks activities, such as foundation installation and utility trenches. However, it is anticipated that there will be a net import of material (fill), with less export of material off-site. Material brought onto the Site will be tested before being brought on-site in accordance with relevant

standards and guidance, such as the Waste Classification: Guidance on the classification and assessment of waste[402].

17.9.30 The construction of the Proposed Development will generate a range of waste types, predominantly including inert and non-hazardous wastes. There will also be municipal solid waste generated by construction workers (e.g. welfare waste) and small quantities of hazardous waste (e.g. paints and solvents, admixtures, spill absorbent materials, waste lubricants and waste electrical and electronic equipment).

17.9.31 The quantities of wastes that require disposal are anticipated to be limited in the context of waste generation in the region and existing treatment / disposal capacity, particularly with the use of pre-fabricated elements.

17.9.32 A construction waste management strategy will be prepared as part of the oCEMP. This will incorporate recommendations to reduce waste generation from materials in relation to ordering materials to specification and other measures outlined in **Paragraph 17.9.18**. In addition to the above, all material removal, handling and disposal will comply with legislation and be undertaken with regard to appropriate guidance.

17.9.33 Therefore, the generation of waste during the construction phase is unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Use of Material Resources

17.9.34 Material resources required during construction are anticipated to include steel, concrete, cladding, aggregate, mechanical and electrical items and other manufactured construction products as well as materials for landscaping. This could deplete the availability of non-renewable resources but is unlikely to affect the regional / national (both across the East of England and the UK) demand for materials, given the scale of the Proposed Development.

17.9.35 Measures to reduce material resource use will be implemented throughout the design process, including a reduction in the material requirements in the design itself. In addition, the oCEMP will detail measures to reduce resource use (such as those outlined in **Paragraph 17.9.18** for the generation of construction waste). This reduces potential effects associated with material resource use during the construction phase of the Proposed Development.

17.9.36 Therefore, the use of material resources during the construction phase is unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Sterilisation of Mineral Resources

17.9.37 The Eastern Cable Route lies partially within a Minerals Safeguarding Area related to Silica Sand and Leziate sand resources (the high potential for glass sand). However, the direct area affected by the Eastern Cable Route within the overall Minerals Safeguarding Area is limited, with the working width for underground cabling anticipated to be 15m (as stated in **Chapter 4: Initial Description of the Proposed Development**). The scale and location of the overlap with the Minerals Safeguarding Area, together with the existing constraints on mineral extraction due to proximity to dwellings and the A134, mean that the potential for the Proposed Development to prejudice the future working of minerals is considered to be limited. The Proposed Development footprint is therefore not anticipated to result in the sterilisation of a mineral resource of economic significance.

17.9.38 BGS information indicates that the local geological strata (such as the Tottenhill Sands and Gravels and the Lowestoft Formation) have historically recorded shallow groundwater levels ranging from 0.10m to 3.41m below ground level, making extraction difficult.

17.9.39 Therefore, sterilisation of mineral resources during the construction phase is unlikely to be significant and will not be considered further within the EIA or reported in the ES. However, engagement will be undertaken with NCC, as the relevant Mineral Planning Authority, to confirm the extent of the safeguarded mineral resource and whether any further minerals assessment or prior-extraction strategy is required to support the DCO Application.

Operation and Maintenance Phase

Generation of Waste

17.9.40 Once completed and operational, the Proposed Development will generate commercial and industrial waste. Due to the uses proposed, no significant quantities of hazardous materials or chemicals are anticipated to be generated by the Proposed Development.

17.9.41 Operational waste streams are anticipated to include dry recyclates (including paper, cardboard, glass, plastic and packaging), WEEE and batteries as well as

maintenance waste (e.g. waste oils, rags) and liquid wastes (e.g. fuels, synthetic urea, glycols).

17.9.42 Waste generation from the Proposed Development will vary depending on the end user's operations. The quantities of wastes that require disposal are anticipated to be limited in the context of waste generation in the region and existing treatment / disposal capacity.

17.9.43 Waste arisings are likely to arise as a result of the management of amenity landscaping. The organic wastes generated are proposed to be managed by implementing sustainable management practices, through an operational waste management strategy, which would form part of the oOEMP, most notably the diversion of such wastes from landfill and utilising them in energy from waste or composting schemes.

17.9.44 The operational waste management strategy will also establish guidance on the sustainable waste management practices to ensure opportunities to reduce, re-use and recycle wastes are encouraged. Waste arisings will be managed in accordance with relevant legislation.

17.9.45 Within the Data Centre Campus there will be access to secure external refuse stores, equipped with appropriately sized bins to allow for the segregation of waste in compliance with the waste hierarchy. The waste storage area will be designed to allow full access and egress to (i.e. turning circles) waste collection vehicles.

17.9.46 If any hazardous materials need to be removed during operation and maintenance, suitably qualified contractors will be appointed to handle and remove these items. Hazardous materials may include lithium-ion batteries and fuel storage-related items. The quantities of such waste streams are anticipated to be limited in the context of the waste generated regionally.

17.9.47 Therefore, waste generation during the operation and maintenance phase is unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Use of Material Resources

17.9.48 During the operation and maintenance phase, it is anticipated that maintenance work (e.g. building, solar panels or overhead line maintenance) will be infrequent and the required material volumes will be small. Where replacement parts are required for operational activities, this is also considered to be more frequent and

this will be managed in line with the measures set out above for construction phase.

17.9.49 Therefore, the use of material resources during the operation and maintenance phase is unlikely to be significant and will not be considered further within the EIA or presented in the ES.

Pressure on Existing Local Waste Infrastructure

17.9.50 Waste collection from commercial properties is organised independently by the occupier with a waste management company, and as a result does not impose additional requirements on local waste collection undertaken or organised by NCC.

17.9.51 Adequate resources for the management of waste from the Proposed Development will be established and, therefore, the Proposed Development will not impact upon waste collection infrastructure locally. Through the application of sustainable waste management practices, additional pressure on the existing local waste infrastructure will be reduced through minimisation of waste generation, maximising re-use and recycling opportunities within the Proposed Development (e.g. within storage areas) and redirecting wastes from landfill where possible.

17.9.52 Therefore, pressure on existing local waste infrastructure during the operation and maintenance phase is unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Decommissioning Phase

Generation of Waste

17.9.53 Decommissioning waste streams are anticipated to include Solar PV Panels and their associated structures and cabling, breaking up of concrete foundations / bases, rubble and aggregate from the Eastern Site BESS Units / Substation and any access tracks within the Eastern Site, electrical equipment as well as inverters and transformers, metals and wood. It is assumed that the Walpole Substation, Data Centre Campus / BESS Units / Substation in the Western Site, Western Cable Route, biodiversity mitigation and enhancement areas, operational access areas and grid infrastructure will remain in-situ. However, if the Data Centre Campus Component did not come forward and instead Solar PV Panels were delivered, there would be a greater quantity of decommissioning waste generated.

17.9.54 The Proposed Development is anticipated to generate substantial WEEE during decommissioning. Where required, elements such as transformers will need to be removed and dismantled by authorised competent specialists during decommissioning. The recovery, recycling, or disposal of any part of large-scale fixed installations should be undertaken in accordance with the waste hierarchy. There are already organisations around the UK and Europe specialising in solar recycling, such as Recycle Solar, PV Cycle and the European Recycling Platform. It is anticipated that these specialists will provide up to a 95% recycling or recovery rate. Technological advancements in recycling, reuse, and waste treatment may also change the outcomes compared to current technology at the time of decommissioning.

17.9.55 If any hazardous materials need to be removed during decommissioning, suitably qualified contractors will be appointed to handle and remove these items. Hazardous materials may include lithium-ion batteries and transformer oil. The quantities of such waste streams are anticipated to be limited in the context of the waste generated regionally.

17.9.56 The quantities of wastes that require disposal are anticipated to be limited in the context of waste generation in the region and existing treatment / disposal capacity, particularly with the level of recycling anticipated for WEEE.

17.9.57 Therefore, waste generation during the decommissioning phase is unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Use of Material Resources

17.9.58 During the decommissioning phase, limited resources are anticipated to be required and therefore there is unlikely to be an effect on the supply or availability of materials at a regional or national scale.

17.9.59 Therefore, the use of material resources during decommissioning is unlikely to be significant and will not be considered further within the EIA or presented in the EIA Report.

Assumptions, Limitations and Uncertainties

17.9.60 The assumptions, limitations and uncertainties that have been identified to date are set out in **Table 17-15**.

Table 17-15: Assumptions, limitations and uncertainties identified to date

Assumptions, limitations and uncertainties
• The assessment presented within this Scoping Chapter is based on available information regarding waste capacities.

17.10 Summary

17.10.1 A summary of the technical aspects and associated potential effects to be 'scoped out' or addressed elsewhere within the DCO Application / within the ES is provided in **Table 17-16**.

Table 17-16: Summary of techncal aspects and potential effects 'scoped out' or addressed elsewhere within the DCO Application / within the ES

Technical aspect / potential effect	Phase
EMF	
Changes in EMF	Operation and maintenance (To be addressed through an EMF Report)
Glint and Glare	
Incidences of glint and glare	Operation and maintenance (To be addressed through a Solar Photovoltaic Glint and Glare Assessment)
Human Health	
Changes to air quality, noise and vibration and landscape and visual amenity	Addressed in **Chapter 6: Transport and Access**, **Chapter 7: Noise and Vibration**, **Chapter 8: Air Quality** and **Chapter 10: Landscape and Visual**
Changes to transport and access	Addressed in **Chapter 6: Transport and Access** and **Chapter 16: Socio-economic and Population**
Changes to access to health and social care services and other social infrastructure, health and social care services, built environment and wider societal and infrastructure and resources	Addressed in **Chapter 6: Transport and Access**, **Chapter 10: Landscape and Visual** and **Chapter 16: Socio-economics and Population**
Changes to community identity, cultural and resilience, and social participation, cohesion, interaction and support	Addressed in **Chapter 16: Socio-economics and Population**

Technical aspect / potential effect	Phase
Changes to education and training, and employment and income	Addressed in **Chapter 16: Socio-economics and Population**
Changes to physical or mental health and wellbeing linked to land and water contamination	Addressed in **Chapter 13: Water Environment** and 'Land Quality' in this Scoping Chapter
Changes to physical or mental health and wellbeing linked to the water environment	Addressed in **Chapter 13: Water Environment**
Land Quality	
Effects on human health from dust and contamination via oral, dermal and inhalation exposure	Construction, operation and maintenance and decommissioning
Effects on human health from any imported fill materials and soils and re-use of site-won materials	Construction
Effects on human health, buildings and infrastructure due to presence of ground gas and / or vapours	Construction, operation and maintenance and decommissioning
Effects of contamination of groundwater from soil disturbance which may lead to mobilisation of any residual contamination	Construction, operation and maintenance and decommissioning
Effects of contamination of surface water and impact to surface watercourses	Construction, operation and maintenance and decommissioning
Effects of contamination on ecological receptors (flora and fauna)	Construction, operation and maintenance and decommissioning
Effects on future built environment including buildings and infrastructure	Operation and maintenance
Lighting	
Changes in light spill and glare	Construction, operation and maintenance and decommissioning
Major Accidents and Disasters	
Major accidents associated with international terrorist attacks with strategic implications and terrorist attacks in publicly accessible locations, on transport, conventional attacks and cyber attacks on infrastructure	Construction, operation and maintenance and decommissioning

