



**The Great Grid Upgrade**

Grimsby to Walpole

# Supplementary Preliminary Environmental Information Report: Section 5 New Weston Marsh Substations A and B

Volume 1 Non-Technical Summary

November 2025

**nationalgrid**

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# Grimsby to Walpole

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# 1. Introduction

## 1.1 Overview

- 1.1.1 Grimsby to Walpole (the Project) is a project proposed by National Grid Electricity Transmission plc (National Grid) to reinforce the high voltage power network in several regions across the East of England. It comprises approximately 140 kilometres (km) of new overhead transmission line, six new 400 kilovolt (kV) substations and approximately 3 km of new underground transmission cable.
- 1.1.2 The Project is defined as a 'Nationally Significant Infrastructure Project' (NSIP). The Planning Act 2008 requires National Grid to make an application to the Secretary of State for development consent to build and operate the Project. Development consent is granted through a Development Consent Order (DCO).
- 1.1.3 This Supplementary Preliminary Environmental Information (PEI) Report has been produced to support a Targeted Statutory Consultation specifically relating to proposed works within Section 5 New Weston Marsh Substations A and B (Section 5). This consultation is titled the 'Weston Marsh Targeted Consultation'.
- 1.1.4 The production of the Supplementary PEI Report follows the previous publication of the June 2025 PEI Report<sup>1</sup> which considered the Project in its entirety. At the time of writing and publishing the June 2025 PEI Report, the design information available for Section 5 of the Project was not as detailed as that produced for other sections. As a result, the preliminary environmental assessment of proposed works within Section 5 reported within the June 2025 PEI Report, was also not of a comparable level of detail to that reported for the other sections.
- 1.1.5 Since publication of the June 2025 PEI Report, further design development work has been completed to confirm the requirement for two substations within Section 5, the preferred locations of the new Weston Marsh Substation A and new Weston Marsh Substation B and the associated overhead line and underground cable connections. The draft Order Limits for Section 5 have also now been defined, whereas the June 2025 PEI Report was based upon a wider 'Refined Weston Marsh Substation Siting Zone' which covered a greater total area than the Section 5 draft Order Limits. This additional design information has facilitated an updated preliminary assessment of the potential likely significant effects (positive or negative) of Section 5.
- 1.1.6 The Supplementary PEI Report therefore aims to ensure that consultees are provided with fuller details of the potential likely significant effects of Section 5 than those presented during the Stage 2 consultation, such that they are able to prepare well-informed responses to the Weston Marsh Targeted Consultation.
- 1.1.7 The latest design proposals within Section 5 do not result in any changes to the PEI reported within the June 2025 PEI Report for other sections of the Project. The updated information provided within the Supplementary PEI Report is specific to Section 5 only, including how the updated preliminary assessment of likely significant

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<sup>1</sup> National Grid (2025). Stage 2 Consultation Preliminary Environmental Information Report [online]. Available at: <https://www.nationalgrid.com/the-great-grid-upgrade/grimsby-to-walpole/document-library#4257225834-2751832287>

effects within the Section 5 Study Area influences the conclusions of the previously published preliminary route-wide assessment.

1.1.8 This Non-Technical Summary (NTS) presents a concise summary of the information set out in greater detail elsewhere within the Supplementary PEI Report for Section 5. The aim of this NTS is to enable local communities and stakeholders to easily understand how the design of the Project in Section 5 has developed and the likely significant environmental effects that could arise.

1.1.9 The findings of the full Environmental Impact Assessment (EIA) will be presented in a document called an Environmental Statement (ES) which will accompany the DCO application.

## 1.2 Structure of this Non-Technical Summary

1.2.1 This NTS includes an outline of the main alternatives considered to date which are relevant to Section 5 of the Project, a description of the Project, the methodology and approach to the Supplementary PEI Report, a summary of the preliminary environmental assessment done to date (split by environmental topic, with a summary of Section 5 followed by a route-wide summary) and next steps. **Table 1.1** sets out further details on the sections of this NTS.

Table 1.1 Structure of this NTS

Section of NTS	What is it about?
1. Introduction	This section presents an introduction to National Grid, what the Project entails, why it is needed and where it is located.
2. Main Alternatives Considered	This section explains the key alternative designs that have been considered to date which are relevant to Section 5 of the Project and provides a summary of how the design has developed to the current stage.
3. Project Description	This section presents the elements of the Project in Section 5 in more detail, what new electricity infrastructure would be implemented and how long construction would take.
4. Approach and Methodology	This section explains the approach to the Supplementary PEI Report and how the preliminary assessments have been undertaken. It also provides an overview of the consultation and stakeholder engagement carried out to inform the development of the Project to date.
5. Preliminary Summary of Environmental Effects	This section presents a summary of the findings of the preliminary environmental assessments for each environmental topic. It

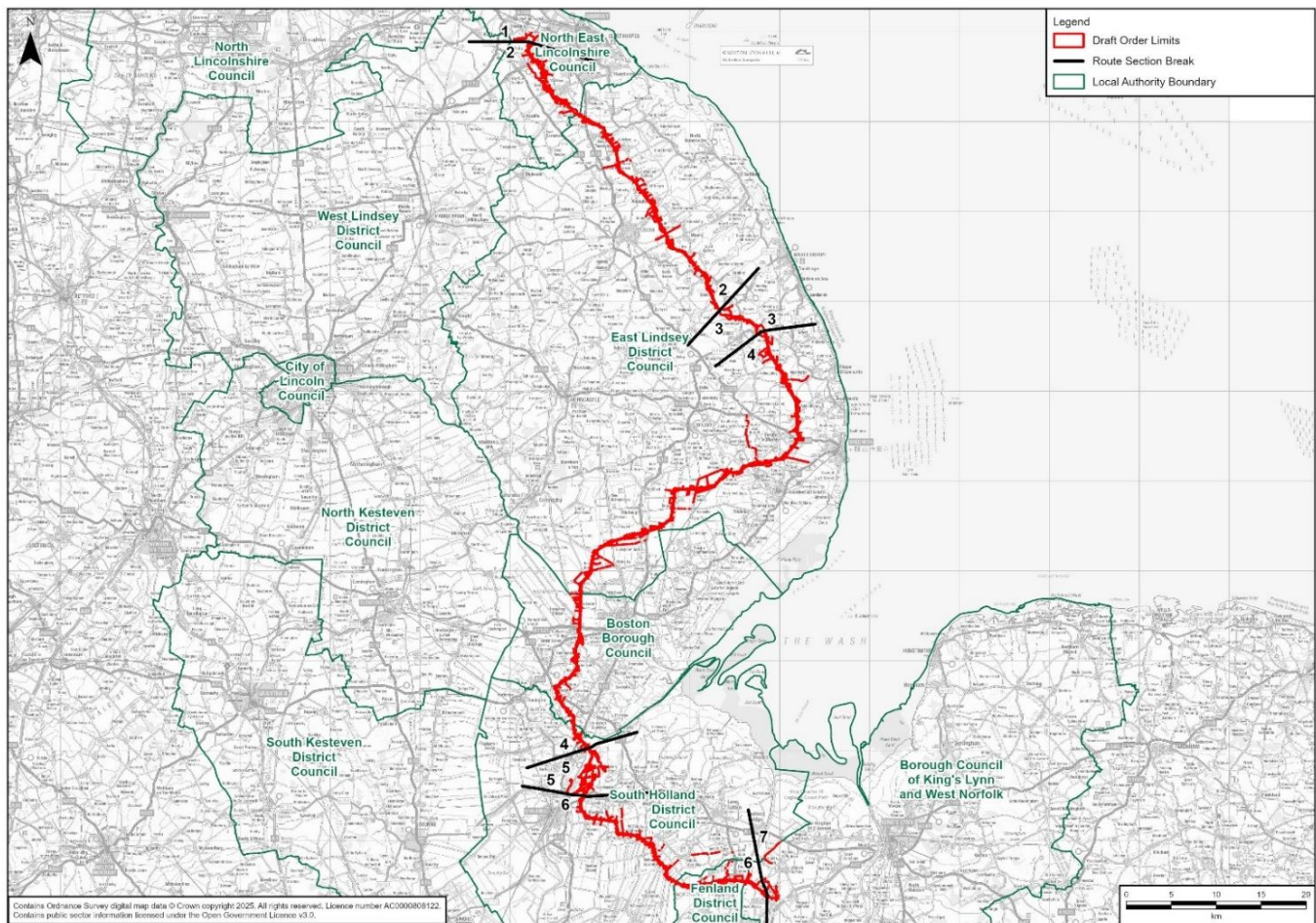
Section of NTS	What is it about?
	describes the key potential environmental effects arising from Section 5 of the Project that have been identified to date.
6. Next Steps	This section explains what happens next in the EIA process and how you can provide feedback to National Grid based on the Weston Marsh Targeted Consultation materials.

## 1.3 What is Grimsby to Walpole?

- 1.3.1 Grimsby to Walpole is a proposed development to reinforce the high voltage electricity power line network between Grimsby in North Lincolnshire and Walpole in Norfolk. It comprises approximately 140 km of new overhead power lines, six new 400 kV substations along the route and an approximately 3km long new underground transmission cable. For the purposes of the PEI, including that previously published within the June 2025 PEI Report and this Supplementary PEI Report, the project has been broken down into seven sections, which comprise:
- i. Section 1: New Grimsby West Substation;
  - i. Section 2: New Grimsby West Substation to New Lincolnshire Connection Substation A;
  - ii. Section 3: New Lincolnshire Connection Substations A and B;
  - iii. Section 4: New Lincolnshire Connection Substation B to New Weston Marsh Substations A and B;
  - iv. Section 5: New Weston Marsh Substations A and B;
  - v. Section 6: New Weston Marsh Substations A and B to New Walpole B Substation; and
  - vi. Section 7: New Walpole B Substation.
- 1.3.2 Image 1.1 provides an overview of the draft Order Limits and the geography of the Project in its entirety.



Image 1.1 Overview draft Order Limits



## 1.4 Who is National Grid?

- 1.4.1 National Grid delivers electricity safely, reliably and efficiently to the customers and communities it serves. Under the Electricity Act 1989, National Grid holds a transmission licence under which it is required to develop and maintain an efficient, coordinated, and economic electricity transmission system.
- 1.4.2 National Grid Electricity Transmission is the part of National Grid applying for development consent for the Project and owns the high voltage electricity transmission system in England and Wales which transports electricity from generators (such as power stations and wind farms) to local distribution network operators (DNOs). DNOs are the companies that own and operate the local power lines and infrastructure that delivers electricity to individual properties. National Grid's transmission network does not connect directly to homes and businesses, because the voltage at which it transmits electricity is too high for domestic and commercial properties.

## 1.5 Why is Grimsby to Walpole Needed?

- 1.5.1 As the UK moves to cleaner, more affordable and more secure sources of energy, such as offshore wind, our infrastructure needs to be upgraded to connect this power to the homes and businesses that need it.

- 1.5.2 The existing transmission network was mostly built in the 1960s, to connect inland coal-fired power stations. Later, gas-fired power stations were connected in areas such as the Humber. However, the Lincolnshire coastal region currently has limited transmission infrastructure, restricting its ability to support new renewable energy connections.
- 1.5.3 Electricity generators such as solar and offshore wind farms apply to the National Energy System Operator (NESO) to connect to the electricity network. Once a connection is contractually secured, National Grid must provide the connection to the network, whilst also making sure the transmission system meets the performance and security standards outlined in NESO's Security and Quality of Supply Standard. For example, the network must be designed to handle existing and new connections in peak demand conditions and to have sufficient spare capacity to prevent widespread supply interruptions when there are certain faults on the network.
- 1.5.4 To understand current and future demands on the electricity network, the concept of network boundaries is used. A boundary splits the system into sections and shows where there are high power flows between parts of the network. When flows across a network boundary are higher than what the network can transport whilst still meeting standards, National Grid must reinforce the network.
- 1.5.5 In the case of the Project, we must build new parts of the network to connect new generation and resolve capacity issues across network boundaries known as B8 and B9, which generally represent power flows between the North of England and the Midlands, and the Midlands and the South of England and East Anglia.
- 1.5.6 When looking at new electricity generation in the area, there are two clusters of new connections that are most relevant. The first is the Creyke Beck generation group. This includes connections to existing substations and contracted new generation comprising offshore wind, interconnectors, energy storage, and combined cycle gas turbine (CCGT) power stations.
- 1.5.7 The second is the East Coast generation group. This area has new contracted generation including offshore wind, energy storage, solar, and CCGTs.
- 1.5.8 Both generation groups require extra capacity in the electricity network to connect new generation and meet NESO's Security and Quality of Supply Standard.
- 1.5.9 Grimsby to Walpole is also needed to provide reinforcement across boundaries B8 and B9, which both need additional capacity by 2035 and 2030 respectively, in accommodating the two generation groups as well as wider increases in the volume of power flowing between the North and South of England.
- 1.5.10 To fix these deficits, B8 needs two 400 kV alternating current (AC) double circuits or six high voltage direct current (HVDC) connections, and B9 needs one 400 kV AC double circuit or three HVDC connections.
- 1.5.11 Upgrades to the existing network alone will not provide sufficient reinforcement, so additional reinforcements through construction of new infrastructure are essential.
- 1.5.12 Grimsby to Walpole will add one of the needed network reinforcements with new overhead line and substation infrastructure to connect new offshore wind, energy storage, solar, interconnectors and CCGT that are contracted to connect to homes and businesses.

## 1.6 The Consenting Process for the Project

- 1.6.1 As the Project is classified as an NSIP, National Grid need to obtain development consent under statutory procedures set by the Government. NSIPs are projects of certain types, over a certain size, which are considered by the Government to be of national importance, hence permission to build them needs to be given at a national level, by the relevant Secretary of State (in this case the Secretary of State for Energy Security and Net Zero). Therefore, instead of applying to local authorities for planning permission, National Grid must apply to the Planning Inspectorate, the government body responsible for operating the planning process for NSIPs, for a DCO.
- 1.6.2 When the DCO application is submitted to the Planning Inspectorate, they will first decide whether to accept the application for Examination. If accepted, the Planning Inspectorate will appoint an independent Inspector or panel of Inspectors (known as the Examining Authority) to examine the application on behalf of the Secretary of State. The Examination is a public process in which interested parties are able to participate.
- 1.6.3 Following Examination, the Examining Authority will make a recommendation to the Secretary of State, who will then decide whether development consent should be granted. The timescale between acceptance of the application and a decision is approximately 18 months.
- 1.6.4 The DCO application for the Project is expected to be submitted in summer 2027.

### Environmental Impact Assessment

- 1.6.5 The Project is classified as an EIA development under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (described throughout this document as ‘the EIA Regulations 2017’). Therefore, National Grid is required to undertake an EIA for the Project.
- 1.6.6 There are three key documents produced at different stages of the EIA process:
- i. EIA Scoping Report: this is prepared early in the EIA process. Its purpose is to define and agree the scope of the EIA including the environmental aspects (or topics) to be addressed as part of the EIA;
  - ii. PEI Report (the current Project stage, covered by both the June 2025 PEI Report and this Supplementary PEI Report): The purpose of the PEI Report is to provide preliminary details of the environmental assessment done to date and report on the anticipated likely significant effects on the environment as a result of the Project; and
  - iii. ES: this forms part of the submitted DCO application. It reports on the likely significant environmental effects occurring as a result of the Project and any mitigation measures which are required. It enables consultees and decision-makers to understand the environmental effects of the Project.
- 1.6.7 The EIA Scoping Report for the Project was submitted to the Planning Inspectorate in August 2024. The Planning Inspectorate provided National Grid with a formal opinion (a Scoping Opinion) on what should be considered within the EIA in September 2024. The Scoping Opinion was also informed by comments from stakeholders.