Technical aspect / potential effect	Phase
Major accidents associated with railway lines	Construction, operation and maintenance and decommissioning
Major accidents associated with aircraft / drones	Construction, operation and maintenance and decommissioning
Major accidents associated with national regional failure of the electricity network	Construction, operation and maintenance and decommissioning
Major accident associated with accidental fire or explosion at an onshore Major Accident Hazard site	Construction, operation and maintenance and decommissioning
Major accident associated with accidental large toxic chemical release from an onshore Major Accident Hazard Site	Construction, operation and maintenance and decommissioning
Major accident associated with accidental fire or explosion at an onshore Major Accident Hazard Pipeline	Construction, operation and maintenance and decommissioning
Major accident associated with reservoir / dam collapse	Construction, operation and maintenance and decommissioning
Major accident associated with water infrastructure failure or loss of drinking water	Construction, operation and maintenance and decommissioning
Major accident associated with natural and environmental hazards	Construction, operation and maintenance and decommissioning
Major accident associated with pandemic, animal disease outbreak and plant pest / disease outbreak	Construction, operation and maintenance and decommissioning
Major accident associated with public disorder	Construction, operation and maintenance and decommissioning
Major accident associated with industrial action	Construction, operation and maintenance and decommissioning
Major accident associated with utility strikes	Construction, operation and maintenance and decommissioning
Major accident associated with ground subsidence and associated structural / building collapse	Construction, operation and maintenance and decommissioning
Major accidents associated with cooling water or chemical leakage / spill on-site	Construction, operation and maintenance and decommissioning

Technical aspect / potential effect	Phase
Major accidents associated with fire	Construction, operation and maintenance and decommissioning
Microclimate	
Changes in local daylight and sunlight amenity and levels of overshadowing	Operation and maintenance
Changes in the local wind environment	Operation and maintenance
Waste and Materials	
Generation of waste	Construction, operation and maintenance and decommissioning
Use of material resources	Construction, operation and maintenance and decommissioning
Sterilisation of mineral resources	Construction
Pressure on existing local waste infrastructure	Operation and maintenance

18 Cumulative Effects Assessment Methodology

18.1 Overview

18.1.1 Cumulative effects comprise the combination or interaction of the effects of reasonably foreseeable human-induced changes within a specific geographical area and over a certain period of time and can be both direct and indirect.

18.1.2 In line with Regulation 5(2)(e) and Schedule 4(5)(e) of the DCO EIA Regulations, the following two types of cumulative effects will be considered:

- Intra-project effects – where two or more likely significant effects arising from the Proposed Development combine or interact to have effects on the same receptor / receptor group that may cause an effect of greater significance as compared to an individual likely significant effect on that receptor / receptor group.
- Inter-project effects – where the likely significant effects arising from the Proposed Development combine or interact with those effects associated with other existing and / or approved projects located within a realistic geographical scope that may cause an effect of greater significance on the same receptor / receptor group compared to the effect on that receptor / receptor group from the Proposed Development in isolation.

18.1.3 The proposed methodologies for the assessment of these cumulative effects are provided below.

18.2 Intra-Project Effects

Overview

18.2.1 There is no established EIA methodology for the assessment of intra-project effects. Therefore, the staged assessment methodology set out below is with regard to the receptors / receptor groups identified in this report (in **Technical Aspect Chapters 6 – 16**), the location, scale and nature of the Proposed Development and professional judgement.

18.2.2 The assessment of intra-project effects focuses on changes from the relevant baseline conditions at common sensitive receptors due to overlapping effects from the Proposed Development. 'Common sensitive receptors' are defined for intra-project effects as receptors / receptor groups assessed within two or more

of the detailed technical assessments of likely significant environmental effects in the ES.

18.2.3 Where potential effects have been 'scoped out' and not subject to detailed technical assessment in the ES, these will not be included as the effects will be so minor that even combined with other effects, they would not result in a likely significant effect.

Stage 1: Collation of Effects

18.2.4 To identify where an intra-project effect could occur, the likely significant environmental effects assessed in the ES will be collated into tabular summaries for each relevant phase of the Proposed Development (i.e. construction, operation and maintenance and decommissioning phases). The residual effects reported in the ES (i.e. the effects following consideration of primary, secondary and tertiary mitigation) will be presented in the tabular summaries. The use of residual effects is on the basis that all identified primary, tertiary and secondary mitigation in the ES is committed and secured.

18.2.5 In terms of thresholds for the inclusion of likely significant environmental effects in the collation, it is acknowledged that two or more likely effects concluded to be Not Significant in isolation, together, could give rise to an effect of greater significance (i.e. become Significant) by combining or interacting with one another on a single common sensitive receptor. Therefore, all residual effects reported in the ES will be collated to address the potential for likely significant environmental effects that are considered Not Significant individually to become Significant when they combine and interact on common sensitive receptors.

Stage 2: Identify and Categorise Receptors / Receptor Groups

18.2.6 Following the collation of the likely significant environmental effects, the receptors / receptor groups assessed under each effect will then be identified and categorised in line with the following factors listed in Regulation 5(2) (and expanded on in Schedule 4, Paragraph 4) of the DCO EIA Regulations:

> *"Population and human health;*
>
> *Biodiversity, with particular attention to species and habitats protected under any law that implemented Directive 92/43/EEC and Directive 2009/147/EC;*
>
> *Land, soil, water, air and climate;*

Material assets, cultural heritage and the landscape".

18.2.7 This will be reported alongside the collated technical aspects and likely significant environmental effects tabular summaries to create matrices for each phase.

18.2.8 Where multiple likely significant environmental effects relate to a factor, it is considered that an intra-project effect could occur. Where no effects or only one effect occurs under a particular factor, it is considered that there is no potential for an intra-project effect to occur and no further assessment of that factor will be undertaken.

Stage 3: Assessment of Potential Intra-Project Effects

18.2.9 Where a potential intra-project effect is identified for a factor from Stage 2, a qualitative assessment will be undertaken based on the information contained in the ES and professional judgement.

18.2.10 The assessment will consider the following, where relevant to the common sensitive receptors and contributing likely significant environmental effects:

- Sensitivity (or value, importance, etc.) of the common sensitive receptor.
- Magnitude of change (or impact) for the likely significant environmental effects contributing to an intra-project effect.
- The nature of the likely significant environmental effects contributing to an intra-project effect (e.g. adverse or beneficial).
- The attributes of the likely significant environmental effects contributing to an intra-project effect (e.g. geographical scale / spatial extent, duration (short, medium or long-term), reversibility, frequency and whether direct or indirect).
- The level of effect and the significance of the contributing likely significant environmental effects.

18.2.11 A level of effect for intra-project effects (i.e. negligible, minor, moderate or major) will not be assigned due to the different methodologies employed across the technical aspects considered within the EIA. Instead, it will be reported whether the intra-project effect is considered to be Significant or Not Significant.

18.2.12 To note, if one or more of the individual likely significant environmental effects contributing to an intra-project effect is determined to be Significant, then the intra-project effect will also be Significant. Where a number of individual likely significant environmental effects contributing to the intra-project effect are determined to be Not Significant, the resulting intra-project effect will be evaluated to determine whether it is Significant or Not Significant.

18.3 Inter-Project Effects

Overview

18.3.1 The methodology for the assessment of inter-project effects will follow PINS Advice on CEA, though it will also draw on an understanding of the likely significant environmental effects, receptors, the location, scale and nature of the Proposed Development and professional judgement, where appropriate.

18.3.2 The assessment of inter-project effects will focus on incremental changes from the relevant baseline conditions at common sensitive receptors due to overlapping effects from the Proposed Development and existing and / or approved projects. Common sensitive receptors are defined for inter-project effects as the receptors / receptor groups affected / impacted by the Proposed Development and other existing and / approved projects.

18.3.3 The inter-project effect assessment will focus on the technical aspects and associated likely significant environmental effects that are 'scoped in' (i.e. those reported in the ES), except for the Greenhouse Gases and Climate Change technical aspect. This technical aspect will not be considered in the inter-project effect assessment on the basis that all global cumulative GHG emission sources are relevant to climate change and are considered in defining the receptor (the global climate system). Given this, and as recognised by the ISEP GHG Guidance, the effects of GHG emissions from existing and / or approved projects should not be individually assessed, as there is no basis for selecting any particular (or more than one) project that has GHG emissions for assessment over any other. Furthermore, the contextualisation of GHG emissions or reductions (as noted in **Chapter 15: Greenhouse Gases and Climate Change**) incorporates the cumulative contributions from other GHG sources, whether in terms of baseline emissions or future carbon budgets. Where the contextualisation is geographically related, then the consideration of cumulative contributions to that context is within that boundary. Therefore, inter-project effects with respect to emissions of GHG are proposed to be ‘scoped out’.

18.3.4 The climate change resilience and adaptation assessment (see **Chapter 15: Greenhouse Gases and Climate Change**) will consider the impact of climate change on the Proposed Development as opposed to the impact of the Proposed Development on climate change. Therefore, inter-project effects with existing and / or approved projects will not occur and are proposed to be ‘scoped out’.

18.3.5 It is proposed that the assessment of inter-project effects as a result of decommissioning is 'scoped out' as the operating life is assumed to be either 60 years (Solar PV Panels, BESS Units and Substation in the Eastern Site and overhead lines and cables in the Eastern Cable Route) or permanent (Data Centre Campus / BESS Units / Substation and overhead lines in the Western Cable Route). Therefore, sufficient information on planned projects and developments is not yet available to inform a robust assessment of inter-project decommissioning effects.

Establishing the Long List (Stage 1)

18.3.6 Inter-project effects are generally unlikely to arise unless other existing and / or approved projects are in proximity to the Proposed Development, recognising that the distance over which effects can occur varies with each likely significant environmental effect and the associated receptors / receptor groups. For example, inter-project effects related to construction transport and access could occur for developments a greater distance apart than for construction noise effects.

18.3.7 Given the above, and in line with the PINS Advice on CEA, the Zones of Influence (ZOI) of the Proposed Development will be determined based on the maximum study areas of the detailed technical assessments presented in the ES. It is considered that the ZOIs are the distance within which likely significant environmental effects of the Proposed Development may combine or interact with the effects arising from other existing and / or approved projects. At this stage, it is anticipated that a study area of 20km encompasses the maximum range of likely significant inter-project effects. Further details on the ZOIs will be provided in the ES.

18.3.8 With the ZOIs established, a review of the following databases will be undertaken to identify a long list of existing and / or approved projects ('long list projects'):

- The 'host' Local Planning Authorities' online registers of applications, including KL&WNBC[403] and NCC[404].
- Adjacent Local Planning Authority online registers of applications, including Breckland District Council[405], West Suffolk District Council[406], East Cambridgeshire District Council[407], Fenland District Council[408], Peterborough City Council[409] and South Holland District Council[410]. There are also a number of adjacent upper tier authorities, including Suffolk County Council[411], Cambridgeshire County Council[412] and Lincolnshire County Council[413].

- PINS Programme of Projects website[414].
- Transport and Works Act application and decisions webpage[415].

18.3.9 The long list projects identified will be reviewed to determine their status at the time of undertaking the searches and assigned a tier following the criteria taken from the PINS Advice on CEA, as outlined in **Table 18-1**.

Table 18-1: Definition of tiers based on PINS Advice on CEA

Tier	Degree of certainty
1	• Under construction. • Permitted applications under the Planning Act 2008 or other regimes but not yet implemented. • Submitted applications under the Planning Act 2008 or other regimes but not yet determined. • All refusals subject to appeal procedures not yet determined.
2	• Projects on PINS's programme of projects.
3	• Projects on PINS's programme of projects where a scoping report has not been submitted. • Identified in the relevant Development Plan and emerging Development Plans, with appropriate weight being given as they near adoption, recognising that there will be limited information available on the relevant proposals. • Identified in other plans and programmes, as appropriate, which set the framework for future development consents or approvals, where such development is reasonably likely to come forward.

18.3.10 Where the long list projects are expected to be completed before construction of the Proposed Development and the effects are fully determined, effects arising from them will be considered as part of the baseline conditions and, where appropriate, will be considered as part of the assessment for the relevant phases. If the effects of the long list project under construction are not yet fully determined, where appropriate, these will be considered. Further details will be provided in the ES to ensure that it is clear whether long list projects form part of the baseline and those considered within the assessment of inter-project effects.

18.3.11 There may be development related to the Proposed Development for which consent will be sought under a different planning regime (e.g. the Town and Country Planning regime) or under permitted development rights. For example, if off-site utility reinforcement works are required. Where this is the case, it will be considered whether inter-project effects could arise with the Proposed

Development and, if so, such works would be brought into the assessment of inter-project effects commensurate with the level of information available.

Establishing the Short List (Stage 2)

18.3.12 Following the compilation of the long list at Stage 1, the results will be filtered using a number of criteria to establish a short list of other existing and / or approved projects ('short listed projects') to be taken forward in the assessment of inter-project effects.

18.3.13 The criteria that will be used to filter the long list are derived from the PINS Advice on CEA and are as follows:

Temporal Scope

18.3.14 The temporal scope, considering the relative construction, operation and maintenance and decommissioning programmes of the long list projects and for the Proposed Development. This will establish whether there is an overlap and therefore the potential for the combination and interaction of effects, which could give rise to inter-project effects. Where information is not available on the programme for long list projects, it will be assumed that relevant phases of the developments overlap with the construction, operation and maintenance and decommissioning phases of the Proposed Development as a worst-case.

Scale and Nature of Development

18.3.15 The scale and nature of development, considering if the scale and / or nature of the long list projects is likely to give rise to effects that could combine or interact with those arising from the Proposed Development. The following thresholds will be applied to 'screen out' the long list projects of an insufficient scale or of a type that would not result in inter-project effects with the Proposed Development:

- Construction of small-scale agricultural buildings.
- House extensions or cosmetic changes to buildings.
- Work to trees.
- Micro-generation wind turbines.
- Roof-mounted solar panels (or ground-mounted less than 50 kW output).
- Renewal of planning permission for retention of existing operational use.
- Variation to planning permission for retention of existing operational use.
- Variation to planning permissions, including reserved matters applications (where the original application would not have been considered within the assessment).

- Small-scale uses (specifically, less than 10 dwellings or less than 1,000sqm[15]) or changes of buildings' use (unless it could itself result in a cumulative effect, such as a conversion of several barns into a holiday village).

Other Factors

18.3.16 The following two criteria have also been developed and will be applied:

- The nature and / or capacity of the receiving environment, which could make the combination or interaction of effects from both the long list projects and the Proposed Development more or less likely. For example, if there is intervening topography, which means that there is no overlapping visibility at receptors / receptor groups identified to be affected by a long list project and the Proposed Development.
- The date of the planning applications or applications for other forms of development consent for the long list projects, with those older than five years at the date of study 'screened out'. This threshold has been applied on the basis that projects subject to applications before this date will already have been built out (and therefore form part of the baseline) and / or where subsequent applications have been submitted, these would be captured within the search dates. However, it is recognised that this needs to be applied with caution and, where appropriate, extant planning permissions and other forms of development consents dating from over five years old at the time of the study will be considered.

18.3.17 The information to inform Stage 2 will be gathered by a high-level desk-based study, using the following types of reporting for the long list projects:

- Environmental reporting, including standalone reports, Preliminary Environmental Information Reports (PEIR) and ESs.
- Other reporting submitted with the application, including Design and Access Statements, Planning Statement, Construction Environmental Management Plans (or equivalent).
- Requests for Screening Opinions, including supporting Screening Reports and requests for Scoping Opinions, including supporting Scoping Reports, where applicable.

[15] Aligning with the definition of 'Major Development' in The Town and Country Planning (Development Management Procedure) (England) Order 2010 No. 2184.

18.3.18 For Stages 1 and 2, a 'cut-off' date of approximately three months before the submission of the DCO Application will be set to ensure that the short list projects are fixed and that there is sufficient time for Stages 3 and 4 to be completed and presented in this ES.

18.3.19 The outputs of the above process will be reported using the template provided in Annex 1 of the PINS Advice on CEA.

Information Gathering (Stage 3)

18.3.20 To assess the potential for inter-project effects, there is a requirement to understand the effects of the shortlisted projects. Therefore, for each shortlisted project, the following information will be gathered, where available:

- Proposed design information (including location, layout, heights and massing, emissions).
- Baseline data and receptors identified.
- Environmental effects (during the relevant phases for the short list development).
- Mitigation measures identified and secured.

18.3.21 This information will be gathered through a detailed desk-based study, using the types of sources listed in **Paragraph 18.3.17**.

Assessment (Stage 4)

18.3.22 Using the information gathered at Stage 3, the inter-project effects that could arise due to the combination and interaction of effects from the Proposed Development and shortlisted projects will be assessed.

18.3.23 The assessment of inter-project effects will be based on the residual effects from the Proposed Development and from the shortlisted projects (where identified). This is on the basis that all mitigation is committed and secured. It is acknowledged that effects arising from the Proposed Development, even if not identified as Significant in isolation, when combined and interacting with effects from the short list project, could give rise to a Significant inter-project effect on a common sensitive receptor. Therefore, all residual effects will be considered.

18.3.24 The assessment of inter-project effects is specific to each technical aspect due to the methodology for detailed assessments. However, the evaluation undertaken at the common sensitive receptor level will consider the following, where applicable:

- Sensitivity (or value, importance, etc.) of the common sensitive receptor identified in the relevant technical assessments undertaken for the Proposed Development and shortlisted projects. This will include consideration of the tolerance and resilience of the receptor considered.
- Magnitude of change (or impact) for the effects contributing to an inter-project effect undertaken for the Proposed Development and shortlisted projects.
- The nature of the effects contributing to an inter-project effect (e.g. adverse or beneficial) from the Proposed Development and shortlisted projects.
- The attributes of the effects contributing to an inter-project effect (e.g. extent of the effect, type of effect, duration (short, medium or long-term), frequency and whether direct or indirect) from the Proposed Development and shortlisted projects.
- The likely success of mitigation identified for the Proposed Development and shortlisted projects.
- The overall assessment outputs, in terms of the level of effect and their significance, for the Proposed Development and shortlisted projects.

18.3.25 In accordance with technical aspect specific guidance and through the evaluation and mitigation presented in the ES and the available information gathered for the shortlisted projects at Stage 3, conclusions will be drawn on the following between the Proposed Development and the shortlisted projects, where possible:

- The likelihood of inter-project effects.
- The nature of inter-project effects (i.e. adverse or beneficial).
- The level of the inter-project effect.
- Whether the inter-project effect is Significant or Not Significant.

18.3.26 Where relevant, consideration will be given to how the Proposed Development contributes to an overall combination or interaction of effects from the shortlisted projects and whether it causes an inter-project effect that is Not Significant to become Significant.

18.3.27 Mitigation measures for identified significant cumulative effects and, where appropriate, any proposed monitoring arrangements will be described in the ES.

18.3.28 The outputs of the above process will be reported using the template provided in Annex 2 of the PINS Advice on CEA.

19 Summary

19.1.1 This report has been prepared to inform and support a request for a Scoping Opinion from PINS in accordance with Regulation 10 of the DCO EIA Regulations.

19.1.2 The Scoping Opinion is sought on the breadth of technical aspects and associated likely significant environmental effects to be considered within the EIA and reported in the ES, alongside the methodology and approach for detailed technical assessment. Therefore, as part of this report, the following has been identified:

- Technical aspects for which potential effects are likely to be significant and, as such, 'scoped in' to the EIA and will be reported upon within the ES.
- Technical aspects for which all potential effects are unlikely to be significant and, as such, are 'scoped out' of the EIA and will not form a separate Chapter of the ES.

19.1.3 A summary of technical aspects considered and whether these are 'scoped in' or 'scoped out' is provided in **Table 19-1**.

Table 19-1: Summary of technical aspects 'scoped in' or 'scoped out'

Technical aspect	'Scoped in or 'scoped out'
Transport and access	Scoped in
Noise and vibration	Scoped in
Air quality	Scoped in
Biodiversity	Scoped in
Landscape and visual	Scoped in
Built heritage	Scoped in
Buried heritage	Scoped in
Water environment	Scoped in
Agricultural land and soils	Scoped in
Greenhouse gases and climate change	Scoped in
Socio-economics and population	Scoped in

Technical aspect	‘Scoped in or ‘scoped out’
EMF	Scoped out (addressed elsewhere within other documents)
Glint and glare	Scoped out (addressed elsewhere within other documents)
Human health	Scoped out (addressed elsewhere within the ES and other documents)
Land quality	Scoped out
Lighting	Scoped out (addressed elsewhere within the ES and other documents)
Major accidents and disasters	Scoped out
Microclimate	Scoped out
Waste and materials	Scoped out

References

[1] Planning Act 2008 c. 29. London: HMSO.
[2] The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (SI 20109/2264). London: HMSO.
[3] The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017/572). London: HMSO.
[4] Infrastructure Planning (Business or Commercial Projects) Regulations 2013 (SI 2013/3221). London: HMSO.
[5] European Union (Withdrawal Agreement) Act 2020 c.1. London: HMSO.
[6] PINS (2026) Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment. London: HMSO
[7] PINS (2026) Nationally Significant Infrastructure Projects: Technical Advice Page for Scoping Solar Development. London: HMSO.
[8] PINS (2026) Nationally Significant Infrastructure Projects: Advice on the Preparation and Submission of Application Documents. London: HMSO.
[9] PINS (2026) Nationally Significant Infrastructure Projects: Advice on EIA Notification and Consultation. London: HMSO.
[10] PINS (2026) Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment. London: HMSO.
[11] PINS (2026) Nationally Significant Infrastructure Projects: Advice on Preparing Applications for Linear Projects. London: HMSO.
[12] PINS (2026) Nationally Significant Infrastructure Projects: Advice on Good Design.
[13] ISEP (IEMA) (2024) Implementing the Mitigation Hierarchy from Concept to Construction. Lincoln: ISEP. [Online] [Accessed 28/09/2026].
[14] DESNZ (2025) Overarching National Policy Statement for Energy (EN-1). London: HMSO.
[15] DESNZ (2025) National Policy Statement for renewable energy infrastructure (EN-3). London: HMSO.
[16] DESNZ (2025) National Policy Statement for electricity network infrastructure (EN-5). London: HMSO.
[17] Department for Levelling Up, Housing and Communities and Minstry of Housing, Communities and Local Government (Online) NPPG: Environmental impact assessment. London: HMSO.
[18] PINS (2026) Nationally Significant Infrastructure Projects: Advice on working with public bodies in the infrastructure planning process. London: HMSO.
[19] The Construction (Design and Management) Regulations 2015 No. 51. London; HMSO.
[20] PINS (2026) Nationally Significant Infrastructure Projects: Commitments Register. London: HMSO.
[21] PINS (2026) Nationally Significant Infrastructure Projects: Advice on Transboundary Impacts and Process. London: HMSO.
[22] The Conservation of Habitats and Species Regulations 2017 No.1012. London: HMSO.
[23] ICNIRP (1998) Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz). Health Physics, 74(4):494–522.
[24] Ministry of Housing, Communities and Local Government (2026) NPPF. London: HMSO.
[25] KL&NWBC (2025) King's Lynn and West Norfolk Local Plan 2021 – 2040. London: HMSO.