- 1.6.8 The Supplementary PEI Report has been prepared for the Weston Marsh Targeted Consultation to set out the preliminary environmental information specific to Section 5, including findings from the assessments undertaken to date. The Supplementary PEI Report allows consultees to develop an informed view of the preliminary likely significant environmental effects of Section 5 of the Project and provide any comments on the preliminary findings during the Weston Marsh Targeted Consultation process. These comments will help inform the ongoing development of the Project and the EIA process before the application is made to the Secretary of State.
- 1.6.9 Following Stage 2 consultation and the Weston Marsh Targeted Consultation, the ES will be prepared and this will accompany the application for a DCO.



## 2. Main Alternatives Considered

### 2.1 Introduction

- 2.1.1 This section of the NTS provides a summary of the development of the design for Section 5 of the Project and the main alternatives considered. Further information is contained in the Strategic Options Report<sup>2</sup> (SOR) (and the Grimsby to Walpole – Addendum to Strategic Options Report 2024<sup>3</sup>, and Strategic Options Report Update<sup>4</sup>), Corridor and Preliminary Routing and Siting Study (CPRSS)<sup>5</sup>, June 2025 PEI Report<sup>6</sup>, Design Development Report<sup>7</sup> and **Supplementary Design Development Report for Section 5**.
- 2.1.2 National Grid undertakes options appraisals during the first stage of development for all its new projects. These often identify a number of different approaches a project could take to achieve its stated purpose. This is also known as its ‘Needs Case’, and may include consideration of different locations, technologies or designs.
- 2.1.3 Options appraisal is a robust and transparent process that is used to compare options and to assess the positive and negative effects. Options are appraised across a wide range of criteria including environmental, socio-economics, technical and cost factors, as set out in National Grid’s ‘Our Approach to Consenting’ (National Grid, 2022)<sup>8</sup>. The goal is to find a balanced outcome, bearing in mind National Grid’s statutory duties. The appraisal process is documented to provide, in a transparent manner, information upon which decisions are based.
- 2.1.4 **Image 2.1** shows where the options appraisal sits within National Grid’s approach to project development and delivery (see National Grid’s ‘Our Approach to Consenting’, National Grid, 2022).
- 2.1.5 The current design of the Project (presented in both the completed Stage 2 Consultation and the subsequent Weston Marsh Targeted Consultation) is the result of an iterative process that commenced at the inception of the Project, when the initial need to reinforce the electricity network in the East of England was identified.

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<sup>2</sup> National Grid (2023). Grimsby to Walpole and North Humber to High Marnham Strategic Options Report [online]. Available at: <https://www.nationalgrid.com/electricity-transmission/document/152606/download>

<sup>3</sup> National Grid (2024). Grimsby to Walpole Addendum to the Strategic Options Report. Available at: <https://www.nationalgrid.com/electricity-transmission/document/152611/download>

<sup>4</sup> National Grid (2025). Strategic Options Report Update. North Humber to High Marnham and Grimsby to Walpole. Available at: <https://www.nationalgrid.com/document/560481/download>

<sup>5</sup> National Grid (2024). Grimsby to Walpole Corridor Preliminary Routeing and Siting Study [online]. Available at: <https://www.nationalgrid.com/document/352621/download>

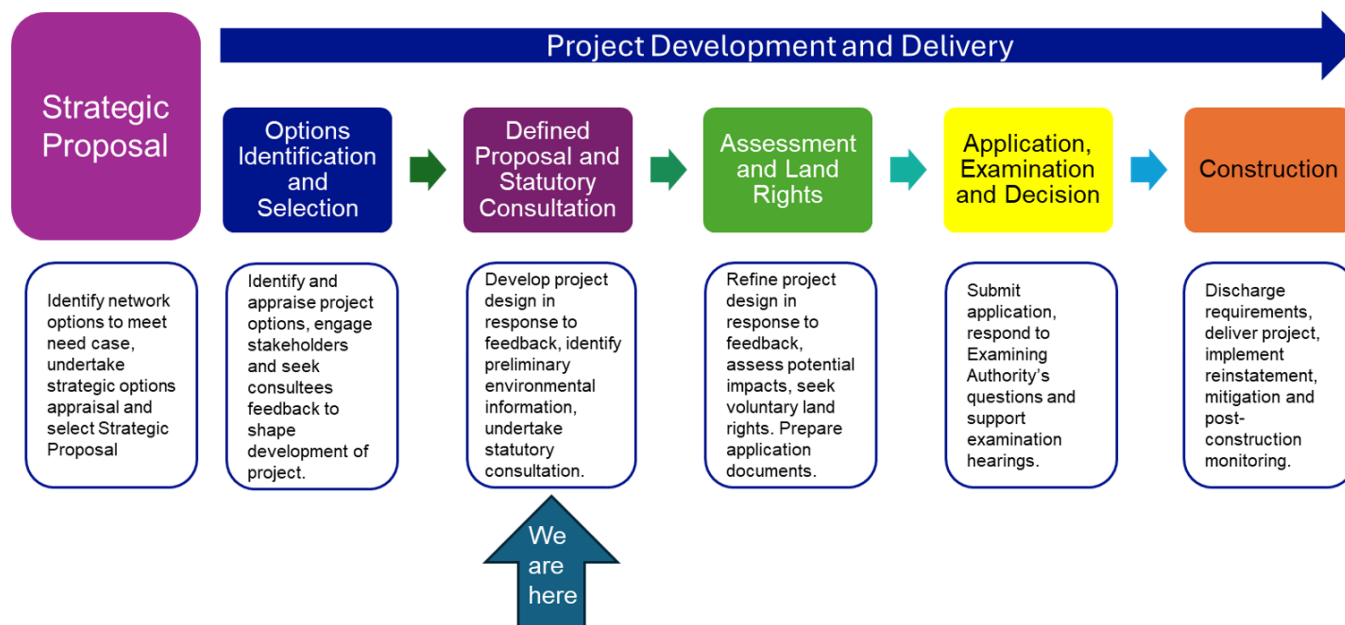
<sup>6</sup> National Grid (2025). Grimsby to Walpole Preliminary Environmental Information Report [online]. Available at: <https://www.nationalgrid.com/the-great-grid-upgrade/grimsby-to-walpole/document-library#4257225834-3023854277>

<sup>7</sup> National Grid (2025). Grimsby to Walpole Design Development Report [online]. Available at: <https://www.nationalgrid.com/the-great-grid-upgrade/grimsby-to-walpole/document-library#4257225834-1773803567>

<sup>8</sup> National Grid (2022). Our Approach to Consenting [online]. Available at: <https://www.nationalgrid.com/electricity-transmission/document/142336/download>

Consideration of environmental, engineering and economic factors has influenced the option identification and selection and the design evolution process. There have also been extensive discussions with relevant stakeholders during the development of the Project.

Image 2.1 National Grid's approach to consenting process



## 2.2 Strategic Proposal

- 2.2.1 Following the needs case being identified, National Grid commenced their optioneering process to determine how to best achieve the objectives of reinforcing the high voltage power network in East of England. The objective of the first stage in the options appraisal process is to determine a preferred strategic option or Strategic Proposal.
- 2.2.2 There were numerous strategic options considered, including a range of different technologies, offshore and onshore options as well as alternative connection points. The strategic options that were capable of meeting the need case were appraised and evaluated across a range of environmental, socio-economic, technical, and cost factors.
- 2.2.3 Following the appraisal, a primarily overhead line connection between a new Grimsby West Substation to a new substation at Walpole via new Lincolnshire Connection Substation(s) (LCS) emerged as the preference. Further work, reported in an Addendum to the SOR, determined that a new substation at Weston Marsh was also necessary. Further work was also undertaken to consider potential electrical configuration options in the Walpole area, including looking at options for use of the existing Walpole Substation. For more details, see the Strategic Options Report Update.
- 2.2.4 Offshore options were found to be substantially more expensive than onshore options, resulting in onshore infrastructure being preferred. The assessment of onshore options considered overhead line routes, however, costs were also presented in the SOR for equivalent underground cable routes. The significant additional costs of undergrounding the full length of the options resulted in overhead



lines being the preferred technology, however, this did not rule out consideration of localised undergrounding.

- 2.2.5 Further detail regarding how the Strategic Proposal was selected is outlined in previous reports, including the Strategic Options Report Update.

## 2.3 Options Identification and Selection

- 2.3.1 Following selection of the Strategic Proposal, National Grid undertook a further study to define the location of the Project infrastructure, the CPRSS. This process identified and assessed preliminary route corridors, siting zones and siting areas<sup>9</sup>, and concluded with the identification of an emerging preferred corridor, preferred siting zones and siting areas, forming an end-to-end solution.
- 2.3.2 Once the corridors, siting zones and siting areas had been identified, an appraisal process was undertaken on the options which considered environmental, socio-economic, technical and cost factors. Options were discounted owing to poor performing cost benefit analysis, the presence of complex environmental constraints and options being more technically complex to construct.
- 2.3.3 Key considerations informing the development and selection of options included using or adapting existing infrastructure, prioritising shorter routes, avoidance or minimisation of impacts to environmental or socio-economic features, and finding more cost-effective options.
- 2.3.4 The routeing and siting stage resulted in an emerging preferred corridor, graduated swathe and a siting zone for the new substations<sup>10</sup> (Grimsby West, LCS A and B, Weston Marsh and Walpole). The CPRSS presents further details on the routeing and siting stage of the Project.
- 2.3.5 This corridor was consulted on as part of the Stage 1 Consultation in 2024, and the feedback from stakeholders (including the local community) was considered and taken into account to help shape and guide the development of the Project.

## 2.4 Consideration of Alternatives and Design Development

- 2.4.1 Following Stage 1 consultation, two core activities informed the ongoing development of design. These were the review of feedback from the Stage 1 consultation and findings from ongoing environmental and other technical studies, including surveys. Alternative approaches to the design of parts of the overhead line were assessed throughout the Project, including routeing of the overhead line, siting of pylons and selection of pylon types. Options were assessed against the current design, considering socioeconomic, environmental and technical factors and were then either incorporated into the design or discounted. Alternative locations and designs of the new substations within Sections 1, 3, and 7 were also considered through this process. Detail on these alternatives and the eventual preferred options can be found in the June 2025 Design Development Report.

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<sup>9</sup> A siting area is an area which has the capacity to accommodate the siting of a single substation. A siting zone is an area which has the capacity to accommodate multiple siting areas.

<sup>10</sup> Note – at CPRSS Stage, only five substations were required. As the Project has been developed, there is the need for six substations to be required, with two now being required at Weston Marsh.

- 2.4.2 Through these activities, the Project design for sections 1 to 4, 6 and 7 of the Project was sufficiently refined to develop the draft Order Limits<sup>11</sup> for these sections and the design information was presented within the Stage 2 Consultation. However, at the Stage 2 Consultation stage, given that the design information available for Section 5 of the Project was not as detailed as that produced for other sections, a 'Refined Weston Marsh Substation Siting Zone' only was presented for Section 5.
- 2.4.3 Feedback provided during both the Stage 1 and Stage 2 Consultations which is relevant to Section 5 has been considered during further option appraisal since June 2025. This feedback has been taken into account, along with environmental and socio-economics constraints and opportunities, engineering feasibility and cost, and planning policy considerations. Further option engineering work and environmental studies have facilitated development of the draft Order Limits for Section 5 of the Project and the design information presented in the Supplementary PEI Report and the Weston Marsh Targeted Consultation materials.
- 2.4.4 The draft Order Limits presented in the Weston Marsh Targeted Consultation are based upon the proposed overhead line alignments (with pylon numbers and locations), new substation layouts and locations, an underground cable connection, construction compounds, third party utilities diversion works, access roads, drainage, environmental mitigation areas, and all temporary works associated with construction and operation (and maintenance) of the Project within Section 5, all of which are indicative.
- 2.4.5 Further information on the development and refinement of the Section 5 design can be found in **Supplementary PEI Report Volume 2 Part A Chapter 3 Main Alternatives Considered** and the **Supplementary Design Development Report for Section 5**.
- 2.4.6 Feedback from the Stage 1, Stage 2 and (once concluded) Weston Marsh Targeted Consultation will continue to be considered as design development activities continue throughout the remainder of 2025 and 2026, in order to develop sufficient design detail for the purposes of the DCO application.

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<sup>11</sup> Draft Order Limits define the boundary of the entire area within which a project could take place, including both temporary and permanent works, as well as works to existing infrastructure.

## 3. Project Description

### 3.1 Key Components of Grimsby to Walpole

3.1.1 Current proposals for the Project in its entirety comprise:

- i. Approximately 140 km of new 400 kV overhead transmission line (see **Image 3.1** for a typical transmission connection);
- ii. A new 400 kV substation to be built in the vicinity of the existing Grimsby West 400 kV Substation in North East Lincolnshire (to be referred to as the new Grimsby West Substation). The existing substation would be partly or fully decommissioned. The extent of decommissioning will be determined and reported in the ES;
- iii. Two new 400 kV Lincolnshire Connection substations located south-west of Mablethorpe in East Lindsey (to be referred to as Lincolnshire Connection Substation A and Lincolnshire Connection Substation B);
- iv. Two new 400 kV substations in the vicinity of the Spalding Tee-Point in South Holland District (referred to as new Weston Marsh Substation A and new Weston Marsh Substation B) and within Section 5 of the Project;
- v. A new 400 kV substation in proximity to the existing Walpole Substation west of the village of Walpole St Andrew and north of the town of Wisbech, in King's Lynn and West Norfolk District (to be referred to as "Walpole B Substation");
- vi. Replacement of short sections of existing 400 kV overhead line and local changes to the lower voltage distribution networks to facilitate the construction of the new overhead line and substations.

3.1.2 Of the above, only those works within Section 5 of the Project are within the scope of the Weston Marsh Targeted Consultation.

### 3.2 Section 5 of the Project

3.2.1 Section 5 of the Project is located entirely within the administrative boundary of South Holland District Council, as illustrated in Figure 1: Environmental Constraints Plan. Land within the Section 5 Study Area is predominantly rural in nature, with large parts of the land under arable farming use. Towns and villages that are located within 5 km of Section 5 of the Project include Spalding, Weston, Moulton, Moulton Seas End and Surfleet Seas End. There are also multiple small settlements and individual properties near to the Section 5 draft Order Limits.