[27] Norfolk County Council (2025) Norfolk Minerals and Waste Local Plan. [Accessed 09/08/2026].
[28] NCC (2022) Norfolk Local Transport Plan (LTP) 2021–2036. Norwich: Norfolk County Council. [Online] [Accessed 27/09/2026].
[29] Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities and Local Government (Online) NPPG: Travel Plans, Transport Assessments and Statements. London: HMSO.
[30] ISEP (formerly IEMA) (2023) Guidelines: Environmental Assessment of Traffic and Movement. [Online] [Accessed 27/09/2026].
[31] DfT (2022) Strategic Road Network (SRN) and the delivery of sustainable development. London: HMSO.
[32] National Highways (formerly Highways England) (2015) The Strategic Road Network: Planning for the Future Guide. [Online] [Accessed 27/09/2026].
[33] National Highways (formerly Highways England) (2020) Design Manual for Roads and Bridges, LA 104 Environmental Assessment and Monitoring. Revision 1. London: Highways England. [Online] [Accessed 28/09/2026].
[34] Control of Pollution Act 1974 c. 40. London: HMSO.
[35] Environmental Protection Act 1990 c. 43. London: HMSO.
[36] DEFRA (2010) Noise Policy Statement for England. (last updated March 2010). London: HMSO.
[37] Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities and Local Government (2019) NPPG – Noise. London: HMSO.
[38] ISEP (formerly ISEP) Guidelines for Environmental Noise Impact Assessment (2014).
[39] BS 7445-1:2003 Description and measurement of environmental noise. Guide to quantities and procedures. [Online] [Accessed 28/09/2026].
[40] BS 5228-1:2009+A1:2014, Code of practice for noise and vibration control on construction and open sites - Noise. [Online] [Accessed 28/09/2026].
[41] BS 5228-2:2009+A1:2014, Code of practice for noise and vibration control on construction and open sites - Vibration. [Online] [Accessed 28/09/2026].
[42] ISO (2024) ISO 9613-2:2024 Acoustics — Attenuation of sound during propagation outdoors — Part 2: Engineering method for the prediction of sound pressure levels outdoors. [Online] [Accessed 28/09/2026].
[43] BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound. [Online] [Accessed 28/09/2026].
[44] BS 8233:2014 Guidance on sound insulation and noise reduction for buildings. [Online] [Accessed 28/09/2026].
[45] Department for Transport Welsh Office (1998) Calculation of Road Traffic Noise. [Online] [Accessed 28/09/2026].
[46] National Highways (formerly Highways England) (2020) Design Manual for Roads and Bridges, LA111: Noise and Vibration. [Online] Available at: https://www.standardsforhighways.co.uk/search/cc8cfcf7-c235-4052-8d32-d5398796b364 [Accessed 28/09/2026].
[47] National Grid (2021) Policy Statement PS(T)134 - Operational Audible Noise Policy for Overhead Lines. London: HMSO.
[48] National Grid (2021) Technical Report TR(E)564 - Development of Method for Assessing the Impact of Noise from Overhead Lines (New Build, Reconductoring, Diversion and Uprating). [Online] [Accessed 28/09/2026].

[49] National Grid (2021) Technical Guidance Note TGN(E)322 - Operational Audible Noise Assessment Process for Overhead Lines (New Build, Reconductoring, Diversion and Uprating). [Online] [Accessed 28/09/2026].
[50] BS 6472-1:2008 Guide to evaluation of human exposure to vibration in buildings - Vibration sources other than blasting. [Online] [Accessed 28/09/2026].
[51] BS 7385-2:1993 Evaluation and measurement for vibration in buildings - Guide to damage levels from groundborne vibration. [Online] [Accessed 28/09/2026].
[52] DEFRA, Road Noise – All Metrics – England Round 4. [Online], Available at: https://environment.data.gov.uk/dataset/562c9d56-7c2d-4d42-83bb-578d6e97a517. [Accessed 28/09/2026].
[53] DEFRA, Rail Noise – All Metrics – England Round 4. [Online], Available at: https://environment.data.gov.uk/dataset/562c9d56-7c2d-4d42-83bb-578d6e97a517. [Accessed 28/09/2026].
[54] Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe. London: HMSO.
[55] The Environment Act 1995 c.25. London: HMSO.
[56] The Environment Act 2021 c.30. London: HMSO.
[57] The Clean Air Act 1993 c.11. London: HMSO.
[58] The Air Quality (England) Regulations 2000 (SI 2000/928). London: HMSO.
[59] The Air Quality Standards Regulations 2010 (SI 2010/1001). London: HMSO.
[60] The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 (SI 2023/96). London: HMSO.
[61] DEFRA (2025) Environmental Improvement Plan 2025. London: HMSO.
[62] DESNZ (2019) Clean Air Strategy 2019. London: HMSO.
[63] DEFRA (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland. London: HMSO.
[64] DEFRA (2023) Air Quality Strategy. London: HMSO.
[65] DfT (2018) The Road to Zero. London: HMSO.
[66] DEFRA (2017) UK plan for tackling roadside nitrogen dioxide concentrations. London: HMSO.
[67] DEFRA (2018) Supplement to the UK plan for tackling roadside nitrogen dioxide concentrations. London: HMSO.
[68] DEFRA (2024) PM2.5 Targets: Interim Planning Guidance [Online]. Available at: https://uk-air.defra.gov.uk/pm25targets/planning [Accessed 27/09/2026].
[69] Norfolk Planning Authorities (2025) Norfolk Strategic Planning Framework. [Online] [Accessed 27/09/2026].
[70] KL&WNBC (2024) Air Quality Action Plan 2024-2029. [Online] [Accessed 27/09/2026].
[71] MHCLG (2019) NPPG: Air Quality. [Online] [Accessed 27/09/2026].
[72] EPUK & IAQM (2017) Land-Use Planning & Development Control: Planning for Air Quality. [Online] [Accessed 27/09/2026].
[73] IAQM (2024) Guidance on the Assessment of Dust from Demolition and Construction. [Online] [Accessed 27/09/2026].
[74] Environment Agency (2023) Emergency backup diesel engines on installations: best available techniques (BAT). [Online] [Accessed 27/09/2026].
[75] DEFRA (2025) Local Air Quality Management Technical Guidance (TG22). [Online] [Accessed 27/09/2026].
[76] DEFRA (2026) UK Pollutant Release and Transfer Register [Online], Available at: http://prtr.defra.gov.uk/map-search [Accessed 27/09/2026].

[77] DEFRA (2026) Background Mapping data for Local Authorities [Online], Available at: https://uk-air.defra.gov.uk/data/laqm-background-home [Accessed 27/09/2026].
[78] DEFRA (2025) Air Pollution in the UK 2024 - Compliance Assessment Summary. Available: https://uk air.defra.gov.uk/library/annualreport/assets/documents/annualreport/air_pollution_uk_2024 _Compliance_Assessment_Summary_Issue1.pdf [Accessed 27/09/2026].
[79] DEFRA (2026) UK Pollutant Release and Transfer Register (PRTR) data sets. [Online], Available at: https://www.gov.uk/guidance/uk-pollutant-release-and-transfer-register-prtr-data-sets [Accessed 27/09/2026].
[80] KL&WNBC (2024) 2024 Air Quality Annual Status Report. [Online] [Accessed 27/09/2026].
[81] KL&WNBC (2026) 2025 ASR. [Online] [Accessed 27/09/2026].
[82] IAQM (2023) Position Statement 2020 and 2021 Monitoring Datasets. [Online] [Accessed 27/09/2026].
[83] Official Journal of the EU (2016) Regulation (EU) 2016/1628 of the European Parliament and of the Council on requirements relating to gaseous and particulate pollutant emission limits and type-approval for internal combustion engines for non-road mobile machinery. [Online] [Accessed 27/09/2026].
[84] Official Journal of the EU (2016) Regulation (EU) 2016/1628 of the European Parliament and of the Council on requirements relating to gaseous and particulate pollutant emission limits and type-approval for internal combustion engines for non-road mobile machinery. [Online] [Accessed 27/09/2026].
[85] Assessment of Potential Impacts of Fires at BESS Facilities, LITERATURE REVIEW, August 21, 2025, Fire & Risk Alliance LLC. [Online], Available at: https://cleanpower.org/wp-content/uploads/gateway/2025/03/Assessment-of-Potential-Impacts-of-Fires-at-BESS-Facilities_FINAL_Sep-2025.pdf. [Accessed 27/09/2026].
[86] National Fire Protection Association (2026) Standard for the Installation of Stationary Energy Storage Systems. [Online] [Accessed 27/09/2026].
[87] The Conservation of Habitats and Species Regulations 2017 No. 1012. HMSO; London.
[88] Wildlife and Countryside Act 1981 c.69. HMSO; London.
[89] The Invasive Alien Species (Enforcement and Permitting) Order 2019 No. 527. HMSO; London.
[90] The Protection of Badgers Act 1992 c.51. HMSO; London.
[91] The Hedgerow Regulations 1997 No. 1160. HMSO; London.
[92] Countryside and Rights of Way Act 2000 c.37. HMSO; London.
[93] The Environment Act 2021 c.30. HMSO; London.
[94] The Natural Environment and Rural Communities Act 2006 c.16. HMSO; London.
[95] Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government (2025) NPPG: Natural Environment.
[96] CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland.
[97] CIEEM (2018) Guidelines for Preliminary Ecological Appraisal.
[98] BS 42020:2013 Biodiversity — Code of Practice for Planning and Development
[99] Norfolk County Council (2025) Norfolk Local Nature Recovery Strategy: Statement of biodiversity priorities. Norwich: Norfolk County Council.
[100] Norfolk Biodiversity Partnership (1999) Norfolk Biodiversity Action Plan. Norwich: Norfolk Biodiversity Partnership.
[101] Natural England (2026) Designated Sites View (Online). [Accessed 27/07/2026].
[102] Woodland Trust (2026) Ancient Tree Inventory interactive map.

[103] NCC (Online) Norfolk Local Habitat Map.
[104] Butcher, B., Carey, P., Edmonds, R., Norton, L., and Treweek, J. (2020) The UK Habitat Classification User Manual. Version 1.1.
[105] Scottish Badgers (2018 Surveying for Badgers – Good Practice Guidelines, version 1.
[106] Dean, M., Strachan, R., Gow, D. & Andrews, R. (2016) The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series). Eds Fiona Matthews and Paul Chanin. The Mammal Society, London.
[107] Chanin, P. (2003) Monitoring the Otter. *Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No 10. Peterborough, English Nature.
[108] Oldham, R.S., Keeble, J., Swan, M.J.S. and Jeffcote, M., (2000) Evaluating the suitability of habitat for the great crested newt (Triturus cristatus). Herpetological Journal, 10(4), p.143-155
[109] Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F, (2014) Analytical and methodological development for improved surveillance of the great crested newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA. Freshwater Habitats Trust, Oxford.
[110] Gilbert, G., Gibbons, D.W. & Evans, J. (1998) Bird Monitoring Methods: A Manual of Techniques for Key UK Species. RSPB, Sandy, Bedfordshire.
[111] Bird Survey & Assessment Steering Group (2023) Bird Survey Guidelines for assessing ecological impacts, v1.1.0.
[112] Marchant, J.H. (1983) BTO Common Bird Census Instructions. BTO, Tring
[113] Bird Survey & Assessment Steering Group (2023), Bird Survey Guidelines for assessing ecological impacts, v.1.1.0.
[114] Bat Conservation Trust (2023) 'Bat Surveys for Professional Ecologists Good Practice Guidelines' fourth edition (Collins (ed.)).
[115] Birds of Conservation Concern 5.
[116] Lawton, J.H., Brotherton, P.N.M., Brown, V.K., Elphick, C., Fitter, A.H., Forshaw, J., Haddow, R.W., Hilborne, S., Leafe, R.N., Mace, G.M., Southgate, M.P., Sutherland, W.J., Tew, T.E., Varley, J., & Wynne, G.R. (2010) Making Space for Nature: a review of England's wildlife sites and ecological network. Report to DEFRA.
[117] The Mammal Society (2025) The dormouse conservation handbook (3rd edition).
[118] ICNIRP (1998) Guidelines for Limiting Exposures to Time-Varying Electric, Magnetic and Electromagnetic Fields (Up to 300 GHz). Health Physics, 74(4), 494-522. ICNIRP (2009) ICNIRP Guidelines on Limits of Exposure to Static Magnetic Fields. Health Physics, 96(4), 504-514.
[119] Stanbury, A.J., Eaton, M.A., Aebischer, N.J., Balmer, D., Brown, A.F., Douse, A., Lindley, P., MuCulloch, N., Noble, D.G. & Win, I. (2021) Birds of Conservation Concern 5. British Birds 114.
[120] Department for Levelling Up, Housing and Communities and Ministry and Housing, Communities and Local Government (2018 to 2021) NPPG. [Online] [Accessed 27/09/2026].
[121] The Landscape Institute and IEMA (2013) Guidelines for Landscape and Visual Impact Assessment (3rd Edition). [Online] [Accessed 01/10/2026].
[122] Landscape Institute (2024) Technical Guidance Note 2024-01 Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment. 3rd Edition. [Online] [Accessed 01/10/2026].

[123] Landscape Institute (2015) Technical Guidance Note 08/15 Landscape Character Assessment. [Online] [Accessed 01/10/2026].
[124] Landscape Institute (2019) Technical Guidance Note 06/19 Visual Representation of Development Proposals. [Online] [Accessed 01/10/2026].
[125] Landscape Institute (2019) Technical Guidance Note 02/21 Assessing landscape value outside national designations. [Online] [Accessed 01/10/2026].
[126] Landscape Institute (2019) Technical Guidance Note Residential Visual Amenity Assessment. [Online] [Accessed 01/10/2026].
[127] Natural England (2014) An Approach to Landscape Character Assessment. [Online] [Accessed 01/10/2026].
[128] Natural England (2026) Multi-Agency Geographic Information for the Countryside. [Online] [Accessed 01/10/2026].
[129] Natural England (2013) NCA Profile: 46 The Fens. [Online] [Accessed 01/10/2026].
[130] Natural England (2014) NCA Profile: 76 North West Norfolk. [Online] [Accessed 01/10/2026].
[131] Natural England (2015) NCA Profile: 85 The Brecks. [Online] [Accessed 01/10/2026].
[132] Natural England (2010) East of England Character Assessment. [Online] [Accessed 01/10/2026].
[133] Chris Blanford Associates on behalf of KL&WNBC (2007) King's Lynn and West Norfolk Borough Landscape Character Assessment. Final Report. [Online] [Accessed 01/10/2026].
[134] Planning (Listed Buildings and Conservation Areas) Act 1990 c. 9. HMSO; London.
[135] Ancient Monuments and Archaeological Areas Act 1979 c. 46. HMSO; London.
[136] Infrastructure Plannning (Decisions) Regulations 2010 (SI 2010/305). HMSO; London.
[137] Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government (2019) NPPG: Historic Environment.
[138] Historic England (2015) Managing Significance in Decision-Taking in the Historic Environment, Historic Environment Good Practice Advice in Planning: 2 (2015).
[139] Historic England (2017) The Setting of Heritage Assets, Historic Environment Good Practice Advice in Planning: 3 (2nd Edition).
[140] Historic England (2019) Statements of Heritage Significance: Analysing Significance in Heritage Assets, Historic England Advice Note 12. Swindon: Historic England.
[141] Historic England (2021) Delivering Clean Power: Commercial Renewable Energy Development and the Historic Environment, Historic England Advice Note 15 (2nd Edition).
[142] ISEP (formerly IEMA), IHBC and CIfA (2021) Principles of Cultural Heritage Impact Assessment in the UK.
[143] KL&WNBC (2019) Guidance on Heritage Statements.
[144] Historic England (2026) National Heritage List for England.
[145] National Library of Scotland (2026) Map Images.
[146] The Genealogist (2026) Tithe Mapping and Census Data.
[147] British History Online (2026) British History Online.
[148] Historic England Places Archive (Online).
[149] Pevsner, N. and Wilson, B. (1999) Norfolk 2: North-West and South (2nd Edition). London: Yale University Press.
[150] Historic England (2026) Advice Note 7 (3rd Edition): Local Listing: Identifying and Conserving Local Heritage.
[151] Ancient Monuments and Archaeological Areas Act 1979 c. 46. London: HMSO.
[152] Levelling-up and Regeneration Act 2023 c.55. London: HMSO.

[153] Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities and Local Government (Online) NPPG: Historic Environment. London: HMSO.
[154] Association of Local Government Archaeological Officers, et al (2026) Archaeology and Solar Farms – Good Practice Guide. [Online] [Accessed 01/10/2026].
[155] Historic England (2026) Delivering Clean Power: Commercial Renewable Energy Development and the Historic Environment Historic England Advice Note 15 (Second Edition). [Online] [Accessed 01/10/2026].
[156] ISEP (formerly IEMA), Institute of Historic Building Conservation (IHBC) and Chartered Institute for Archaeologists (CIfA) (2021) Principles of Cultural Heritage Impact Assessment in the UK. [Online] [Accessed 01/10/2026].
[157] National Highways (formerly Highways England) (2020) DMRB LA104 - Environmental assessment and monitoring (Revision 1). [Online] [Accessed 01/10/2026].
[158] CIfA (2020) Standard and guidance for historic Environment desk-based assessment. [Online] [Accessed 01/10/2026].
[159] CIfA (2020) Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment. [Online] [Accessed 01/10/2026].
[160] NCC (2018) Standards for Development-Led Archaeological Projects in Norfolk. [Online] [Accessed 01/10/2026].
[161] Magnitude Surveys (2026) Executive Summary for a Geophysical Survey of Fincham and Aylmer Norfolk. Unpublished report, reference MSTF2389. [Online] [Accessed 01/10/2026].
[162] European Commission (2000) Water Framework Directive 2000/60/EC. [Online] [Accessed 27/09/2026].
[163] The Water Environment (Water Framework Directive) (England and Wales) Regulations. [Online] [Accessed 27/09/2026].
[164] European Parliament Flood Directive (2007) Directive 2007/60/EC of the European Parliament and of the Council. [Online] [Accessed 27/09/2026].
[165] Flood and Water Management Act 2010. London: HMSO.
[166] Water Resources Act 1991 (as amended 2009). London: HMSO.
[167] Land Drainage Act 1991. London: HMSO.
[168] Environment Act 2021. London: HMSO.
[169] Water Act 2014. London: HMSO.
[170] The Environmental Damage (Prevention and Remediation) (England) Regulations 2015. London: HMSO.
[171] Pollution Prevention and Control Act 1999. London: HMSO.
[172] The Private Water Supplies (England) Regulations 2016. London: HMSO.
[173] The Private Water Supplies (England) (Amendment) Regulations 2018. London: HMSO.
[174] The Water Supply (Water Quality) Regulations 2018. London: HMSO.
[175] The Environmental Permitting (England and Wales) Regulations 2016. London: HMSO.
[176] Water Management Alliance (2013). Kings Lynn Internal Drainage Board Byelaws. [Online] [Accessed 27/09/2026].
[177] Downham Market Group of Internal Drainage Boards. East of the Ouse, Pulver and Nar Internal Drainage Board Byelaws. [Online] [Accessed 27/09/2026].
[178] Downham Market Group of Internal Drainage Boards. Stringside Internal Drainage Board Byelaws. [Online] [Accessed 27/09/2026].

[179] Ministry of Housing, Communities and Local Government (2025) Flood risk and coastal change. London: HMSO.
[180] National Highways (formerly Highways England) (2020) DMRB LA 104 Environmental assessment and monitoring. [Online] [Accessed 27/09/2026].
[181] National Highways (formerly Highways England) (2020) DMRB LA 113 Road drainage and the water environment. [Online] [Accessed 27/09/2026].
[182] Environment Agency (2014) Flood risk assessments: applying for planning permission. [Online] [Accessed 27/09/2026].
[183] Environment Agency (2017) Protect groundwater and prevent groundwater pollution. [Online] [Accessed 27/09/2026].
[184] Planning Inspectorate (2024) Nationally Significant Infrastructure Projects: Advice on the Water Framework Directive. [Online] [Accessed 27/09/2026].
[185] King's Lynn and West Norfolk (2018) Strategic Flood Risk Assessment. [Online] [Accessed 27/09/2026].
186 NCC (2011) Preliminary Flood Risk Assessment. [Online] [Accessed 27/09/2026].
187 NCC (2015) Local Flood Risk Management Strategy. [Online] [Accessed 27/09/2026].
[188] British Geological Survey. GeoIndex Onshore Viewer. [Online] [Accessed 27/09/2026].
[189] DEFRA. Survey Data Download Portal. [Online] [Accessed 27/09/2026].
[190] Environment Agency. Statutory Main River Map Download Centre. [Online] [Accessed 27/09/2026].
[191] Department for Environment Food and Rural Affairs. Asset Management Download Centre. [Online] [Accessed 27/09/2026].
[192] Environment Agency. Flood Map For Planning. [Online] [Accessed 27/09/2026].
[193] Environment Agency. Check Your Long Term Flood Risk. [Online] [Accessed 27/09/2026].
[194] Environment Agency. Risk of Flooding from Reservoirs. [Online] [Accessed 27/09/2026].
[195] Environment Agency. Historic Flood Map. [Online] [Accessed 27/09/2026].
[196] Environment Agency. Groundwater Vulnerability Maps (2017) on MAGIC. [Online] [Accessed 27/09/2026].
[197] Environment Agency. Source Protection Zones. [Online] [Accessed 27/09/2026].
[198] Environment Agency. Drinking Water Protected Areas (Surface Water). [Online] [Accessed 27/09/2026].
[199] Environment Agency. Drinking Water Safeguard Zones (Surface Water) [Online] [Accessed 27/09/2026].
[200] Environment Agency. Catchment Data Explorer. [Online] [Accessed 27/09/2026].
[201] LandIS. Soilscapes Viewer. [Online] [Accessed 27/09/2026].
[202] UK Centre for Ecology and Hydrology. Flood Estimation Handbook Web Service. [Online] [Accessed 27/09/2026].
[203] Environment Agency. Spatial Flood Defences (inc. standardised attributes). [Online] [Accessed 27/09/2026].
[204] Environment Agency. AIMS Defence (Spatial Flood Defences) Product Description. [Online] [Accessed 27/09/2026].
[205] Environment Agency. Check for Drinking Water Safeguard Zones and NVZs. [Online] [Accessed 27/09/2026].
[206] DEFRA (2009) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites. [Online] [Accessed 29/09/2026].