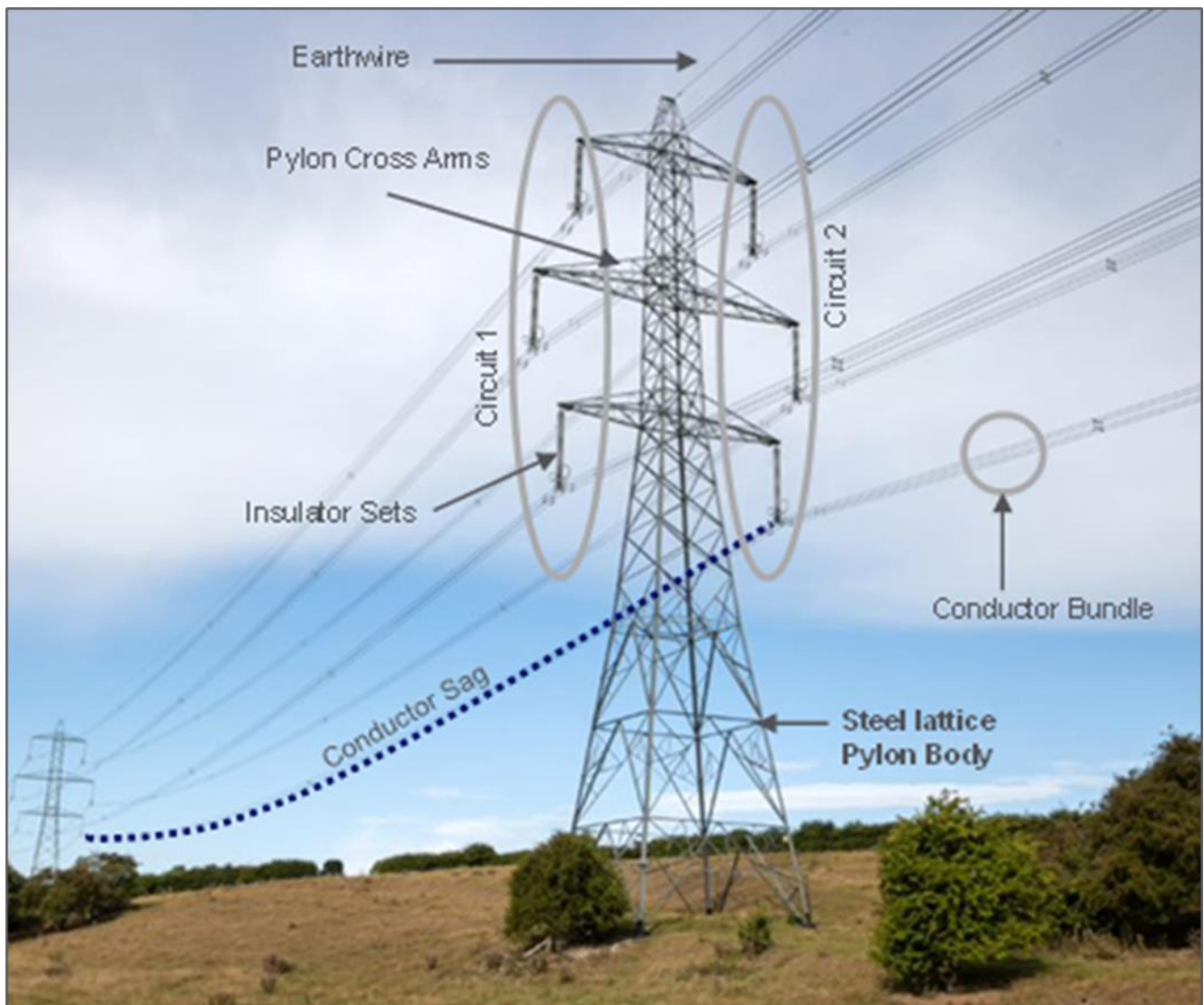
3.2.2 In addition to the two new 400 kV substations in the vicinity of the Spalding Tee-Point (new Weston Marsh Substation A and new Weston Marsh Substation B), the current proposals within Section 5 also include the following:

- i. continuation of the new 400kV overhead line route from the new Lincolnshire Connection Substation B connecting into the new Weston Marsh Substation A, before continuing onwards to the Route Section break between Section 5 and 6;

- ii. new 400kV underground cable between the new Weston Marsh Substation A and new Weston Marsh Substation B;
- iii. modifications to existing 400 kV overhead lines known as 4ZM and 2WS, including diversions;
- iv. permanent removal of a section of the existing 4ZM overhead line and two sections of existing 2WS overhead line route; and
- v. temporary diversions of existing 4ZM overhead line during the construction works.

3.2.3 For the purposes of the Supplementary PEI Report, it has been assumed that the pylon type within Section 5 is a typical steel lattice pylon. The main components of an overhead line and a typical steel lattice pylon are shown in Image 3.1 below. Further detail on the selected pylon model will be included within the ES.

**Image 3.1 Components of a typical transmission connection**



3.2.4 The Project also directly interacts with a number of other National Grid projects. Within Section 5 of the Project, this includes Weston Marsh to East Leicestershire, which is a new onshore network reinforcement proposed to connect with the new Weston Marsh Substation B.

- 3.2.5 Customers currently contracted to connect into the proposed new Weston Marsh Substation A include Outer Dowsing Offshore Wind Farm, Ossian Offshore Wind Farm (Bay 1) and Meridian Solar Farm. Customers currently contracted to connect into the proposed new Weston Marsh Substation B include Spalding photovoltaic (PV) and battery energy storage system (BESS) and Ossian Offshore Wind Farm (Bay 2).
- 3.2.6 Further details are included in **Supplementary PEI Report Volume 2 Part A Chapter 5 Project Description** and **Supplementary PEI Report Volume 2 Part B Chapter 1 Overview of the Section and Description of the Project**.

### 3.3 Construction Programme and Timings

- 3.3.1 Subject to gaining development consent in 2028, it is anticipated that access and construction of the Project would commence in 2029, starting with enabling works including site clearance activities, the installation of construction compounds and access roads. It is expected the main construction works (construction of new substations and overhead line) would continue through to 2033 (four years). Reinstatement would be required following the construction period of up to two years.
- 3.3.2 Further details on the phasing of the Project programme will be set out in the ES. An indicative construction programme for the Project is presented in **Image 3.2**.

Image 3.2 Indicative construction programme

	2029				2030				2031				2032				2033			
ACTIVITY	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Overhead Line</b>																				
Enabling Works																				
Access Works																				
Foundations																				
Pylon Construction																				
Stringing																				
Outage Works for Substation Line Entries																				
Commissioning and Demobilisation																				
<b>Substations</b>																				
Mobilisation (including haul road)																				
Build Up Platform (including drainage)																				
Equipment Bases																				
Operational Building Construction																				
High Voltage Plant Installation																				
Low Voltage Cabling Installation																				
Transformer Installation																				
Mechanical and Engineering Installation (Building)																				
Protection and Controls Installation																				
Low Voltage Cabling Termination																				
Stage 1 Commissioning																				
Stage 2 Commissioning																				
Demobilise/Reinstate																				
Commissioning Complete																				



## Construction Working Hours

- 3.3.3 The proposed core construction working hours are:
- i. Monday to Friday 07:00 – 19:00; and
  - ii. Saturdays, Sundays, Bank Holidays and other Public Holidays 08:00 – 17:00.
- 3.3.4 The core construction working hours would exclude start up and close down activities which would take up to one hour before or after the core construction working hours.
- 3.3.5 It may be necessary to complete works outside of the above hours on occasion for reasons of safety or operational necessity. Further details are provided in **Supplementary PEI Report Volume 2 Part A Chapter 5 Project Description**.



## 4. Approach and Methodology

### 4.1 Purpose of EIA and PEI?

- 4.1.1 EIA is a process for identifying the likely significant environmental effects (positive and negative) of a proposed development to inform the decision-making process for DCOs.
- 4.1.2 Key aims of the EIA process are to understand the current environmental conditions and predicted changes to them in the future (the 'baseline' and 'future baseline' respectively) and how those conditions may change as a result of a proposed project. Those changes are assessed in terms of how 'significant' they would be, and EIA is primarily concerned with 'likely significant effects' and not those considered unlikely to be significant. The EIA process also identifies and incorporates mitigation measures to avoid, reduce or offset any likely significant negative effects, which includes opportunities to enhance the environment through design. The Supplementary PEI Report presents a preliminary assessment of the likely significant environmental effects of Section 5 of the Project, to inform consultation. This follows the publication of the June 2025 PEI Report for the Stage 2 consultation. The purpose of the Supplementary PEI Report is to enable members of the public, consultation bodies, and other stakeholders, to develop an informed view of the preliminary likely significant effects of Section 5 of the Project and comment on aspects of interest (see section 7 on how to provide feedback). Feedback received through the consultation process will be used by National Grid to inform the ongoing development of the Project design, and additional measures to address any identified significant environmental effects.
- 4.1.3 The Supplementary PEI Report has been prepared at a point in time during the EIA process when the design of the Project is still being refined, the likely significant environmental effects are still being assessed and the potential for mitigation measures is being fed back into the design.
- 4.1.4 The full findings of the EIA process for the Project in its entirety will be presented in an ES that will be submitted as part of the application for development consent. The ES provides the public and relevant organisations (such as the Environment Agency, Natural England and Historic England) with the environmental information needed to understand and comment on a development and provides decision-makers with the environmental information to allow a decision to be made whether to grant consent for the development.

### 4.2 Scoping, Consultation and Engagement

- 4.2.1 National Grid is committed to engaging and consulting with communities and stakeholders at an early stage of the Project, giving people the opportunity to provide feedback and insight at a formative stage ahead of more detailed design work being carried out.

## Early Engagement

- 4.2.2 Central to the delivery of the EIA has been, and will continue to be, a focus on engagement with statutory and non-statutory consultees, community stakeholders, and other interested organisations and individuals.
- 4.2.3 A Scoping Report was submitted to the Planning Inspectorate in August 2024. The Scoping Report identified the potentially significant effects requiring assessment, determined the subject matter of the assessment and the methodologies for undertaking the assessment. The Planning Inspectorate subsequently provided a Scoping Opinion, which included comments from a range of stakeholders, on behalf of the Secretary of State, in September 2024.
- 4.2.4 The Scoping Opinion and the consultee responses have subsequently informed the preliminary assessment work and further design evolution to date. Responses to the comments received from the Planning Inspectorate in the Scoping Opinion together with agreement on what has been scoped out of the assessment is provided in **Supplementary PEI Report Volume 3 Part A Appendix 4A Planning Inspectorate Scoping Opinion Responses**.

## Non-Statutory (Stage 1) Consultation and Statutory (Stage 2) Consultation

- 4.2.5 The Supplementary PEI Report has been informed by the Stage 1 consultation undertaken by National Grid in 2024 and the Stage 2 consultation undertaken by National Grid in 2025.
- 4.2.6 Feedback received in 2024 is detailed within the previously published Grimsby to Walpole Stage 1 Consultation Feedback Report<sup>12</sup>, which was published alongside the June 2025 PEI Report during the Stage 2 consultation.
- 4.2.7 At the Stage 1 consultation National Grid sought to identify and understand the views and opinions of stakeholders and communities who may potentially be affected by the Project. National Grid engaged with key stakeholders at a non-statutory stage to provide information about the early development of the Project. These stakeholders included statutory bodies, local authorities, elected representatives, local residents, underrepresented groups, and local interest groups.
- 4.2.8 Following the conclusion of the consultation, feedback was analysed and, along with further technical studies and design work, the Project design was further developed ahead of Stage 2 consultation in 2025.
- 4.2.9 The Stage 2 consultation provided a further opportunity for views to be shared about the updated proposals for the Project. A range of consultation activities were used to make information available and accessible, comprising a dedicated project website with all consultation materials, 12 face-to-face consultation events at venues along the proposed route, five online consultation events, and 14 information deposit locations where consultation materials were available to view. There were also stakeholder briefings for MPs, local elected representatives, parish councils, local authorities, key prescribed consultees and persons with an Interest in Land.

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<sup>12</sup> National Grid (2025). Grimsby to Walpole Stage 1 Consultation Feedback Report [online]. Available at: <https://www.nationalgrid.com/document/560496/download>

- 4.2.10 Proposals for Section 5 were at an early stage of development during Stage 2 consultation, and feedback was sought to help shape the design. At the time of the Stage 2 consultation, the design and siting of up to two substations within Section 5 was still being considered. Since then, the requirement for two substations in the Weston Marsh area has been confirmed and a further consultation, the Weston Marsh Targeted Consultation, is therefore being undertaken by National Grid. Feedback received during the Stage 2 consultation which is specifically relevant to Section 5 is considered within the **Section 5 Consultation Feedback Report**.

### 4.3 PEI Approach and Methodology

- 4.3.1 The EIA considers all relevant topics that may be impacted, such as Landscape, Historic Environment etc. The topics to be included or excluded (or 'scoped out') in the EIA were agreed with the Planning Inspectorate and other stakeholders through the scoping process, with the Planning Inspectorate providing a Scoping Opinion. The Scoping Opinion states the information that the Planning Inspectorate requires to be included (and agreed can be excluded) within an ES.
- 4.3.2 The Supplementary PEI Report presents the preliminary EIA findings which are based on the information available at this stage of the process for Section 5 of the Project. The structure of the Supplementary PEI Report is described in section 4.5 of this NTS.
- 4.3.3 A detailed description of the existing 'baseline' and where relevant 'future baseline' has been produced for the draft Order Limits, and where appropriate the area around the draft Order Limits, through a combination of desk-based studies, engagement and consultation and site-specific surveys.
- 4.3.4 Consideration has then been given to how any potential effects could be avoided, reduced or offset. This is referred to as mitigation. Mitigation measures include those that are intrinsic to and built into the design of Section 5 of the Project (also known as 'embedded mitigation'); good practice control and management measures (also known as 'standard mitigation') included within a Preliminary Code of Construction Practice (CoCP), and other measures that are added to the design purely to mitigate an effect (also known as 'additional mitigation').
- 4.3.5 At this preliminary stage the surveys and assessment work have been progressed to differing degrees for different technical assessment, and mitigation measures have not all been defined or designed.
- 4.3.6 Following the identification of mitigation all preliminary 'potential effects' arising from the construction and operation (and maintenance) of Section 5 of the Project have been identified, for example loss of habitat or change in noise levels. The assessment considers the level of significance of each effect on each 'receptor' (the receiving environment such as water, air, land or specific species). The assessment has been undertaken by EIA specialists including ecologists and archaeologists. The general approach to determining 'significance' of an effect is to consider the sensitivity of a receptor alongside the nature and severity of the change. Details of how effects have been determined to be significant or not-significant for each aspect is provided in each environmental topic chapter of the Supplementary PEI Report.
- 4.3.7 All preliminary residual potential effects are considered as part of the EIA process. However, 'likely significant effects' are the key issues that are identified when

considering the level and type of effect and the sensitivity of the environmental receptor.

4.3.8 EIA also requires the consideration of potential cumulative effects:

- i. Intra-project effects (also referred to as 'inter-relationships between topics') occur when a receptor, resource or group of receptors is potentially affected by more than one source of direct environmental impact resulting from the same development. For example, a community may be affected by noise and dust impacts resulting from the construction phase activities of a single development.
- ii. Inter-project effects (also referred to as 'cumulative effects') occur when a resource or receptor or group of receptors is potentially affected by more than one development at the same time and the impacts act together additively and/or synergistically (Institute of Environmental Management and Assessment, 2011). For example, the construction traffic effects of a development combined with the construction traffic effects of another development may result in additional cumulative effects on the surrounding highway network.