[207] Natural England (2012) Technical Information Note (TIN) 049 Protecting the best and most versatile agricultural land. [Online] [Accessed 29/09/2026].
[208] DEFRA (2025) ALC of England and Wales: Guidelines for grading the quality of agricultural land. [Online] [Accessed 29/09/2026].
[209] Institute of Quarrying (2021) Good Practice Guide for Handling Soils. [Online] [Accessed 29/09/2026].
[210] ISEP (2022) A New Perspective on Land and Soil in Environmental Impact Assessment. [Online] [Accessed 29/09/2026].
[211] British Society of Soil Science (2022) Benefitting from Soil Management in Development and Construction. [Online] [Accessed 29/09/2026].
[212] ISEP (2025) Solar PV on Agricultural Land. [Online] [Accessed 29/09/2026].
[213] ISEP (2025) Soil Health and environmental Assessment. [Online] [Accessed 29/09/2026].
[214] ArcGIS (online) (2026) Predictive Agricultural Land Classification Map for England. [Online] [Accessed 29/09/2026].
[215] LandIS (2026) National Soils Map of England and Wales (Online). [Online] [Accessed 29/09/2026].
[216] DEFRA (2024) United Kingdom Food Security Report. [Online] [Accessed 29/09/2026].
[217] DEFRA (2026) The Land Use Framework for England. DEFRA (2026) The Land Use Framework for England. [Online] [Accessed 29/09/2026].
[218] Climate Change Act 2008 c.27. London: HMSO.
[219] The Climate Change Act 2008 (2050 Target Amendment) Order 2019 (SI 2019/1056). London: HMSO.
[220] The Carbon Budget Order 2016 (SI 2016/785). London: HMSO.
[221] The Carbon Budget Order 2021 (SI 2021/750). London: HMSO.
[222] The Carbon Budget Order 2026 (SI 2026/695). London: HMSO.
[223] Energy Act 2023 c.52. London: HMSO.
[224] DESNZ (2025) Carbon budget and growth delivery plan. [Online] [Accessed 28/09/2026].
[225] DESNZ (2024) Clean Power 2030 Action Plan: A new era of clean electricity. [Online] [Accessed 28/09/2026].
[226] UK Parliament (2024) Designation of UK Data Infrastructure as Critical National Infrastructure and the Telecoms Supply Chain Diversification Advisory Council Report/ [Online], Available at: https://questions-statements.parliament.uk/written-statements/detail/2024-09-12/HCWS89. [Accessed 28/09/2026].
[227] DfT (2021) Decarbonising Transport: A Better, Greener Britain. [Online], Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1009448/decarbonising-transport-a-better-greener-britain.pdf [Accessed 28/09/2026].
[228] DESNZ and BEIS (2020) The Energy White Paper. Powering our Net Zero Future. [Online], Available at: https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future [Accessed 28/09/2026].
[229] HM Government (2021) Net Zero Strategy: Build Back Greener. [Online] [Accessed 28/09/2026].
[230] DESNZ and BEIS (2018) The Clean Growth Strategy. [Online] [Accessed 28/09/2026].
[231] DEFRA (2023) The Third National Adaptation Programme and the Fourth Strategy for Climate Adaptation Reporting. [Online], Available at:

https://assets.publishing.service.gov.uk/media/64ba74102059dc00125d27a7/The_Third_National_Adaptation_Programme.pdf [Accessed 28/09/2026].
[232] HM Treasury & National Infrastructure and Service Transformation Authority (2025) UK Infrastructure: A 10 Year Strategy. [Online], Available at: https://www.gov.uk/government/publications/uk-infrastructure-a-10-year-strategy [Accessed 28/09/2026].
[233] BEIS (2022) British Energy Security Strategy. [Online], Available at: https://www.gov.uk/government/publications/british-energy-security-strategy [Accessed 28/09/2026].
[234] Ministry of Housing, Communities and Local Government, Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government (2019) NPPG: Climate Change. [Online] [Accessed 28/09/2026].
[235] CCC (2019) Net Zero, Technical Report. Available at: https://www.theccc.org.uk/publication/net-zero-technical-report/.
[236] ISEP (2026a) Assessing greenhouse gas emissions and evaluating their significance with supplementary guidance (Edition 2.1). [Online], Available at: https://www.isepglobal.org/resources/blogs/2026/april/defining-significance-in-a-net-zero-era-the-next-step-for-greenhouse-gas-emissions-assessment-in-environmental-impact-assessment/ [Accessed 28/09/2026].
[237] ISEP (2026b) GHG Mitigation Hierarchy. [Online], Available: https://www.isepglobal.org/learn/greenhouse-gas-management-hierarchy/. [Accessed 28/09/2026].
[238] ISEP (2020) Environmental Impact Assessment Guide to: Climate Change Resilience & Adaptation. [Online], Available at: https://www.iema.net/media/mabhqino/iema-eia-climate-change-resilience-june-2020.pdf. [Accessed 28/09/2026].
[239] Environment Agency (2023) Climate change: risk assessment and adaptation planning in your management system. [Online], Available at: https://www.gov.uk/guidance/climate-change-risk-assessment-and-adaptation-planning-in-your-management-system. [Accessed 28/09/2026].
[240] RICS (2023) Whole life carbon assessment for the built environment (2nd edition). [Online], Available at: https://www.rics.org/profession-standards/rics-standards-and-guidance/sector-standards/construction-standards/whole-life-carbon-assessment. [Accessed 28/09/2026].
[241] PAS 2080: 2023 Carbon Management in Buildings and Infrastructure. [Online], Available at: https://www.bsigroup.com/siteassets/pdf/en/insights-and-media/insights/brochures/pas_2080.pdf. [Accessed 28/09/2026].
[242] CCC (2025) Seventh Carbon Budget: Advice for the UK Government. [Online], Available: https://www.theccc.org.uk/wp-content/uploads/2025/02/The-Seventh-Carbon-Budget.pdf. [Accessed 28/09/2026].
[243] World Resources Institute, World Business Council for Sustainable Development (2001) The Greenhouse Gas Protocol, A Corporate Accounting and Reporting Standard. World Resources Institute (Revised Edition). [Online], Available at: https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf. [Accessed 28/09/2026].
[244] DEFRA (2022) UK Climate Change Risk Assessment 2022. [Online], Available at: https://assets.publishing.service.gov.uk/media/61e54d8f8fa8f505985ef3c7/climate-change-risk-assessment-2022.pdf. [Accessed 28/09/2026].

[245] Natural England (2021) Carbon storage and sequestration by habitat: a review of the evidence (second edition). [Online], Available at: https://publications.naturalengland.org.uk/publication/5419124441481216. [Accessed 28/09/2026].
[246] DESNZ (2026) Greenhouse gas reporting: conversion factors 2026. [Online], Available at: https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2026. [Accessed 28/09/2026].
[247] Digest of UK Energy Statistics (DUKES) (2026). DUKES chapter 6: Statistics on energy from renewable sources. [Online], Available at: https://www.gov.uk/government/statistics/renewable-sources-of-energy-chapter-6-digest-of-united-kingdom-energy-statistics-dukes [Accessed 28/09/2026].
[248] BS EN 15978:2026 Sustainability of construction works. Assessment of environmental performance of buildings. Requirements and guidance. [Online] [Accessed 28/09/2026].
[249] For example, EPDs from https://www.environdec.com/library [Accessed 28/09/2026].
[250] DfT (2025) TAG data book May 2025 v2.01. [Online], Available at: https://www.gov.uk/government/publications/tag-data-book. [Accessed 28/09/2026].
[251] DESNZ (2023) Green Book supplementary guidance: valuation of energy use and greenhouse gas emissions for appraisal. [Online], Available at: https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal. [Accessed 28/09/2026].
[252] Met Office (2025) Historic station data. [Online], Available at: https://www.metoffice.gov.uk/research/climate/maps-and-data/historic-station-data [Accessed 28/09/2026].
[253] DEFRA, BEIS, Met Office and Environment Agency (2022) UK Climate Projections Key Results Spreadsheet. [Online], Available at: ukcp18-key-results-2022.xlsx. [Accessed 28/09/2026].
[254] DEFRA, BEIS, Met Office and Environment Agency (2022) UK Climate Projections: Headline Findings. Available: ukcp18_headline_findings_v4_aug22.pdf. [Accessed 28/09/2026].
[255] Met Office (2019) UKCP18 Factsheet: Wind. [Online] [Accessed 28/09/2026].
[256] Health and Safety at Work etc. Act 1974. London: HMSO.
[257] Countryside and Rights of Way Act 2000. London: HMSO.
[258] The Equality Act 2010. London: HMSO.
[259] Department for Digital, Culture, Media & Sport (2020) National Data Strategy – Policy Paper. [Online] [Accessed 28/09/2026].
[260] Department for Business and Trade and Department for Business, Innovation, Science and Trade (2025) The UK's Modern Industrial Strategy. [Online] [Accessed 28/09/2026].
[261] Department for Science, Innovation & Technology (2025) UK AI Growth Zones. [Online] [Accessed 28/09/2026].
[262] Department for Science, Innovation and Technology and UK Research and Innovation (2026) UK Compute Roadmap – Policy Paper. [Online] [Accessed 28/09/2026].
[263] NCC (2019) Norfolk Access Improvement Plan (NAIP) 2019 – 2029. [Online] [Accessed 28/09/2026].
[264] NCC (2024) Local Growth Plan – Norfolk Economic Strategy (2024 – 2029). [Online] [Accessed 28/09/2026].
[265] NCC (2026) Better Together, for Norfolk: Delivering Change and Setting the Course Ahead (2026 – 2028). [Online] [Accessed 28/09/2026].