4.3.9 At this stage a screening exercise has been undertaken to identify the planned developments or other development within the area around the Project which have the potential to result in inter-project cumulative effects. A pre-screening exercise of intra-project effects is presented in the Supplementary PEI Report in the form of a matrix showing how impacts on receptor groups may interact between topics.

## 4.4 Mitigation

4.4.1 Environmental assessment has been an integral part of Section 5 of the Project design process since conception, which has meant that Section 5 of the Project has sought to avoid environmentally sensitive features as far as reasonably practicable.

4.4.2 National Grid has also embedded mitigation measures into the design of Section 5 of the Project to avoid or reduce significant effects that may otherwise be experienced during construction and operation of the Project.

4.4.3 Three types of mitigation have been assumed to be incorporated into Section 5 of the Project and the preliminary assessment. These are as follows:

- i. design mitigation measures: measures that are built into the design of Section 5 of the Project (e.g. locating works away from sensitive sites);
- ii. control and management mitigation measures: measures and management activities that would be implemented during the construction of Section 5 of the Project (e.g. good site practice); and
- iii. additional mitigation measures: measures over and above design or control measures which are required to further reduce effects (e.g. planting of woodland).

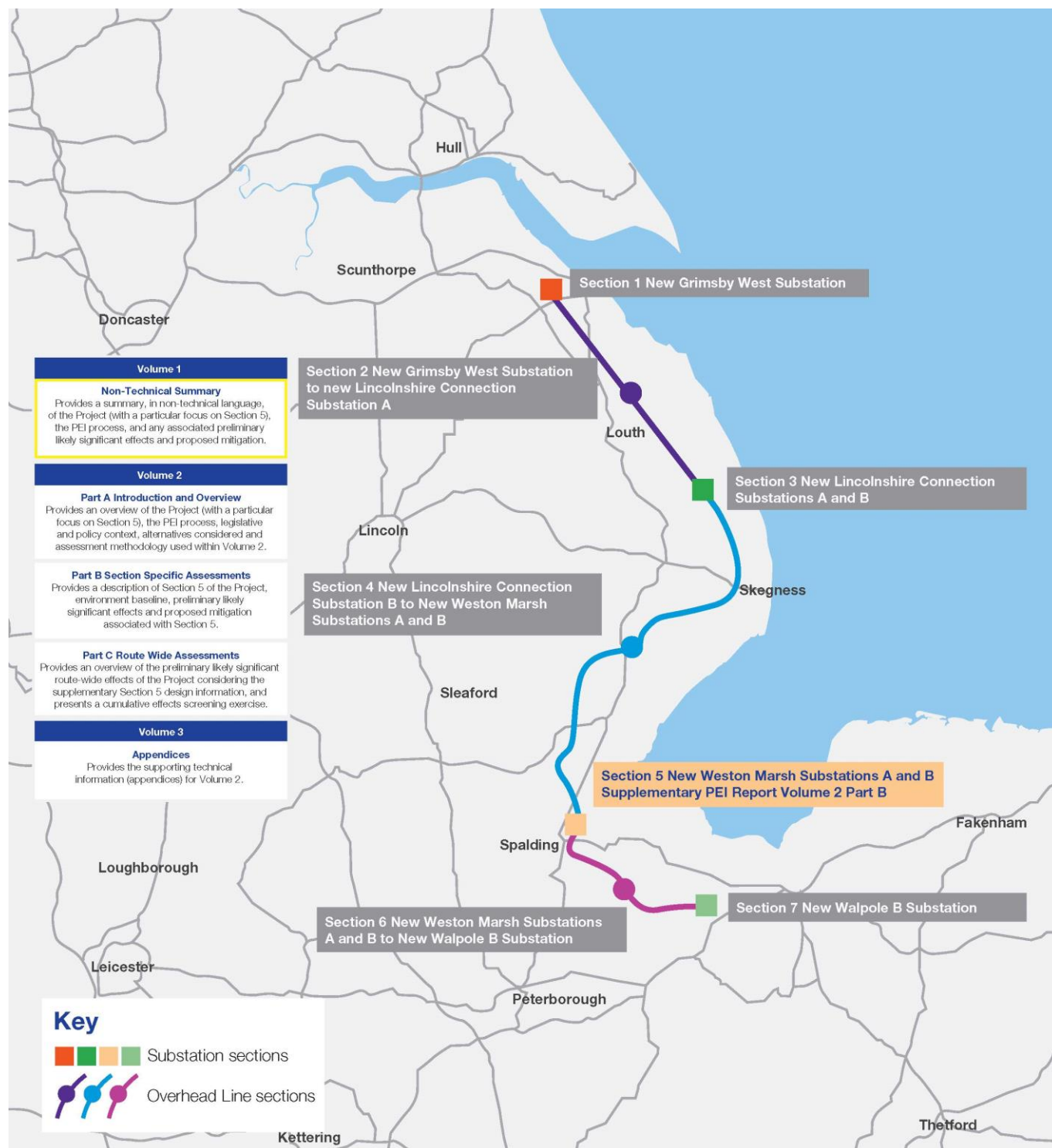
4.4.4 Environmental mitigation measures have been identified within each environmental topic chapter. Preliminary control and management mitigation measures proposed to be implemented during construction are also set out within **Supplementary PEI Report Volume 3 Part A Appendix 5A Preliminary CoCP**.

## 4.5 Supplementary PEI Report Structure

- 4.5.1 The Supplementary PEI Report consists of three volumes containing chapters, appendices and figures. These are:
- i. Volume 1: Non-Technical Summary
  - ii. Volume 2 (Main Report):
    - Part A: presents the introduction and overview of the Supplementary PEI Report, as well as the supporting figures;
    - Part B: contains the environmental assessment specific to Section 5, as well as the supporting figures; and
    - Part C: contains the updated preliminary route-wide assessment, based upon the further design development of proposals within Section 5, as well as the supporting figures.
  - iii. Volume 3: contains the technical appendices in support of Supplementary PEI Report Volume 2.
- 4.5.2 A more detailed overview of the structure of the PEI Report is outlined in **Supplementary PEI Report Volume 2 Part A Chapter 1 Introduction**.
- 4.5.3 The Section 5-specific assessment contained within the **Supplementary PEI Report Volume 2 Part B** has been updated for all environmental topics, to allow information on the impacts and effects of Section 5 of the Project to be accessible on a local level by stakeholders.
- 4.5.4 As reported in the June 2025 PEI Report, for some of the environmental topics a route-wide assessment approach was implemented to enable certain route-wide effects to be assessed at a geographical scale greater than that presented within June 2025 PEI Report Volume 2 Part B. In the Supplementary PEI Report, Part C contains the updated preliminary route-wide assessment, where the further design and construction information relating to Section 5 of the Project is likely to result in new or different Route-wide Effects to those reported within the June 2025 PEI Report.
- 4.5.5 Together, the section specific assessment and the route-wide assessment provide information reasonably required to develop an informed view of the likely significant environmental effects of the Project, specifically due to the proposed works within Section 5.
- 4.5.6 The structure of the Supplementary PEI Report is demonstrated in **Image 4.1** below:



Image 4.1 Structure of the Supplementary PEI Report





# 5. Summary of Preliminary Environmental Assessment

## 5.1 Introduction

5.1.1 This section provides a summary of the preliminary assessments which have been undertaken to identify the likely significant effects of Section 5 of the Project upon the following environmental topics:

- i. Landscape;
- ii. Visual;
- iii. Ecology and Biodiversity;
- iv. Historic Environment;
- v. Water Environment and Flood Risk;
- vi. Geology and Hydrogeology;
- vii. Agriculture and Soils;
- viii. Traffic and Movement;
- ix. Noise and Vibration;
- x. Socio-economics, recreation and tourism;
- xi. Air Quality;
- xii. Health and Wellbeing; and
- xiii. Climate.

5.1.2 It is noted that this is an ongoing assessment and is subject to change due to the ongoing design development of the Project, Weston Marsh Targeted Consultation feedback and further stakeholder engagement. A full assessment will be included within the ES.

## 5.2 Landscape

### Scope and Study Area

5.2.1 The potential interactions between Section 5 of the Project and landscape receptors are assessed in **Supplementary PEI Report Volume 2 Part B Chapter 2 Landscape**. The preliminary assessment covers effects on the following receptors during construction and operation of the Project:

- i. Locally designated landscapes;
- ii. Landscape character types (LCT);
- iii. Regional landscape character types (RLCT); and

iv. Landscape character areas (LCA).

- 5.2.2 Potential effects on National Character Areas (NCAs) will be assessed at the ES Stage.
- 5.2.3 The Study Area for the preliminary assessment extends 5 km from the Limits of Deviation (LoD)<sup>13</sup> for the new 400 kV overhead line. This distance was informed by a zone of theoretical visibility (ZTV) map, the scale and appearance of the pylons and gantries, field survey and professional judgment, and is considered sufficient to capture the likely significant landscape effects of Section 5 of the Project.
- 5.2.4 The ZTV map was produced based on the likely appearance and height of the pylons and gantries for Section 5 of the Project. This shows the geographical area over which the 400 kV overhead line and substations may theoretically be visible. The theoretical visibility of individual pylons is limited to a maximum of 10 km from the LoD of the overhead line.

## Existing Baseline

- 5.2.5 A range of information sources have been used to identify the landscape baseline, such as Ordnance Survey (OS) modelling and mapping, aerial photography, landscape character assessments and other publications. Site surveys were also carried out to help identify viewpoints across the Study Area. Within Section 5, there are no designated landscapes. The NCAs within or partially within the Study Area for Section 5 include NCA 46 The Fens, which are a flat, open and low-lying landscape which drains into the Wash, and RLCT 2A Settled Fens and Marshes categorised by low-lying, intensively farmed land with open views and sparse settlement.

## Mitigation

- 5.2.6 Measures to avoid or reduce effects to the landscape have been included within the design of Section 5 of the Project. These include locating the new Weston Marsh Substations A and B in areas which would reduce the amount of new overhead line and pylons required within the landscape, and locating infrastructure and access in a way which minimises loss of vegetation, which in turn would help to retain existing landscape character.
- 5.2.7 The control and management of environmental effects during the construction of the Project would be managed by a CoCP, which will outline measures to be implemented to reduce effects to landscape features. These include measures such as retaining vegetation where practicable, protecting areas of retained vegetation and implementing plans for replanting upon completion of construction. A Preliminary CoCP is included as **Supplementary PEI Report Volume 3 Part A Appendix 5A Preliminary CoCP**.
- 5.2.8 Additional measures, which may be implemented to reduce effects that still occur despite the inclusion of the designed-in measures and construction management measures above, include woodland planting around the new Weston Marsh Substations A and B to provide visual screening and integrate the substations into the surrounding landscape.

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<sup>13</sup> A Limit of Deviation (LoD) is the maximum extent within which a development can be built.

## Preliminary Assessment

- 5.2.9 The preliminary assessment of effects reported for Section 5 below takes into account the design and control mitigation measures previously described.

### Construction

- 5.2.10 The construction of two new substations, pylons and an underground cable connection in Section 5 would fundamentally alter the character and perception of the landscape within RLCT 2A Settled Fens and Marshes, due to the impact of construction compounds, haul roads, vehicles, and associated activity in the area. The impact on RLCT 2A Settled Fens and Marshes during construction is therefore likely to result in a significant effect upon the landscape.

### Operation

- 5.2.11 Introducing new permanent infrastructure, including two new substations and associated overhead line connections in Section 5, would adversely affect the character and perception of the rural farmland within RLCT 2A Settled Fens and Marshes. The impact on RLCT 2A Settled Fens and Marshes during operation is therefore likely to result in a significant effect upon the landscape.

## 5.3 Visual

### Scope and Study Area

- 5.3.1 The potential interaction between Section 5 of the Project and Visual receptors is assessed in **Supplementary PEI Report Volume 2 Part B Chapter 3 Visual**. The preliminary assessment covers effects on the following receptors during construction and operation of the Project:
- i. communities; and
  - ii. recreational routes and receptors.
- 5.3.2 The Study Area for the preliminary assessment extends 5 km from the Limits of Deviation (LoD) for the new 400 kV overhead line. This distance was informed by a ZTV map, the scale and appearance of the pylons and gantries, field survey and professional judgment, and is considered sufficient to capture the likely significant landscape effects of the Project.
- 5.3.3 The ZTV map was produced based on the likely appearance and height of the pylons and gantries for the Project. This shows the geographical area over which the 400 kV overhead line and substations may theoretically be visible. The theoretical visibility of individual pylons is limited to a maximum of 10 km from the LoD of the overhead line.

### Existing Baseline

- 5.3.4 A range of information sources have been used to identify the visual baseline, such as OS modelling and mapping, aerial photography, and local authority local plans. Site surveys were also carried out.
- 5.3.5 Various communities, defined by parish jurisdiction boundaries, are present within Section 5, including Holbeach, Pinchbeck, Surfleet, Weston, The Moultons, and

Whaplode. The visual assessment is primarily based on community areas with reference to representative viewpoints. As views contribute to the landscape setting enjoyed by people living in and moving around communities there will be an interest in views regardless of their value.

- 5.3.6 Furthermore, people using recreational routes and receptors have been identified within all Section 5. This includes the recreational routes of the Greenwich Meridian Trail and The Macmillan Way.

## Mitigation

- 5.3.7 Measures to avoid or reduce effects upon visual receptors have been included within the design of Section 5 of the Project. These include locating the new Weston Marsh Substations A and B in areas which would reduce the amount of new overhead line and pylons required within the landscape, and locating infrastructure and access in a way which minimises loss of vegetation, which in turn would help to retain existing landscape character and reduce effects on views.
- 5.3.8 The control and management of environmental effects during construction of the Project would be managed by a CoCP, which will outline measures to be implemented to reduce effects to visual receptors. These include measures such as retaining vegetation where practicable, protecting areas of retained vegetation and implementing plans for replanting upon completion of construction. A Preliminary CoCP is included as **Supplementary PEI Report Volume 3 Part A Appendix 5A Preliminary CoCP**.
- 5.3.9 Additional measures, which may be implemented to reduce effects that still occur despite the inclusion of the designed-in measures and construction management measures above, include woodland planting around the new Weston Marsh Substations A and B to provide visual screening and integrate the substations into the surrounding landscape.

## Preliminary Assessment

- 5.3.10 The preliminary assessment of effects reported for Section 5 below takes into account the design and control mitigation measures previously described.

### Construction

- 5.3.11 The construction works within Section 5 would directly impact the community of Weston Parish due to the temporary construction activities associated with new overhead lines, two substations and the underground cable connection. The resulting change to views from within Weston Parish is predicted to result in a likely significant effect during construction.

### Operation

- 5.3.12 Introduction of new permanent infrastructure within the landscape, including overhead lines and two substations, would directly impact the community of Weston Parish during operation. The resulting change to views from within Weston Parish is predicted to result in a likely significant effect during operation.

## 5.4 Ecology and Biodiversity

### Scope and Study/Survey Areas

5.4.1 The potential interaction between the Project and ecological receptors is assessed in **Supplementary PEI Report Volume 2 Part B Chapter 4 Ecology and Biodiversity** and **Supplementary PEI Report Volume 2 Part C Route-wide Chapter 2 Ecology and Biodiversity**. The preliminary assessment covers effects on the following receptors during construction and operation of the Project:

- i. Statutorily designated sites;
- ii. Non-statutory designated sites;
- iii. Ancient woodland;
- iv. Aquatic and terrestrial habitats (including habitats of principal importance);
- v. Protected and notable species (including terrestrial invertebrates, great crested newt, reptiles, wintering birds, breeding birds, badger, bats, otter, water vole, fish, aquatic macroinvertebrates and macrophytes, and other notable species); and
- vi. invasive non-native species (INNS).

5.4.2 The Study Area for the preliminary assessment comprises the area directly affected by the Project and a buffer around the draft Order Limits of Section 5. This buffer varies for different ecological features. These are:

- i. 2 km buffer for protected and notable species and non-statutorily designated sites (e.g. Local Wildlife Sites (LWS), County Wildlife Sites (CWS);
- ii. 5 km for statutory designated sites of national and local nature conservation importance (e.g. Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR)) and wetland birds;
- iii. 10 km for statutory designated sites of international nature conservation importance (e.g. Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites; and
- iv. 30 km for SAC and SPA where bats or bird species with large foraging ranges are noted as qualifying features

5.4.3 The Survey Areas for the ecological field surveys completed to date typically include land within the draft Order Limits plus a wider buffer where the Project could result in impacts upon habitats or species. The buffer varies depending on the ecological feature being surveyed and can range from 30 m from the draft Order Limits to 500 m. Further detail on the Survey Areas for ecological features can be found in **Supplementary PEI Report Volume 3 Part A Appendix 4B Environmental Impact Assessment Methodologies and Scope**.

### Existing Baseline

5.4.4 The existing ecological baseline across the Project has been informed by a range of source information such as online local and national records, aerial photography, and site surveys.

## Designated sites

- 5.4.5 Within the Section 5 Study Area internationally designated sites include Nene Washes SPA and Ramsar site, The Wash SPA and Ramsar site and The Wash and North Norfolk Coast SAC. Nationally designated sites within the Section 5 Study Area include Surfleet Lows SSSI, The Wash SSSI, and Vernatts LNR. Various LWS are also present within the Section 5 Study Area.

## Habitats

- 5.4.6 The land across the Section 5 Study Area includes cropland, hedgerows, woodland, neutral grassland, and aquatic habitats.
- 5.4.7 There are a range of Habitats of Principal Importance within the Section 5 Study Area including coastal and floodplain grazing marsh and hedgerows. An area of broadleaved woodland within the draft Order Limits has not been assessed to date but is potentially also a HPI.

## Protected and notable species

- 5.4.8 Protected and notable species present across the Section 5 Study Area include water vole, wintering birds, breeding birds, badger, bats and hedgehog. Survey work is ongoing and records of species will be updated for the ES.

## Mitigation

- 5.4.9 National Grid has included mitigation measures in the design of the Project to avoid sensitive receptors as far as practicable and reduce effects. Such measures include carefully choosing the locations of pylons and routes of overhead lines to avoid or minimise disturbance to designated sites or species. Other considerations have been made when routeing construction haul roads and ensuring appropriate working distances from notable or protected habitats.
- 5.4.10 The control and management of environmental effects during construction of the Project would be managed by a CoCP, which will outline measures to be implemented to reduce effects upon biodiversity features. These will include measures such as the management of dust, waste, water, noise, vibration and soil, management of lighting, amendments to working hours and measures for the reinstatement of affected land. A Preliminary CoCP is included as **Supplementary PEI Report Volume 3 Part A Appendix 5A Preliminary CoCP**.
- 5.4.11 National Grid also have existing policies and procedures to reduce environmental impacts which will be adhered to during operation and maintenance activities, including water management requirements and vegetation management.
- 5.4.12 Additional measures may be implemented to reduce effects that still occur despite the inclusion of the designed-in measures and construction management measures outlined above. For Section 5, these may include potential skylark and other farmland bird mitigation areas and other breeding bird mitigation areas, which would provide replacement habitats for those lost as a result of the Project.

## Preliminary Assessment

- 5.4.13 The effects presented at this stage are based on the preliminary assessment undertaken to date. The assessment of effects on ecological receptors is ongoing



and the initial findings presented are based on surveys done to date and professional judgement. A precautionary principle has been applied, whereby when information about a particular receptor is incomplete or uncertain, significant effects have not been excluded. Therefore, most of the ecological receptors identified have been retained in the assessment and the significance of effects reported may be greater than that reported in the ES stage, when all survey data has been collated.

- 5.4.14 The preliminary assessment of effects reported for Section 5 below takes into account the design and control mitigation measures previously described. The assessment does not take into account the additional measures at this stage as these are subject to further design refinement.
- 5.4.15 As the design progresses, relevant mitigation measures will be further developed and the assessment of significance for effects may be subject to change. This process will include consideration of opportunities for habitat enhancement and BNG during the ongoing development of the design for the Project. Reinstated and newly created habitats will be monitored and the Project will seek to achieve a 10 per cent net gain in biodiversity.
- 5.4.16 Survey work is ongoing and will continue in 2025 and 2026 to further inform the assessment of impacts, the design of appropriate mitigation measures and the full assessment reported within the ES, which will also be supported by The Report to Inform Habitat Regulations Assessment (HRA).

## **Construction**

- 5.4.17 Internationally designated sites, including the Wash SPA and Ramsar site, The Wash and North Norfolk Coast SAC and the Nene Washes SPA and Ramsar site are located in the Study Area for Section 5. The construction of the Project may cause negative impacts to these sites through pollution (water or air), or habitat loss, noise and disturbance within functionally linked land. The potential for significant effects upon these sites will be assessed within the Report to inform HRA and the ES, and significant effects cannot be excluded at this stage in the assessment.
- 5.4.18 The Wash SSSI and Surfleet Lows SSSI are also located in the Study Area for Section 5, and may be subject to negative effects from construction of the Project, such as disturbance within functionally linked land used by bird species. Potential impacts upon the birds will be assessed in further detail once all baseline surveys are complete and will be reported within the ES.
- 5.4.19 The Surfleet Bank LWS is located partially within the draft Order Limits for Section 5 and Pinchbeck Marsh LWS and Vernatts Drain LWS are located directly adjacent to the draft Order Limits. Habitats within these sites may be lost or damaged during construction, which in turn may affect species associated with these LWS. Measures outlined in the Preliminary CoCP are however expected to minimise impacts upon habitats during construction. Survey work is ongoing and will inform any requirements for additional mitigation or compensation which will be reported within the ES.
- 5.4.20 Important terrestrial habitats throughout Section 5 may also be degraded, damaged, severed or lost as a result of the construction activities. This includes areas of coastal and floodplain grazing marsh habitat located along the River Welland, and small areas of broadleaved woodland. Aquatic habitats, such as watercourses, may be affected where temporary access crossings are needed or may be disturbed by noise and vibration during construction.

- 5.4.21 Construction of the Project in Section 5 may also cause the loss or severance of the habitats for protected or notable species such as great crested newts, reptiles, birds, bats, otters, water vole, fish and other aquatic animals. In a worst-case scenario, there is also a risk of mortality or injury to these species during construction. At this stage, significant effects upon these species cannot be excluded. However, wherever practicable, ongoing design development of the Project will seek to avoid or reduce effects upon important habitats and species.

### Operation

- 5.4.22 Potential effects during the operational phase include an increased risk to birds, from collision with the new overhead line infrastructure, leading to injury/mortality. Bird surveys are ongoing and the collision risk will be assessed in detail in the ES.

## 5.5 Historic Environment

### Scope and Study Area

- 5.5.1 The potential interaction between the Project and heritage assets is assessed in **Supplementary PEI Report Volume 2 Part B Chapter 5 Historic Environment** and **Supplementary PEI Report Volume 2 Part C Route-wide Chapter 3 Historic Environment**.
- 5.5.2 The scope of the preliminary construction assessment covers the following heritage assets:
- i. designated heritage assets (scheduled monuments, listed buildings, conservation areas and registered parks and gardens); and
  - ii. non-designated heritage assets (e.g. buried archaeological remains, earthwork remains, non-designated historic buildings and structures, non-designated historic parks and gardens, tracks/routeways and artefact scatters).
- 5.5.3 The scope of the preliminary operation assessment covers the following heritage assets:
- i. designated heritage assets (scheduled monuments, listed buildings, conservation areas and registered parks and gardens); and
  - ii. non-designated heritage assets (e.g. earthwork remains, non-designated historic buildings and structures, non-designated historic parks and gardens and tracks/routeways).
- 5.5.4 Potential impacts arising from the construction phase on the setting of heritage assets may arise due to:
- i. temporary short-term impacts from construction activities which can be incremental until construction is completed, caused by the movement of mechanical plant, light, noise pollution and dust; and/or
  - ii. permanent long-term impacts as a result of the introduction of the physical form and appearance of the built infrastructure into the landscape during the construction stage and continuing for the operational duration of the Project.
- 5.5.5 Potential impacts arising from the construction phase also include direct physical impacts on designated heritage assets within the draft Order Limits resulting from

construction works e.g. topsoil stripping and groundworks for the construction access haul road, pylon working areas, construction compounds and drainage.

- 5.5.6 For the historic environment assessment, permanent effects due to the long-term presence of the Project in the landscape are reported under the construction phase. The operational phase assessment therefore considers potential effects due to operation of infrastructure only, rather than its physical presence in the landscape.
- 5.5.7 The Section 5 Study Area for the preliminary assessment comprises the area directly affected by the Project and a buffer around the draft Order Limits. This buffer varies for different heritage assets. These are:
- i. 1 km from the draft Order Limits for non-designated heritage assets;
  - ii. 3 km from the draft Order Limits for all designated heritage assets; and
  - iii. 3-5 km from the draft Order Limits for designated heritage assets of high value (World Heritage Sites, scheduled monuments, grade I and II\* listed buildings and grade I and II\* registered parks and gardens) where setting is a key factor in their value and where this setting extends over a large area.
- 5.5.8 Designated heritage assets of high value located beyond the 5 km Study Area have been assessed where there is potential for their setting to be impacted by the Project.

## Existing Baseline

- 5.5.9 The existing Historic Environment baseline across the Project has been informed by a range of source information such as online local and national records, historic mapping, geological mapping, aerial photography and site surveys.

### Designated heritage assets

- 5.5.10 Within the 3 km Section 5 Study Area there are 36 designated heritage assets, including three scheduled monuments, 32 listed buildings, four of which are grade I and 28 of which are grade II, and a single conservation area at Pinchbeck. There are no designated heritage assets within the draft Order Limits.

### Non-designated heritage assets

- 5.5.11 Within the 1 km Section 5 Study Area, there are 59 non-designated heritage assets, seven of which lie within the draft Order Limits. The types of non-designated heritage assets include crop marks, settlement sites, farmsteads and buildings (extant and demolished), moated sites, and earthworks (including roddons and sea defences) amongst others.

### Archaeological and historic background

- 5.5.12 A range of archaeological and historic activity exists across the Section 5 Study Area, this includes deeply buried peat deposits, evidence of medieval occupation and land management, a post-medieval tramway and artefact scatter, and memorials dated to the First World War.

## Mitigation

- 5.5.13 National Grid has included mitigation measures in the design of the Project to avoid designated sites and sensitive receptors as far as practicable and reduce effects. Such measures include carefully choosing the locations of pylons and routes of overhead lines, access roads, construction compounds and temporary structures to avoid or lessen impacts on the setting of heritage assets and buried archaeological remains. Other considerations have been made when routeing construction haul roads and ensuring appropriate working distances from heritage assets.
- 5.5.14 The control and management of environmental effects during construction of the Project would be managed by a CoCP, which will outline measures to be implemented to reduce effects to heritage assets. These will include measures such as the management of lighting, amendments to working hours, management plans for unexpected discoveries of archaeological remains, and re-instatement of hedgerows or fences to screen views of the Project from heritage assets. Archaeological trial trenching and other surveys will be used to evaluate known assets or locations of interest and assess areas where no previously known archaeological remains have been recorded, prior to construction to inform what measures are needed. A Preliminary CoCP is included as **Supplementary PEI Report Volume 3 Part A Appendix 5A Preliminary CoCP**.
- 5.5.15 Additional measures may be implemented to reduce effects that still occur despite the inclusion of the designed-in measures and construction management measures above.

## Preliminary Assessment

- 5.5.16 The preliminary assessment of effects reported for Section 5 below takes into account the design and control mitigation measures previously described.

## Construction

- 5.5.17 The June 2025 PEI Report identified six designated heritage assets which may have been subject to temporary and/or permanent significant effects. However, as there is now more certainty around the design of Section 5, the updated preliminary assessment reported in the Supplementary PEI Report has concluded that the Project would result in likely significant effects upon two designated heritage assets within the Study Area for Section 5. Specifically, the setting of the Wykeham Chapel Scheduled Monument and grade I listed Wykeham Chapel of St Nicholas would be impacted temporarily by construction activities associated with the new Weston Marsh Substation B, new/modified overhead line entries and new underground cable route. The setting of these assets would also be impacted permanently by the presence of the new Weston Marsh Substation B and associated overhead line connections in the landscape.
- 5.5.18 The June 2025 PEI Report identified five non-designated historic farmsteads which may have been subject to significant effects as a result of changes to their setting and one non-designated built heritage asset which may also have been subject to significant effects. However, as there is now more certainty around the design of Section 5, the Supplementary PEI Report has not identified any likely significant effects upon non-designated heritage assets.

## Operation

- 5.5.19 No significant effects are considered likely through operation, over and above those identified in relation to the long-term presence of the Project in the landscape assessed under the construction phase. Further assessment of operational elements will however be undertaken and reported in the ES.

## 5.6 Water Environment and Flood Risk

### Scope and Study Area

- 5.6.1 The potential interaction between the Project and Water Environment and Flood Risk receptors is assessed in **Supplementary PEI Report Volume 2 Part B Chapter 6 Water Environment and Flood Risk** and **Supplementary PEI Report Volume 2 Part C Route-wide Chapter 4 Water Environment and Flood Risk**. The preliminary assessment covers effects on the following receptor groups during construction and operation of the Project:
- i. aquatic environment receptors, including main rivers, Water Framework Directive (WFD) rivers and transitional waterbodies, Internal Drainage Board (IDB)-maintained watercourses and ordinary watercourses;
  - ii. water resource receptors, including licensed surface water abstractions, unlicensed surface water abstractions for private water supply and discharges to surface waters; and
  - iii. flood risk receptors, including property and infrastructure at risk of flooding.
- 5.6.2 The Study Area of the preliminary assessment for the Water Environment and Flood Risk consists of the Section 5 draft Order Limits and an additional 500 m buffer.