[266] KL&WNBC (2024) West Norfolk Economic Vision and Strategy. [Online] [Accessed 28/09/2026].
[267] KL&WNBC (2026) West Norfolk Tourism Development Strategy. [Online] [Accessed 28/09/2026].
[268] KL&WNBC (2023) Corporate Strategy 2023 – 2027. [Online] [Accessed 28/09/2026].
[269] Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities and Local Government (Online) NPPG: Open space, sports and recreation facilities, public rights of way and local green space. [Online] [Accessed 28/09/2026].
[270] ISEP (2025) Social Impact Assessment in Environmental Impact Assessment in the UK and Ireland. [Online] [Accessed 28/09/2026].
[271] ISEP (2025) Solar PV on Agricultural Land: Essential Components of Environmental Assessments and Reports. [Online] [Accessed 28/09/2026].
[272] National Highways (formerly Highways England) (2020) Design Manual for Roads and Bridges LA 112 Population and Human Health. [Online] [Accessed 28/09/2026].
[273] Homes & Community Agency (2014) Additionality Guide (4th Edition). [Online] [Accessed 28/09/2026].
[274] HM Treasury (2026) The Green Book Central Government Guidance on Appraisal and Evaluation. [Online] [Accessed 28/09/2026].
[275] Visa Europe (2014) UK Working Day Spending Report. [Online] [Accessed 28/09/2026].
[276] Construction Industry Training Board (2022) Workforce Mobility and Skills in the UK Construction Sector 2022 – East of England Report. [Online] [Accessed 28/09/2026].
[277] International Renewable Energy Agency (2017) Renewable Energy Benefits: Leveraging Local Capacity for Solar PV. [Online] [Accessed 28/09/2026].
[278] DEFRA (2009) Rights of Way Circular (1/09): Guidance for Local Authorities, version 2. [Online] [Accessed 28/09/2026].
[279] Institute of Public Rights of Way and Access Management (2020) Environmental Impact Assessment: Appraising Access. [Online] [Accessed 28/09/2026].
[280] Construction Skills Network (2023) Focusing on the Skills Construction Needs – Labour Market Intelligence – East of England Report 2024-2028. [Online] [Accessed 28/09/2026].
[281] ONS (2025) Population estimates for England and Wales: mid-2024. [Online] [Accessed 28/09/2026].
[282] Ministry of Housing, Communities and Local Government (2025) English Indices of Deprivation 2025. [Online] [Accessed 28/09/2026].
[283] ONS (2026) UK Business Counts - local units by industry and employment size band. [Online] [Accessed 28/09/2026].
[284] ONS (2026) Annual Population Survey (January 2025 to December 2025). [Online] [Accessed 28/09/2026].
[285] ONS (2021) Census 2021. [Online] [Accessed 28/09/2026].
[286] ONS (2026) Claimant county by sex and age (May 2026). [Online] [Accessed 28/09/2026].
[287] ONS (2025) Business Register and Employment Survey (BRES) 2024. [Online] [Accessed 28/09/2026].
[288] ONS (2025) Regional gross value added (balanced) per head and income components. [Online] [Accessed 28/09/2026].
[289] ONS (2025) Subnational population projections for England: 2022-based.
[290] DEFRA (2025) MAGIC. [Online] [Accessed 28/09/2026].

[291] Experian Limited (2023) Experian workforce jobs based employment projections. Experian Limited. [Online] [Accessed 28/09/2026].
[292] Experian Limited (2023) Experian Gross Value Added (GVA) projections. [Online] [Accessed 28/09/2026].
[293] Destination Research (2024) Economic Impact of Tourism West Norfolk 2024. [Online] [Accessed 28/09/2026].
[294] Visit Britain (2026) Accommodation Stock Audit. [Online] [Accessed 28/09/2026].
[295] Visit Britain (2024) Great Britain Tourism Survey (GBTS) domestic overnight trips, County level volume and value 2022 to 2024. [Online] [Accessed 28/09/2026].
[296] Visit Britain (2026) England Hotel Occupancy: latest. [Online] [Accessed 28/09/2026].
[297] NCC (2026) Definitive Map. [Online] [Accessed 28/09/2026].
[298] ONS (2025) Regional gross value added (balanced) by industry: local authorities by ITL1 region. [Online] [Accessed 28/09/2026].
[299] ONS (2025) UK small area gross value added (GVA) estimates. [Online] [Accessed 28/09/2026].
[300] Visit Britain (2025) GBTS domestic overnight trips, County level volume and value 2022 to 2024 (dataset). [Online] [Accessed 28/09/2026].
[301] DEFRA (2026) Number of holdings and agricultural activity by English County/Unitary Authority at 1 June each year (2025). [Online] [Accessed 28/09/2026].
[302] Visa Europe (2014) UK Working Day Spending Report. (Daily spending rate to be adjusted to account for inflation based on Bank of England inflation rate change since 2014). [Online] [Accessed 28/09/2026].
[303] The Control of Electromagnetic Fields at Work Regulations 2016 (SI 2016/588. London: HMSO.
[304] The Electricity Safety, Quality and Continuity Regulations 2002 (SI 2002/2665). London: HMSO.
[305] UK Health Security Agency (2026) Guidance: Electric and magnetic fields: reducing exposure. [Online] [Accessed 28/09/2026].
[306] ISEP (formerly IEMA) (2022) Guide to: Effective Scoping of Human Health in Environmental Impact Assessment. [Online] [Accessed 28/09/2026].
[307] Department for Levelling Up, Housing and Local Communities and Ministry of Housing, Communities and Local Government (Online). NPPG: Renewable and low carbon energy.
[308] BRE (2013) Planning guidance for the development of large scale ground mounted solar PV systems. [Online] [Accessed 28/09/2026].
[309] DfT (2025) The Highway Code, road safety and vehicle rules. [Online] [Accessed 28/09/2026].
[310] CAA (2020) Safeguarding of Aerodromes. [Online] [Accessed 28/09/2026].
[311] CAA (2023) Renewable energy developments: solar photovoltaic developments CAST Aerodrome Safeguarding Guidance Note. [Online] [Accessed 28/09/2026].
[312] US FAA (2021) Review of Solar Energy System Projects on Federally-Obligated Airports. [Online] [Accessed 28/09/2026].
[313] Pager Power (2022) Solar Photovoltaic and Building Development – Glint and Glare Guidance. [Online] [Accessed 28/09/2026].
[314] The Health Protection (Notification) Regulations 2010. [Online] [Accessed 28/09/2026].
[315] His Majesty's Stationery Office (2010) The Equality Act 2010. [Online] [Accessed 28/09/2026].

[316] Norfolk and Waveney Integrated Care System (2024). Norfolk and Waveney Integrated Care Strategy and Norfolk Joint Health and Wellbeing Strategy - Setting the agenda for our Integrated Care System across Norfolk and Waveney. [Online] [Accessed 28/09/2026].
[317] KL&WNBC (2026) Climate Change Policy and Strategy (2026 – 2028). [Online] [Accessed 28/09/2026].
[318] ISEP (formerly IEMA) (2022) Determining Significance for Human Health in Environmental Impact Assessment. [Online] [Accessed 28/09/2026].
[319] PHE (2017) Spatial Planning for Health: An evidence resource for planning and designing healthier places. [Online] [Accessed 28/09/2026].
[320] PHE (2017) Health and Environmental Impact Assessment: A Briefing for Public Health Teams in England. [Online] [Accessed 28/09/2026].
[321] Institute of Public Health (2021) Health Impact Assessment Guidance: A Manual, Standalone Health Impact Assessment and health in environmental assessment. [Online] [Accessed 28/09/2026].
[322] UKHSA (2013) Electric and magnetic fields: health effects of exposure. [Online] [Accessed 28/09/2026].
[323] DHSC (2011) Government response to the Stakeholder Advisory group on extremely low frequency electric and magnetic fields. [Online] [Accessed 28/09/2026].
[324] UK Health Security Agency (UKHSA) (2026) UKHSA Strategy 2026 to 2029. [Online] [Accessed 28/09/2026].
[325] Institute of Health Equity (2010) The Marmot Review: Fair Society, Healthy Lives. [Online] [Accessed 29/09/2026].
[326] Institute of Health Equity (2020) Health Equity in England: The Marmot Review 10 Years On. [Online] [Accessed 29/09/2026].
[327] Institute of Health Equity. (2020) Build Back Fairer: The COVID-19 Marmot Review. [Online] [Online] [Accessed 29/09/2026].
[328] Department of Health and Social Care. (2025) NHS 10 Year Health Plan for England: Fit for the Future. [Online] [Online] [Accessed 29/09/2026].
[329] Department for Health and Social Care (DHSC) (2026) Fingertips. [Online] [Online] [Accessed 29/09/2026].
[330] Office for Health Improvement and Disparities (2023) Public Health Profiles. [Online] [Online] [Accessed 29/09/2026].
[331] WHO (2026a) Mental Health, Brain Health and Substance Use. [Online] [Accessed 29/09/2026].
[332] Adult Psychiatric Morbidity Survey (2014) Comorbidity in mental and physical illness.
[333] DEFRA (2025) Air Quality – Guidance – Public Health. [Online] [Accessed 29/09/2026].
[334] KLNWBC (2024) Air Quality Action Plan 2024 – 2029. [Online] [Accessed 29/09/2026].
[335] Dahlgren, G., & Whitehead, M (2021). The Dahlgren-Whitehead model of health determinants: 30 years on and still chasing rainbows. [Online] [Accessed 29/09/2026].
[336] ISEP (formerly IEMA) (2024) Impact Assessment Guidelines: Implementing the Mitigation Hierarchy from Concept to Construction. [Online] [Accessed 29/09/2026].
[337] Wilkinson, R. G., & Pickett, K. E. (2006) Income inequality and population health: a review and explanation of the evidence. Social science & medicine, 62(7), 1768-1784. [Online] [Accessed 29/09/2026].
[338] Environment Agency (2020) Land Contamination Risk Management (LCRM). [Online] [Accessed 29/09/2026].

[339] Rudland, D. J., Lancefield, R. M. and Mayell, P. N. (2001) CIRIA Report C552 Contaminated Land Risk Assessment: A Guide to Good Practice. [Online] [Accessed 29/09/2026].
[340] DEFRA (2012) Contaminated Land Statutory Guidance. [Online] [Accessed 29/09/2026].
[341] KL&WNBC (2024) Borough Council of King's Lynn and West Norfolk Land Contamination Investigations Leaflet. [Online] [Accessed 29/09/2026].
[342] Natural Resources Wales (NRW), Northern Ireland Environment Agency (NIEA) and Scottish Environment Protection Agency (SEPA) (2021) GPP 21: Pollution incident response planning. Version 1.1. [Online] [Accessed 29/09/2026].
[343] CIRIA (2001) Control of Water Pollution from Construction Sites. Guidance for consultants and contractors (C532). [Online] [Accessed 29/09/2026].
[344] NIEA and SEPA (2023) GPP 6: Working on construction and demolition sites. Version 1. [Online] [Accessed 29/09/2026].
[345] CL:AIRE (2025) Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention.
[346] BS 8582:2013 – Code of practice for surface water management for development sites. [Online], Available at: https://knowledge.bsigroup.com/products/code-of-practice-for-surface-water-management-for-development-sites [Accessed on 09/08/2026].
[347] Environment Agency (2021) Technical Guidance WM3: Waste Classification – Guidance on the classification and assessment of waste (1st edition v 1.2 GB). [Online], Available at: https://assets.publishing.service.gov.uk/media/6152d0b78fa8f5610b9c222b/Waste_classification_technical_guidance_WM3.pdf [Accessed on 09/08/2026].
[348] CIRIA (2007) Assessing risks posed by hazardous ground gases to buildings C665. [Online] [Accessed 29/09/2026].
[349] Clean Neighbourhoods and Environment Act 2005 c. 16. London: HMSO.
[350] DLUHC and MHCLG (2019) NPPG: Light pollution. [Online], Available at: https://www.gov.uk/guidance/light-pollution [Accessed 09/08/2026].
[351] ILP (2013) Guidance on Undertaking Environmental Lighting Impact Assessments (PLG04). [Online], Available at: https://theilp.org.uk/resource/plg04-guidance-on-undertaking-environmental-lighting-impact-assessments-2013.html [Accessed 09/08/2026].
[352] ILP (2021) GN01: Guidance Notes for the Reduction of Obtrusive Light. [Online], Available at: https://theilp.org.uk/resource/ilp-guidance-note-1--the-reduction-of-obtrusive-light-has-been-updated.html [Accessed on 09/08/2026].
[353] Go Star Gazing (2026) [Online], Available at: https://gostargazing.co.uk/regions/county/norfolk/ [Accessed 09/08/2026].
[354] BS 5489-1:2020 Design of road lighting – Part 1: Lighting of roads and public amenity areas – Code of practice. [Online], Available at: https://www.en-standard.eu/bs-5489-1-2020-design-of-road-lighting-lighting-of-roads-and-public-amenity-areas-code-of-practice/ [Accessed 06/08/2026].
[355] BS 12464:2014 Light and lighting – Light of workplaces Part 2: Outdoor workplaces. [Online], Available at: https://www.normsplash.com/Samples/BSI/155533547/BS-EN-12464-2-2014-en.pdf [Accessed 06/08/2026].
[356] CIBSE (2018) LG01: The industrial environment. [Online], Available at: https://www.scribd.com/document/736929025/LG01-Lighting-Guide-1-Industrial-Environment-Warehouse-2 [Accessed 06/08/2026].