### Existing Baseline

- 5.6.3 A range of information sources have been used to identify the Water Environment and Flood Risk baseline, such as Met Office UK Climate averages; the WFD Catchment Data Explorer database; various mapping sources, including OS mapping; and various Environment Agency data sources and flood model outputs. A site walkover was also undertaken in 2025 to supplement the data used at this stage.

### Climate

- 5.6.4 Average annual total rainfall in the locality of Section 5 between 1991-2020 was approximately 623 mm.
- 5.6.5 Across the Eastern and Northeastern England districts there has been minimal increase in annual rainfall between 1991-2020. The average annual maximum temperatures and average annual minimum temperatures both exhibit an increasing trend for the same period.

### Hydrology and surface water features

- 5.6.6 Surface water features identified within the Section 5 Study Area include a network of main rivers, ditches and small watercourses. Tidal main rivers within the Section 5 Study Area include the River Welland and the River Glen.



- 5.6.7 Within the Section 5 Study Area there are also various IDB-maintained watercourses, including watercourses which fall within the district of the Welland and Deepings IDB to the west of the River Welland and the district of the South Holland IDB to the east.

### **Water quality and WFD status**

- 5.6.8 WFD classifications for the water bodies are informed by monitoring a range of parameters that are indicators of water quality from the Environment Agency monitoring sites. Within the Section 5 Study Area, the overall waterbody status of various WFD waterbodies in direct connectivity to the Section ranges from poor to moderate.
- 5.6.9 Furthermore, Nitrate Vulnerable Zones (NVZ) are located with the Study Area for Section 5, including the Glen NVZ, Vernatt's Drain NVZ, Risegate Eau NVZ and Whaplode River NVZ.

### **Surface water dependant nature conservation sites**

- 5.6.10 Within the Section 5 Study Area there are non-statutory nature conservation sites which are dependent on surface water. These include the Blue Gowt Drain North LWS, Pinchbeck Marsh LWS, Surfleet Seas End Saltmarsh LWS and Vernatt's Drain LWS.

### **Water resources**

- 5.6.11 There are four licensed surface water abstractions within the Section 5 Study Area. The Study Area also crosses the Welland Abstraction Licensing Strategy region.

### **Flood risk and land drainage**

- 5.6.12 The Environment Agency Flood Map for Planning provides an indication of the likelihood of flooding from fluvial and tidal sources, with Flood Zones 1, 2 and 3 indicating a Low, Medium and High likelihood of flooding respectively. The majority of the Section 5 Study Area is located within Flood Zone 3 (high risk).
- 5.6.13 All Flood Zones are present across the various Study Areas, although areas of floodplain are much more extensive in the low-lying southern part of the Project area (Sections 4 to 7). Numerous areas at risk of surface water flooding are also present within the Section 5 Study Area.
- 5.6.14 Within the Section 5 Study Area there is no risk of flooding from reservoir failure and risk of flooding from sewers is not considered a significant source of flooding due to the predominantly rural setting.
- 5.6.15 There are various flood defences situated with the Section 5 Study Area including flood defence embankments along the River Welland. Numerous external receptors for flood risk effects have been identified including agricultural land and undeveloped land, agricultural premises and commercial property, residential properties, and essential infrastructure that is vulnerable to flooding.

### **Mitigation**

- 5.6.16 National Grid has included mitigation measures in the design of the Project to avoid sensitive receptors where practicable and reduce potential effects. Measures include

use of Sustainable Urban Drainage Systems (SuDS) as far as practicable at new substations and crossing of large or sensitive watercourses with clear span bridges.

- 5.6.17 The control and management of environmental effects during construction of the Project would be managed by a CoCP, which will outline measures to be implemented to reduce effects on the Water Environment and Flood Risk. These will include use of a Drainage Management Plan, compliance by the contractor with all relevant consent conditions and retention of riverbank and in-channel vegetation where practicable. A Preliminary CoCP is included as **Supplementary PEI Report Volume 3 Part A Appendix 5A Preliminary CoCP**.
- 5.6.18 Based on the preliminary assessment presented below, additional mitigation measures are not anticipated to be required in relation to effects on the aquatic environment and water resources and are not assumed within the assessment of effects. However, this will remain under review during the completion of further assessment and development of the ES.
- 5.6.19 Additional mitigation may be necessary to avoid effects upon flood risk receptors, subject to ongoing flood modelling work and consultation with the relevant flood risk management authorities, including the Environment Agency. The outcomes of this process and will be presented in the ES. At this stage, a precautionary approach has been taken whereby potential effects upon flood risk have been assessed without additional mitigation being in place.

## Preliminary Assessment

- 5.6.20 The preliminary assessment of effects reported for Section 5 below takes into account the design and control mitigation measures previously described.

## Construction

### Water environment and resource receptors

- 5.6.21 Based on the preliminary assessment, no significant effects upon watercourses within the Study Area are anticipated, given the control measures included within the Preliminary CoCP.

### Flood risk receptors

- 5.6.22 The construction works associated with the two new substations within Section 5 are predominantly located within Flood Zone 3. Activities within the floodplain would include the construction of access routes, compounds, watercourse crossings and stockpiling of materials (e.g. due to temporary storage of soils or imported aggregate). These activities could potentially result in the temporary loss of floodplain storage and/or a change in floodplain flow conveyance, which in the absence of additional mitigation could result in significant effects upon flood risk receptors.

## Operation and maintenance

- 5.6.23 During the operational phase of the Project, the permanent presence of the two new substations within the floodplain may lead to loss of floodplain storage and/or a change in floodplain flow conveyance. In the absence of additional mitigation, these impacts could result in significant effects upon flood risk receptors. It should however be noted that the impacts of the presence of two new substations upon flood risk are

subject to further assessment and ongoing design development, which will include consideration of the need for flood protection and compensatory flood storage.

## 5.7 Geology and Hydrogeology

### Scope and Study Area

- 5.7.1 The potential interaction between The Project and Geology and Hydrogeology receptors is assessed in **Supplementary PEI Report Volume 2 Part B Chapter 7 Geology and Hydrogeology**.
- 5.7.2 The scope of the construction assessment covers the following receptor groups:
- human health (in the context of land contamination only);
  - groundwater aquifers;
  - groundwater abstractions;
  - soil/land quality (in the context of land contamination only);
  - structures; and
  - designated geological conservation sites (although no assessment is required as there are no designated sites present within influencing distance of the draft Order Limits).
- 5.7.3 The scope of the operation assessment covers the following receptor groups:
- human health (future land users) – only in the context of land contamination assessments;
  - groundwater aquifers;
  - groundwater abstractions; and
  - structures.
- 5.7.4 For the purposes of the Geology and Hydrogeology assessment, a general Study Area of the draft Order Limits plus a 250 m buffer for geological receptors and a 500 m buffer for hydrogeological receptors has been applied.

### Existing Baseline

- 5.7.5 Baseline conditions have been identified from existing desk-based records, including: geological information available from the British Geological Survey (BGS); historical Ordnance Survey mapping; hydrogeological records, such as aquifer mapping and groundwater protection designations (available from the Department for Environment, Food and Rural Affairs (Defra) and the Environment Agency); Local Authority records; commercially available geo-environmental data sets and various other data sources.

### Geology

- 5.7.6 The Section 5 Study Area is almost entirely underlain by mudstone of the Oxford Clay Formation with Mudstone and siltstone of the West Walton Formation recorded within the south of the Section 5 Study Area. This bedrock geology is overlain by a

cover of more recent superficial deposits. Within Section 5, these comprise Tidal Flat deposits, generally described by the BGS as consisting of clay and silt, but locally also containing a notable proportion of sand based on historical logs in this area.

### Hydrogeology

- 5.7.7 The superficial deposits (Tidal Flat deposits) and solid strata (mudstone of the Oxford Clay Formation and mudstone and siltstone of the West Walton Formation) across the Section 5 Study Area are designated as Unproductive Strata.

### Environmental setting

- 5.7.8 Within Section 5, South Holland District Council does not record any sites formally designated as Contaminated Land. The majority of the land in the Study Area has been agricultural both historically and at present, although there are occasional localised areas of other previous land uses within the Study Area (e.g. isolated areas with tanks marked on historical mapping) that may have introduced contamination.
- 5.7.9 There are no recorded safeguarded minerals or mineral safeguarding areas within the Section 5 Study Area.

### Mitigation

- 5.7.10 The Project and draft Order Limits have been designed to avoid sensitive receptors, such as landfills and designated geological sites, as far as practicable.
- 5.7.11 The control and management of environmental effects during construction of the Project would be managed by a CoCP. This will outline measures to be implemented to reduce effects on the Geology and Hydrogeology receptors during construction. These will include appropriate training of construction and maintenance workers, general good practice contamination avoidance and waste management procedures and compliance by the contractor with all relevant consent conditions. A Preliminary CoCP is included as **Supplementary PEI Report Volume 3 Part A Appendix 5A Preliminary CoCP**.
- 5.7.12 A Preliminary CoCP is included as **Supplementary PEI Report Volume 3 Part A Appendix 5A Preliminary CoCP**, which outlines the control and management mitigation measures to be implemented during the construction of the Project to prevent or reduce effects upon Geology and Hydrogeology receptors.
- 5.7.13 At this stage of assessment, additional mitigation measures are not anticipated to be required in relation to Geology and Hydrogeology effects. However, this will remain under review during the completion of further assessment and development of the ES.

### Preliminary Assessment

- 5.7.14 The preliminary assessment of effects reported for Section 5 below takes into account the design and control mitigation measures, as previously described.

### Construction

- 5.7.15 The Study Area for Section 5 is uniformly underlain by Unproductive Strata (Tidal Flat deposits over Jurassic mudstones and siltstones), with no recorded groundwater

abstractions. As such, the hydrogeological sensitivity is low and no significant effects are expected.

- 5.7.16 The risks to human health or low sensitivity groundwater from land contamination are generally considered to be low based on the recorded previous land use, and can be managed through the control measures in the Preliminary CoCP.
- 5.7.17 Based upon the preliminary assessment, no significant effects are predicted for Geology and Hydrogeology receptors within Section 5 as a result of the construction phase of the Project.

### Operation

- 5.7.18 The construction of the proposed new Weston Marsh Substations A and B in Section 5 will introduce new impermeable surfacing and engineered drainage. This would not be expected to significantly affect groundwater resources (levels or quality) in the area. Therefore, there is not considered to be a significant effect.
- 5.7.19 As per the preliminary assessment provided in the June 2025 PEI Report, the Supplementary PEI Report has predicted that there are no likely significant effects for Geology and Hydrogeology receptors within Section 5 as a result of the operation and maintenance of the Project.

## Summary of Route-Wide Effects

### Minerals Safeguarding

- 5.7.20 A route-wide assessment of the potential effects of the Project on safeguarded minerals has been carried out. This has identified three categories of safeguarded minerals within the draft Order Limits: glaciofluvial sand and gravel, alluvium (sand and gravel), and limestone. There is also a Mineral Safeguarding Area for oil workings associated with the Keddington Oil Well site in Section 2, although this relates to the workings (oil) rather than the mineral deposit itself.
- 5.7.21 The minerals safeguarding assessment indicates that the construction and operation of the Project does not have the potential to cause significant effects, due to factors such as the small extent of the glaciofluvial deposits, the presence of silt and clay within the alluvium, and the presence of interbedded mudstone in the limestone, all of which mean that it is highly unlikely that the minerals would be worked commercially in the draft Order Limits.
- 5.7.22 It is therefore concluded, based on the route-wide minerals safeguarding assessment, that there are no potentially significant effects in relation to mineral safeguarding requiring further assessment by EIA.

## 5.8 Agriculture and Soils

### Scope and Study Area

- 5.8.1 The potential interaction between the Project and agricultural and soil receptors are assessed in **Supplementary PEI Report Volume 2 Part B Chapter 8 Agriculture and Soils** and **Supplementary PEI Report Volume 2 Part C Route-wide Chapter 5 Agriculture and Soils**. The preliminary assessment covers effects on the following, during construction and operation (and maintenance) of the Project:



- i. Agricultural Land Classification (ALC), including Best and Most Versatile (BMV) land;
- ii. soil function; and
- iii. Agricultural Landholdings.

5.8.2 The Study Area for the assessment of Agriculture and Soils comprises the Section 5 draft Order Limits. The assessment is confined to within this boundary as no land will be affected outside of this.

5.8.3 To inform the assessment of impacts on farm holdings, broad data on agricultural landholdings will be collected through on-going discussions with landowner/occupiers or their land agents, via the Project's Lands Team. A preliminary overview of landowner/occupier information has been used to inform the preliminary assessment. This does not, for the Supplementary PEI Report, include an assessment of individual landholdings in terms of viability (such as disruption or proportion of landholding taken temporarily or permanently); an assessment will be presented in the ES based on the further information currently being collated,. This will include consideration of any permanent impacts on land uses which may be considered more sensitive (such as orchards, high value cropping systems or livery stables).

## Existing Baseline

5.8.4 A desk study was undertaken drawing on information from existing mapping from the BGS, OS, National Soil Association Map, Agricultural Land Classification (ALC) mapping and maps of agri-environmental, woodland and forestry schemes.

## Geology

5.8.5 Within Section 5, the underlying bedrock geology is mudstone, Oxford Clay Formation. Clay and silt tidal flat deposits form the superficial drift present.

## Soils

5.8.6 Available national soil survey mapping data indicates that soils across Section 5 of the Project belong to the Wisbech Association: deep, stoneless, calcareous, coarse silty soils. These will be providing a range of soil functions, and as such are considered to have a range of sensitivities from very high to medium.

## Agricultural Land Classification

5.8.7 The Provisional ALC mapping shows that land within the Section 5 draft Order Limits comprises Grade 1 land (excellent quality agricultural land).

## Woodland and Forestry Scheme

5.8.8 Woodland and Forestry Schemes are government provided incentives that reward landowners for the creation and management of woodlands. There is a Woodland Grant Scheme area crossed by the Section 5 draft Order Limits, west of Crown Farm.

## Agri Environment Schemes

5.8.9 Agri Environment Schemes comprise government funding to farmers and land managers to support activities which improve the local environment. A Countryside

Stewardship (Middle Tier) Scheme is in place at Crown Farm and has a small overlap with the Section 5 draft Order Limits.

### Land use

- 5.8.10 Aerial imagery and OS mapping indicate that the agricultural land use within the Section 5 draft Order Limits is predominantly arable, with some grassland and woodland areas. Field boundaries are lined with hedges, trees, ditches and roads.

### Agricultural Landholdings

- 5.8.11 The Section 5 draft Order Limits intersect approximately 30 landholdings.

### Mitigation

- 5.8.12 The Project and draft Order Limits have been designed to avoid significant effects as far as practicable. This has included rationalising the design to minimise the temporary and permanent land take required and positioning infrastructure (such as pylons and access routes) as close as is practicable to field boundaries to minimise impacts to agricultural operations.
- 5.8.13 The control and management of environmental effects during construction of the Project would be managed by a CoCP. A Preliminary CoCP is included as **Supplementary PEI Report Volume 3 Part A Appendix 5A Preliminary CoCP**, which contains a list of relevant good practice measures relating to Agriculture and Soils. These include reinstatement of land used temporarily to its pre-construction condition and use; undertaking works in accordance with good practice soil handling techniques; and where practicable and safe to do so, maintaining access to land and field access points throughout the construction period.
- 5.8.14 Within Section 5, proposed overhead line works would result in the loss of woodland which has been identified as a Woodland Grant Scheme site. Mitigation strategies will be addressed as part of the ES, and it is likely that this will include financial compensation relating to the terms of the Woodland Grant Scheme.