[357] CIBSE (2016) LG6: The exterior environment. [Online], Available at: https://www.scribd.com/document/802937782/LG06-the-Exterior-Environment-2016 [Accessed 06/08/2026].
[358] CIBSE (2021) LG21: Protecting the night-time environment. [Online], Available at: https://www.scribd.com/document/802937995/LG21-Protecting-the-night-time-environment-2021 [Accessed 06/08/2026].
[359] ISEP (formerly IEMA) (2020) Major Accidents and Disasters in EIA: A Primer. [Online], Available at: https://www.isepglobal.org/media/brbdeibt/j27374_iema_major_accidents__disasters_final-1.pdf [Accessed 06/08/2026].
[360] The Control of Major Accident Hazard (COMAH) Regulations 2015 (SI 2015/483). London: HMSO.
[361] The Control of Substances Hazardous to Health Regulations 2002 (SI 2002/2677). London: HMSO.
[362] European Commission (2017) Environmental Impact Assessment of Projects, Guidance on the Preparation of the Environmental Impact Assessment Report. [Online], Available at: https://op.europa.eu/en/publication-detail/-/publication/2b399830-cb4b-11e7-a5d5-01aa75ed71a1 [Accessed 06/08/2026].
[363] HSE (2010) Guidance on ALARP Decisions in COMAH. [Online], Available at: https://www.scribd.com/document/375136993/Guidance-on-ALARP-Decisions-in-COMAH-HSE [Accessed 06/08/2026].
[364] HM Government (2025) National Risk Register. [Online], Available at: https://assets.publishing.service.gov.uk/media/67b5f85732b2aab18314bbe4/National_Risk_Register_2025.pdf. [Accessed 06/08/2026].
[365] HSE (Online) COMAH 2015 Public Information Search. [Online], Available at: https://notifications.hse.gov.uk/COMAH2015/Search.aspx. [Accessed 06/08/2026].
[366] British Geological Survey (2025) Geology Viewer. Available at: https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/. [Accessed 06/08/2026].
[367] British Geological Survey (2012) UK Geohazard Note: Volcanic Hazards. [Online], Available at: https://www.bgs.ac.uk/download/volcanic-hazards-uk-geohazard-note-may-2012/ [Accessed 06/08/2026].
[368] British Geological Survey (2013) UK Geohazard Note: Seismic Hazards. [Online], Available at: https://www.bgs.ac.uk/download/geohazard-note-seismic-hazard/ [Accessed 08/08/2026].
[369] HSE (2013) GS6 Avoiding danger from overhead lines. [Online], Available at: https://www.hse.gov.uk/pubns/gs6.pdf [Accessed 08/08/2026].
[370] HSE (2014) HSG47 Avoiding danger from underground services. [Online], Available at: https://www.hse.gov.uk/pubns/priced/hsg47.pdf [Accessed 08/08/2026].
[371] RISC Authority and The Fire Protection Association (2022) Fire Prevention on Construction Sites: The Joint Code of Practice on the Protection from Fire of Construction Sites and Buildings Undergoing Renovation. [Online], Available at: https://static.aviva.io/content/dam/document-library/risk-solutions/jcop_2025_v10.2.pdf [Accessed 08/08/2026].
[372] HSE (2022) Fire safety in construction (HSG168). [Online], Available at: https://www.hse.gov.uk/pubns/priced/hsg168.pdf [Accessed 08/08/2026].
[373] BS 3930:2015+A1:2020 (2015) Code of practice for ground investigations [Online], Available at:

https://landingpage.bsigroup.com/LandingPage/Standard?UPI=000000000030400754 [Accessed 08/08/2026].
[374] BSEN1997: Part 2: 2007 Eurocode 7 Geotechnical Design Part 2. [Online] [Accessed 08/08/2026].
[375] BS 6031:2009: Code of Practice for Earthworks. [Online] [Accessed 08/08/2026].
[376] HM Government (2013) Approved Document A - Structure. London: HMSO.
[377] Electrical Equipment (Safety) Regulations 2016 (SI 2016/1101). London: HMSO.
[378] Network Rail (2020) Asset Protection General Guidance Note – Works on or adjacent to the railway. [Online], Available at: https://docs.planning.org.uk/20210113/101/QMRQRBRBL1T00/mnzud5xurlq5v4at.pdf [Accessed 08/08/2026]
[379] HSE (2013) The Control of Substances Hazardous to Health Regulations 2002. Approved Code of Practice and guidance (L5). [Online] [Accessed 08/08/2026].
[380] The Dangerous Substances and Explosive Atmospheres Regulations 2002 (SI 2002/776). HMSO; London.
[381] The Control of Pollution (Oil Storage) (England) Regulations 2001 (SI 2001/2954). HMSO; London.
[382] NFPA 855 (2026) Standard for the Installation of Stationary Energy Storage Systems. [Online] [Accessed 08/08/2026].
[383] The Dangerous Substances and Explosive Atmospheres Regulations 2002 (SI 2002/776). HMSO; London.
[384] The Control of Pollution (Oil Storage) (England) Regulations 2001 (SI 2001/2954). HMSO; London.
[385] The Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016 (SI 2016/1107). London: HMSO.
[386] HM Government (2019) Approved Document B Volume 2. London: HMSO.
[387] NPFA (2020) Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations. [Online], Available at: https://nfpanorm.com/wp-content/preview/850%202020.pdf [Accessed 08/08/2026].
[388] BRE (2022) Guidelines: Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice. [Online] [Accessed 08/08/2026].
[389] Lawson, T. (2001) Building Aerodynamics. [Online] [Accessed 08/08/2026].
[390] City of London Corporation (2018) Wind Microclimate Guidelines for Developments in the City of London. [Online], Available at: https://www.cityoflondon.gov.uk/assets/Services-Environment/wind microclimate-guidelines.pdf. [Accessed 08/08/2026].
[391] Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives Waste Framework Directive (Directive 2008/98/EC). [Online], Available at: https://eur-lex.europa.eu/eli/dir/2008/98/oj/eng. [Accessed 08/08/2026].
[392] The Hazardous Waste (England and Wales) Regulations 2005 (SI/2005/894). London: HMSO.
[393] The Waste (England and Wales) Regulations 2011 (SI 2011/988). London: HMSO.
[394] ISEP (formerly IEMA) (2020) Guide to: Materials and Waste in Environmental Impact Assessment, Guidance for a Proportionate Approach. [Online], Available at: https://www.iema.net/media/0t5fwyhj/iema-materials-and-waste-in-eia-march-2020.pdf [Accessed 08/08/2026].

[395] DEFRA (2011) Guidance on applying the Waste Hierarchy. [Online], Available at: https://assets.publishing.service.gov.uk/media/5a795abde5274a2acd18c223/pb13530-waste-hierarchy-guidance.pdf [Accessed 08/08/2026].
[396] WRAP, undated, Designing Out Waste Tool for Civil Engineering. No longer available online. [Accessed 08/08/2026].
[397] WRAP (2013) Quality Protocol, Aggregates from Inert Waste. [Online], Available at: https://assets.publishing.service.gov.uk/media/5a7c38bce5274a1f5cc769c8/LIT_8709_c60600.pdf [Accessed 08/08/2026].
[398] Environment Agency (2026) 2025 Hazardous Waste Data. [Online], Available at: https://www.data.gov.uk/dataset/b90c23d6-3bf7-4e6d-9d7b-304dc2640c27/2025-waste-data-interrogator.https://www.data.gov.uk/dataset/b90c23d6-3bf7-4e6d-9d7b-304dc2640c27/2025-waste-data-interrogator [Accessed 08/08/2026].
[399] Environment Agency (2026) 2025 Waste Data Interrogator. [Online], Available at: https://www.data.gov.uk/dataset/b90c23d6-3bf7-4e6d-9d7b-304dc2640c27/2025-waste-data-interrogator. [Accessed 08/08/2026].
[400] NCC (2024) Waste Management Capacity and Forecast Arisings update 2024. . [Online], Available at: https://norfolk.oc2.uk/docfiles/66/Waste%20management%20capacity%20and%20forecast%20arisings%20update.pdf [Accessed 08/08/2026].
[401] East of England Aggregates Working Party (2024) Annual Report: 2024. [Online], Available at: https://davidjarvis.biz/east-of-england-awp/ [Accessed 08/08/2026].
[402] Environment Agency, Natural Resources Wales and Scottish Environment Protection Agency (2014) Waste Classification: Guidance on the classification and assessment of waste. [Online], Available at: https://assets.publishing.service.gov.uk/media/6152d0b78fa8f5610b9c222b/Waste_classification_technical_guidance_WM3.pdf [Accessed 08/08/2026].
[403] KL&WNBC (2026) King's Lynn and West Norfolk Planning [Online], Available at: https://online.west-norfolk.gov.uk/online-applications/. [Accessed 08/08/2026].
[404] NCC (2026) Norfolk Online Planning Service [Online], Available at: https://eplanning.norfolk.gov.uk/. [Accessed 08/08/2026].
[405] Breckland District Council (2026) Search Planning Applications [Online], https://publicportal.breckland.gov.uk/planning/index.html?fa=search. [Accessed 08/08/2026].
[406] West Suffolk District Council (2026) West Suffolk planning applications – Public access for planning [Online], Available at: https://www.westsuffolk.gov.uk/planning /vieworcommentonplanningapplications.cfm. [Accessed 08/08/2026].
[407] East Cambridgeshire District Council (2026) East Cambridgeshire Planning Search [Online], Available at: https://eastcambs.gov.uk/services/planning-and-building-control/planning. [Accessed 08/08/2026].
[408] Fenland District Council (2026) FDC Planning Portal [Online], Available at: https://www.publicaccess.fenland.gov.uk/publicaccess/. [Accessed 08/08/2026].
[409] Peterborough City Council (2026) Peterborough planning register [Online], Available at: https://planning.agileapplications.co.uk/peterborough. [Accessed 08/08/2026].
[410] South Holland District Council (2026) South Holland planning applications search [Online], Available at: https://planning.sholland.gov.uk/OcellaWeb/ planningSearch. [Accessed 08/08/2026].
[411] Suffolk County Council (2026) Suffolk planning register [Online], Available at: https://suffolk.planning-register.co.uk/. [Accessed 08/08/2026].

[412] Cambridgeshire County Council (2026) Cambridgeshire County Council planning register [online]. Available at: https://planning.cambridgeshire.gov.uk/.[Accessed 08/08/2026].
[413] Lincolnshire County Council (2026) Lincolnshire planning register [Online], Available at: https://lincolnshire.planning-register.co.uk/Disclaimer?returnUrl=%2 F. [Accessed 08/08/2026].
[414] PINS (2026) National Infrastructure Planning [Online], Available at: https://national-infrastructure-consenting.planninginspectorate.gov.uk/. [Accessed 08/08/2026].
[415] Department for Transport (2026) Transport and Works Act applications and decisions [Online], Available at: https://www.gov.uk/government/collections /transport-and-works-act-twa-applications-and-decisions. [Accessed 08/08/2026].