### Preliminary Assessment

- 5.8.15 The preliminary assessment of effects reported for Section 5 below takes into account the design and control mitigation measures previously described.

### Construction

#### Agricultural Land Classification

- 5.8.16 The agricultural land required in Section 5 is mapped as Provisional ALC Grade 1, and as such is considered likely to comprise BMV land. Grades 1 and 2 land is considered to have a very high sensitivity.
- 5.8.17 The total extent of land required during construction would be 362.6 ha. Of this, 255.7 ha would be reinstated to its preconstruction condition and grade. The land required includes all agricultural land needed for the construction of the proposed Project infrastructure, including substations, pylons, access roads and temporary works. The likely effect of this extent of temporary land take is considered to be significant.

- 5.8.18 Of the land required during construction, 106.9 ha would be required for permanent infrastructure (substations, pylon footings and foundations). The permanent loss of this land (assumed to be BMV land) is assessed as a likely significant effect.

#### Soil function

- 5.8.19 The permanent loss of 106.9 ha of soils would affect the associated soil ecosystem services. However, where practicable, all surplus soil resources would be re-used within the Project. It is therefore anticipated that some soil ecosystem services will be retained, restored or potentially enhanced, dependent on the proposed land use. Until it can be confirmed how practicable it will be to re-use the soil resources it is considered that permanent loss of 106.9 ha of soils would result in an impact of large magnitude on soil function and a likely significant effect.

#### Operation and maintenance

- 5.8.20 Based upon the preliminary assessment, no further likely significant effects are expected to occur on Agriculture and Soil receptors during the operation and maintenance phase of the Project.

## 5.9 Traffic and Movement

### Scope and Study Area

- 5.9.1 The potential interaction between the Project and Traffic and Movement receptors is assessed in **Supplementary PEI Report Volume 2 Part B Chapter 9 Traffic and Movement**. The preliminary assessment covers effects on the following receptors during construction and operation of the Project:
- i. road users (drivers of all vehicles, including Heavy Goods Vehicles (HGVs) and emergency services) of the highway network;
  - ii. public transport users (bus passengers) of the highway network;
  - iii. pedestrians and cyclists on the highway network;
  - iv. railway users;
  - v. navigable waterway users; and
  - vi. pedestrians, cyclists and equestrians on Public Rights of Way (PRoW) and promoted/recreational routes.
- 5.9.2 The Study Area for Traffic and Movement comprises highway links assumed to be used to provide access for construction vehicles and considers the impacts to traffic, bus routes and pedestrian/cycle routes along these highway access routes. The Study Area also includes pedestrian/cycle/equestrian routes and PRoW networks as well as any railways and waterways that may be crossed by the draft Order Limits.

### Existing Baseline

- 5.9.3 A range of information sources have been used to identify the Traffic and Movement baseline, including: review of Google Maps and OS open maps; identification of designated non-motorised user routes for pedestrians, cyclists and equestrians from Sustrans, the Long Distance Walkers Association and Local Authority

Definitive/PRoW map(s); rail information from National Rail; waterways information from the EA, Navigation Authority and The Inland Waterways Association; data from the Department for Transport (DfT), including traffic count data and personal injury collision accident data and traffic growth factors. Traffic count data has also been obtained from site surveys which are continuing in 2025 and 2026.

- 5.9.4 Section 5 contains highway links which form part of the Primary Access Routes and Workers Access Routes. Primary Access Routes are identified as a series of roads and junctions, between the Strategic Road Network (SRN)<sup>14</sup> and the site accesses, suitable for access by large construction vehicles, that are planned to be used by HGVs. Workers Access Routes are identified as a series of roads and junctions which are not promoted as construction HGV routes, but which could be used by workers to travel to site. These are identified as likely routes between residential areas, key employment/skills centres and the site accesses. A description of each of these links, including the type of carriageway, character, speed limits, highway constraints, presence of street lighting, bus routes, on-carriageway parking, and pedestrian, equestrian and cycle provision, can be found in **Supplementary PEI Report Volume 2 Part B Chapter 9 Traffic and Movement**.
- 5.9.5 Where available, baseline traffic flows are taken from the DfT's traffic counters and traffic surveys have been undertaken on links that do not have available or recent DfT counts. Appropriate growth factors have been applied to the count data where required to present all traffic data for a consistent 2024 Base Year. Sensitive receptors along each highway link within the Section 5 Study Area have been identified. In addition, collision data has been used to identify collision clusters at various locations along the highway links and a congestion rating has also been identified. Furthermore, bus services that run along some highway links forming the Primary Access Routes and Worker Access Routes have been identified.
- 5.9.6 No rail lines are crossed by the Section 5 draft Order Limits. The Section 5 draft Order Limits cross the River Welland, a navigable waterway, to the north east of Spalding. There are also a number of PRoWs and Promoted/Recreational Routes potentially affected by the proposed works within the Section 5 draft Order Limits.

## Mitigation

- 5.9.7 National Grid has included mitigation measures in the design of the Project to avoid sensitive receptors and reduce potential effects as far as practicable. For Traffic and Movement, relevant design refinement that has taken place includes construction traffic being routed along classified roads as far as practicable; planned use of haul roads to route construction vehicles off the public highway where practicable; use of existing vehicle crossings where practicable and avoiding access crossings of rail lines or navigable waterways; keeping road closures/diversions to a minimum, and avoiding or minimising PRoW closures/diversions where practicable.
- 5.9.8 The control and management of environmental effects during construction of the Project would be managed by a CoCP, which will outline measures to be implemented to reduce effects on Traffic and Movement. These will include careful management of PRoW closures and diversions set out through a Public Rights of Way Management Plan (PRoWMP) and use of a Construction Traffic Management Plan (CTMP), which will set out construction details including vehicle types, routes,

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<sup>14</sup> The Strategic Road Network is the national network of motorways and major A roads maintained and operated by National Highways

working hours, welfare arrangements and monitoring systems. A Preliminary CoCP is included as **Supplementary PEI Report Volume 3 Part A Appendix 5A Preliminary CoCP**.

- 5.9.9 Additional mitigation measures are not anticipated to be required in relation to Traffic and Movement effects. However, this will remain under review during the completion of further assessment and development of the ES.

## Preliminary Assessment

- 5.9.10 The preliminary assessment of effects reported for Section 5 below takes into account the design and control mitigation measures previously described.
- 5.9.11 At this preliminary stage, significant effects upon users of some highway links during construction cannot be ruled out. Highway links requiring more detailed assessment have been identified within the Supplementary PEI Report and will be discussed and agreed with the relevant highway authorities. No detailed assessment, in terms of severance, delay (junction assessment), highway safety and fear and intimidation, has yet been undertaken to determine the magnitude of impacts. Subsequent effects upon users of the highway network as a result of the Project will be reported in the ES.

## Construction

- 5.9.12 During construction in Section 5, drivers, bus passengers, pedestrians and cyclists may be impacted by increased construction traffic flows. For drivers, increased construction traffic flows may cause severance, changes in journey time, driver delay and highway safety effects on some sections of the A16, Marsh Road, Stone Gate, A151 and the A17. Bus passengers may be impacted by delays due to congestion on these highway links where bus services run. Meanwhile, pedestrians and cyclists may be impacted by severance, delay, increased journey time, decline in amenity, additional fear and intimidation and safety effects on some sections of the A16.

## Operation

- 5.9.13 Based on the preliminary assessment, no likely significant effects are predicted for Traffic and Movement during operation, given the projected volume of operational and maintenance traffic is predicted to be low.

## 5.10 Noise and Vibration

### Scope and Study Area

- 5.10.1 The potential interaction between the Project and Noise and Vibration sensitive receptors is assessed in **Supplementary PEI Report Volume 2 Part B Chapter 10 Noise and Vibration**. The preliminary assessment covers the following effects on receptors during construction and operation of the Project:
- i. construction noise;
  - ii. construction vibration on people within buildings;
  - iii. construction vibration on buildings and structures;
  - iv. construction traffic noise;



- v. operational noise from proposed operational plant (e.g. transformers) within proposed new substations; and
  - vi. operational noise and vibration from substantial maintenance activities.
- 5.10.2 The Study Area for the preliminary assessment for Noise and Vibration consists of the Section 5 draft Order Limits and an additional 1 km buffer.

## Existing Baseline

- 5.10.3 A range of information sources have been used to identify the Noise and Vibration baseline, such as OS mapping and AddressBase Plus data and Defra strategic noise mapping.
- 5.10.4 Section 5 is located within a predominantly rural area. Therefore, many of the Noise Sensitive Receptors (NSR) within the Study Area are isolated dwellings, farms and those located in small settlements. Assessed NSRs also include those located within several built-up areas and villages, including Surfleet Seas End, Spalding and Weston.
- 5.10.5 The noise environment is expected to vary around the Section 5 Study Area depending on the nature of localised areas. For example, close to noise sources, such as roads and in built up areas, ambient noise levels are expected to be higher. Further away from road and rail sources and in rural areas, ambient and background noise levels would be expected to be lower.
- 5.10.6 The main sources of environmental noise within the Section 5 Study Area include the A16 and the A151, as well as local roads. In terms of industrial sources, the main source of noise is likely to be agricultural activity.

## Mitigation

- 5.10.7 National Grid has included mitigation measures into the design of the Project to avoid sensitive receptors as far as practicable and reduce potential significant effects. Such measures include carefully choosing the locations of pylons and routes of overhead lines to avoid or minimise disturbance to receptors during construction. Furthermore, the proposed overhead line system is a 'Triple Araucaria' conductor bundle which is regarded as practically quiet during operation in both dry and wet weather conditions.
- 5.10.8 The control and management of environmental effects during construction of the Project would be managed by a CoCP, which will outline measures to be implemented to reduce effects on Noise and Vibration. These include Best Practicable Means (BPM) measures and detailed construction noise and vibration assessments being carried out by the contractor. A Preliminary CoCP is included as **Supplementary PEI Report Volume 3 Part A Appendix 5A Preliminary CoCP**.
- 5.10.9 Additional mitigation measures are not anticipated to be required in relation to Noise and Vibration effects. However, this will remain under review during the completion of further assessment and development of the ES.

## Preliminary Assessment

- 5.10.10 The preliminary assessment of effects reported for Section 5 below takes into account the design and control mitigation measures previously described.

## Construction

- 5.10.11 Based on the preliminary assessment provided in the Supplementary PEI Report, five residential NSR would potentially experience Noise and Vibration impacts from pylon construction and construction of accesses, without mitigation. However, construction Noise and Vibration impacts would be reduced to levels which would not result in significant Noise and Vibration effects with specific mitigation measures in place, in the form of BPM as set out in the Preliminary CoCP. Therefore, no likely significant effects are predicted for Noise and Vibration during construction.

## Operation

- 5.10.12 Based on the preliminary assessment, no likely significant effects are predicted for Noise and Vibration during operation.

## 5.11 Socio-economics, Recreation and Tourism

### Scope and Study Area

- 5.11.1 The potential interaction between the Project and socio-economics, recreation and tourism receptors is assessed in **Supplementary PEI Report Volume 2 Part B Chapter 11 Socio-economics, Recreation and Tourism** and **Supplementary PEI Report Volume 2 Part C Route-wide Chapter 6 Socio-economics, Recreation and Tourism**. The preliminary assessment covers effects on the following receptors at a section level during construction, operation and maintenance of the Project:
- i. local businesses;
  - ii. development land;
  - iii. community facilities;
  - iv. open space;
  - v. users of Public Rights of Way (PRoW) and promoted/recreational routes; and
  - vi. aviation.
- 5.11.2 The Study Area for the preliminary assessment for Section 5 varies for different socio-economics, recreation and tourism receptors. These are:
- i. within the draft Order Limits for direct effects on local businesses, development land, community facilities, open space, users of PRoW of local significance and promoted/recreational routes;
  - ii. within 500 m of the draft Order Limits for indirect effects on local businesses, development land, community facilities, open space, users of PRoW of local significance and promoted/recreational routes; and
  - iii. within 5 km of the proposed overhead line alignment for indirect effects on strategic visitor attractions and aviation.

### Existing Baseline

- 5.11.3 A range of information sources have been used to identify the socio-economics, recreation and tourism baseline, including OS data such as open greenspace, local

important buildings and AddressBase, local authority local plans and definitive mapping, and designated non-motorised user routes and PRowS from Sustrans.

- 5.11.4 Numerous community facilities and local businesses, including religious buildings and tourist accommodation, fall within the Section 5 Study Area. Within the Study Area there are also areas of open space, which includes all open space of public value and can take many forms, from formal sports pitches to open areas within a development, linear corridors and country parks.
- 5.11.5 There are numerous areas of development land within the Section 5 Study Area, which includes development land allocations set out in local planning policy.
- 5.11.6 There are no airfields within 5 km of the centreline of the Section 5 draft Order Limits.
- 5.11.7 Furthermore, the preliminary assessment considers people using PRowS for walking, wheeling, cycling and horse-riding. Promoted/recreational routes generally involve national cycle routes, the local cycle network, long-distance paths and national trails. There are various PRowS and promoted/recreational routes within the Section 5 Study Area, including the MacMillan Way.

## Mitigation

- 5.11.8 National Grid has included mitigation measures in the design of the Project to avoid sensitive receptors as far as practicable and reduce potential significant effects. Such measures include carefully choosing the locations of pylons and routes of overhead lines to avoid or minimise disturbance to receptors.
- 5.11.9 The control and management of environmental effects during construction of the Project would be managed by a CoCP (to include a PRowS Management Plan), which will outline measures to be implemented to reduce effects on socio-economics, recreation and tourism. These will include measures such as the careful management of PRowS closures and diversions; construction working being undertaken within agreed working hours; reinstatement of land to its condition before construction (for example hedgerows, fences and walls reinstated to a similar style and quality) in consultation with landowners; and locating equipment and activities within construction compounds that may cause nuisance away from sensitive receptors. A Preliminary CoCP is included as **Supplementary PEI Report Volume 3 Part A Appendix 5A Preliminary CoCP**.
- 5.11.10 Additional mitigation measures are not anticipated to be required in relation to socio-economic, recreation and tourism effects. However, this will remain under review during the completion of further assessment and development of the ES.

## Preliminary Assessment

- 5.11.11 The preliminary assessment of effects reported for Section 5 below takes into account the design and control mitigation measures previously described.

## Construction

- 5.11.12 Based upon the implementation of design and control mitigation measures, whilst a number of socio-economic, recreation and tourism receptors would be impacted by construction activities within the Section 5 Study Area, no significant effects upon the amenity value of any have been identified at this stage of the assessment. It is noted that the assessment is ongoing and is subject to change due to the ongoing design

development of the Project, consultation feedback and further stakeholder engagement. A full detailed assessment will be included within the ES submitted with the DCO application.

## Operation

- 5.11.13 Based on the preliminary assessment, no likely significant effects are predicted for socio-economics, recreation and tourism during operation.

## Summary of Route-Wide Effects

### Affected communities

- 5.11.14 During construction, it is acknowledged that there may be impacts for affected communities by way of traffic, plant and machinery and erection of the overhead lines, new substations and associated works. This may cause access, dust, noise and vibration effects as considered in other environmental topic chapters in **Supplementary PEI Report Volume 2 Part B** (please see **Chapter 9 Traffic and Movement, Chapter 3 Visual, Chapter 10 Noise and Vibration, and Chapter 12 Air Quality**) and **Supplementary PEI Report Volume 2 Part C Route-wide Chapter 7 Health and Wellbeing**. Indirect effects including those relating to amenity will be monitored and managed through the Construction Environmental Management Plan (CEMP), CTMP, and appropriate management will reduce the potential for significant effects.

### Labour market

- 5.11.15 Based on preliminary information, approximately 424 full-time equivalent additional construction workers per year are estimated during the five year capital expenditure programme for construction (2029-2033) as a local direct net effect. The direct construction employment generated by the Project is likely to have a potential minor positive and temporary effect on the economy, which is not considered to be significant.
- 5.11.16 Detail relating to the supply chain, training and skills is not currently available. An assessment of potential impacts upon these topics will be undertaken at ES stage, subject to the relevant information being available from National Grid. At this stage, it is anticipated that the Project will create beneficial training and apprenticeship opportunities both on-site and indirectly in the supply chain.
- 5.11.17 Overall, both temporary positive benefits to tourist accommodation businesses and temporary adverse effects through a reduction in tourist accommodation bed spaces are anticipated in relation to the labour market during construction. Given the preliminary number of construction workers anticipated to be employed on the Project, and the level of likely spare capacity for bedspace, the effects are not likely to be significant.

### Strategic visitor attractions

- 5.11.18 There is the potential for indirect, temporary effects to arise from construction activities (noise and vibration, air quality and dust, transport and movement and visual impacts), although these are not expected to be significant due to the distance of these receptors from the construction activities (with the closest receptor approximately 2 km and the remainder approximately 3-4 km from the draft Order

Limits) and on the basis that access to these attractions would be maintained at all times.

## 5.12 Air Quality

### Scope and Study Area

- 5.12.1 The potential interaction between the Project and Air Quality is assessed in **Supplementary PEI Report Volume 2 Part B Chapter 12 Air Quality**. The preliminary assessment covers the following effects on receptors during construction and operation of the Project:
- i. dust during construction on sensitive human and ecological receptors, of which the main potential impacts are dust soiling and deterioration of human health; and
  - ii. vehicular tail-pipe emissions containing air pollutants released by construction, operation and maintenance.
- 5.12.2 The Study Area for the preliminary assessment for Section 5 varies for different Air Quality receptors. For the construction dust assessment, these are:
- i. human receptors within the draft Order Limits, plus those up to 250 m from the draft Order Limits, those within 50 m of the proposed routes used by construction traffic on the public highway, and those up to 250 m from a site entrance; and
  - ii. ecological designated sites within the draft Order Limits, plus those up to 200 m from the draft Order Limits, those within 50 m of the proposed routes used by construction traffic on the public highway, and those up to 250 m from a site entrance.
- 5.12.3 For the assessment of road traffic emissions, the Study Areas are:
- i. any road where the change in road traffic exceeds the criteria given in the Environmental Protection UK (EPUK)/Institute for Air Quality Management (IAQM) guidance is exceeded, and any human sensitive receptors within 200 m of these roads; and
  - ii. any ecological sensitive receptors within 200 m of any road links where the projected changes in traffic flow exceed the IAQM guidance thresholds.

### Existing Baseline

- 5.12.4 The existing Air Quality baseline across the Project has been informed by an assessment of likely background concentrations of Nitrogen Oxides (NO<sub>x</sub>), Nitrogen Dioxide (NO<sub>2</sub>), and Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>) taken from Defra modelled data, and a review of available local authority monitoring data within 200 m of construction routes. Overall, Air Quality within Section 5 is very good reflecting the rural nature of the Study Area. There are no Air Quality Management Areas (AQMAs) within the administrative area of South Holland District Council.
- 5.12.5 Human sensitive receptors are located within the Section 5 Study Area. The Section 5 Study Area is predominantly rural in nature and the land use is mostly agricultural. Settlements include Moulton Seas End and Weston. Non-statutory designated sites



are present within the Section 5 Study Area and these ecological sensitive receptors are Surfleet Bank LWS, Vernatt's Drain LWS, and Pinchbeck Marsh LWS.

## Mitigation

- 5.12.6 National Grid has included mitigation measures into the design of the Project to avoid sensitive receptors as far as practicable and reduce potential significant effects. Such measures within Section 5 include siting of the substations and access roads away from sensitive receptors where practicable.
- 5.12.7 The control and management of environmental effects during construction of the Project would be managed by a CoCP. This will outline proportionate measures to be implemented to reduce effects on amenity due to dust soiling, and on human health due to changes in pollutant levels, such as specification of emission standards for vehicles and plant. The Preliminary CoCP is included as **Supplementary PEI Report Volume 3 Part A Appendix 5A Preliminary CoCP**.
- 5.12.8 Air Quality monitoring during either construction or operation, beyond the on-site and off-site visual inspections included within the Preliminary CoCP, is not anticipated to be required. However, this will remain under review during the completion of further assessment and development of the ES.

## Preliminary Assessment

- 5.12.9 The preliminary assessment of effects reported for Section 5 below takes into account the design and control mitigation measures previously described.

## Construction

- 5.12.10 Based on the preliminary assessment, following implementation of dust mitigation measures outlined in the Preliminary CoCP, it is not considered likely that the Project would result in significant effects due to dust generated during construction.
- 5.12.11 Projected changes in traffic flows due to construction traffic exceed the best practice screening criteria for human sensitive receptors on 11 road links within the Section 5 Study Area, which form parts of the A16, A151, Marsh Road and Stone Gate within Spalding. Similarly, predicted changes in traffic flows on a number of road links also exceed the best practice screening criteria for ecological sensitive receptors. Therefore air quality modelling work is planned to assess these locations in further detail. At this stage, significant effects due to changes in air quality cannot be ruled out. The full assessment will be reported within the ES, informed by the completion of air quality modelling.

## Operation

- 5.12.12 Based on the preliminary assessment, no likely significant effects are predicted for Air Quality during operation, given the projected volume of operational and maintenance traffic is predicted to be low.

## 5.13 Health and Wellbeing

- 5.13.1 The preliminary Health and Wellbeing assessment was undertaken at a route-wide level at a geographic scale greater than the route sections, as the nature of potential

effects is such that they are geographically widespread. The list of electoral wards and local authorities within the Section 5 has been updated since publication of the June 2025 PEI Report, given the Section 5 draft Order Limits have now been defined. However, this update has not changed the potential route-wide impacts and likely significant effects upon health and wellbeing reported within the June 2025 PEI Report.

## Scope and Study Area

- 5.13.2 The potential interaction between the Project and human health receptors is assessed in **Supplementary PEI Report Volume 2 Part C Route-wide Chapter 7 Health and Wellbeing**.
- 5.13.3 The scope of the construction assessment covers potential impacts upon the following:
- i. employment;
  - ii. neighbourhood quality;
  - iii. access to promoted/recreational routes and open spaces; and
  - iv. access to healthcare and social infrastructure.
- 5.13.4 The scope of the operation assessment covers potential impacts upon the following:
- i. neighbourhood quality;
  - ii. mental health effects of electro-magnetic fields (EMF);
  - iii. access to healthcare and social infrastructure; and
  - iv. access to promoted/recreational routes and open spaces.
- 5.13.5 The Study Area for the health and wellbeing assessment differs based on the receptor. For the preliminary assessment, the Study Area comprises electoral wards in which the Project is located and residential, community and healthcare facilities and open spaces within 500 m of the draft Order Limits.

## Existing Baseline

- 5.13.6 A range of data sources were used to inform the baseline conditions across the Project, including the Office of National Statistics (ONS), population surveys, and data from Public Health England.
- 5.13.7 Across the Project as a whole, there is a high number of residents aged 65 and older compared to national averages, with a lower proportion of people aged 16-64. Unemployment profiles do not differ significantly across the Project Study Area, however Sections 1 and 2 have slightly higher rates of unemployment compared to the remaining Sections. Local health data suggests there are generally higher instances of people reporting bad-health when compared to the national average across the Study Area, notably in Section 4. All Sections report wellbeing related to anxiety, happiness, life satisfaction, and worthwhile indicators in line with the national average.

## Mitigation

- 5.13.8 National Grid has included mitigation measures in the design of the Project to avoid sensitive receptors as far as practicable and reduce significant effects on health and wellbeing. Such measures include carefully choosing the locations of pylons overhead line routes to avoid areas of high amenity and taking advantage of natural screening provided by existing woodland and landform, to reduce visual, noise and other environmental effects.
- 5.13.9 The control and management of environmental effects during construction of the Project would be managed by a CoCP, which will outline measures to be implemented to reduce effects on health and wellbeing. These will include measures such as training for construction workers, management of environmental effects (e.g. pollution), active community liaison and management of construction hours. A Preliminary CoCP is included as **Supplementary PEI Report Volume 3 Part A Appendix 5A Preliminary CoCP**.
- 5.13.10 Additional mitigation measures which may be required as well as those listed above may include those that are set out in relation to visual, noise and vibration or transport, to further reduce impacts on neighbourhood quality.

## Preliminary Assessment

### Construction

- 5.13.11 Based on the preliminary assessment, no significant effects are anticipated during construction of the Project on employment, neighbourhood quality, or access to promoted/recreational routes and open spaces.
- 5.13.12 There is potential for temporary or permanent changes in access to healthcare and social infrastructure due to construction Traffic and Movement associated with the Project. It is noted that the Traffic and Movement assessment of potential routes which may be subject to significant effects is ongoing, therefore a full assessment could not be undertaken when writing the Supplementary PEI Report. The detailed assessment will be presented in the ES.

### Operation

- 5.13.13 Based on the preliminary assessment, no significant effects upon people's health or wellbeing are anticipated during the operational phase of the Project.

## 5.14 Climate Change

- 5.14.1 The preliminary assessment for climate change was undertaken at a route-wide level at a geographic scale greater than the route sections, as the nature of potential effects is such that they are geographically widespread. The potential route-wide effects on Climate Change reported in the June 2025 PEI Report Volume 2 Part C have not changed as a result of the additional Section 5 design information and the defined draft Order Limits for Section 5. Therefore, the Supplementary PEI Report

reflects the information set out in the June 2025 PEI Report Volume 2 Part C Chapter 9 Climate Change<sup>15</sup>.

## Scope and Study Area

- 5.14.2 The potential interaction between the Project and climate change is assessed in **Supplementary PEI Report Volume 2 Part C Route-wide Chapter 8 Climate Change**. The chapter specifically addresses two separate aspects:
- the greenhouse gas (GHG) assessment considers the effect on the climate of GHG emissions arising from the Project, including how the Project would affect the ability of government to meet its carbon reduction plan targets. At this early stage of design for the Project, information is insufficient to allow any calculations of emissions and therefore a detailed GHG assessment has not been undertaken at this stage. The Supplementary PEI Report presents a qualitative appraisal of likely significance, and the detailed assessment will accompany the ES; and
  - the in-combination climate change impact (ICCI) assessment considers where the future changed climate may increase environmental impacts from the Project on all environmental receptors, beyond those impacts arising from present climate conditions. The ICCI assessment is not included at this stage and will be undertaken at the ES stage after the likely significant environmental effects and their associated magnitudes have been identified within the other topic chapters within the ES.
- 5.14.3 The Study Area for the preliminary GHG assessment includes the whole spatial extent of the Project.
- 5.14.4 The Study Area for the ICCI assessment (to be reported in the ES) will be defined by the Study Areas used by each environmental discipline in their technical assessments.

## Existing Baseline

- 5.14.5 The existing baseline for the GHG assessment is predominantly made up of emissions associated with arable land, hedgerows and trees across the route. As the land use is mainly arable, there are nominal GHG emissions which are associated with land management (including fuel use for machinery use) and the soil types/vegetation present. The Project also runs through an area of peaty soils (peatland) for a distance of approximately 13 km, and would require approximately 40 pylons to be constructed within the peatland. Peatland ecosystems are capable of absorbing and storing large amounts of carbon dioxide and are considered valuable natural carbon sinks. At the time of writing the Supplementary PEI Report, the existing baseline is considered as zero GHG emissions, being a worst realistic case for comparison using a precautionary approach. This will be reviewed for the ES.
- 5.14.6 For the ICCI assessment, existing and future baseline climate conditions will be reported in the ES, where the outcome of the ICCI assessment will be reported.

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<sup>15</sup> National Grid (2025). Grimsby to Walpole Preliminary Environmental Information Report Volume 2 Part C Chapter 9 Climate Change [online]. Available at: <https://www.nationalgrid.com/the-great-grid-upgrade/grimsby-to-walpole/document-library#4257225834-3023854277>

## Mitigation

- 5.14.7 In terms of mitigating GHG emissions from the Project, National Grid has included mitigation measures in the design of the Project to reduce the Project's impact on climate change. This is in accordance with National Grid's Holford Rules<sup>16</sup> and Horlock Rules<sup>17</sup> which apply to the design of overhead lines and new substations. Such measures include choosing overhead lines rather than underground cables which is beneficial for GHG emissions associated with the use of materials, construction, maintenance, repair and future upgrading. Consideration was also given to the presence of peaty soils, with an aim to avoid siting infrastructure within these areas where practicable. Other measures may include circular economy principles<sup>18</sup>, measures to reduce energy consumption, and recycling materials.
- 5.14.8 The control and management of environmental effects during construction of the Project would be managed by a CoCP, which will outline measures to be implemented to reduce effects on the climate. These include measures such as a carbon efficiency plan, retention of vegetation and reinstatement of peaty soils if affected. A Preliminary CoCP is included as **Supplementary PEI Report Volume 3 Part A Appendix 5A Preliminary CoCP**.
- 5.14.9 At this stage of preliminary assessment, no additional mitigation measures in addition to those embedded within the design and set out within the CoCP are expected to be required. However, any additional design, control and mitigation measures identified as a result of the completed ICCI assessment will be reported in the Climate Change chapter of the ES and measures would be incorporated into the relevant control documents.

## Preliminary Assessment

### Construction and operation

- 5.14.10 The Project is a crucial part of the Great Grid Upgrade, which is important for reaching the UK's goal of net zero carbon emissions by 2050. It will enable more clean energy sources, like wind and solar, be used instead of fossil fuels. Without the Project, it would be harder to get clean electricity to where it is needed. Based on this, it is considered that the GHG emissions created from the construction and operation of the Project would be insignificant compared to the likely emissions that would arise if the Project did not happen. A calculation of the GHG emissions anticipated to be generated or avoided by the Project will be included in the ES, which will also report the complete assessment of significance of effects.
- 5.14.11 The ICCI assessment will be reported in the Climate Change chapter of the ES after the likely effects have been identified by each environmental discipline.

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<sup>16</sup> National Grid; Holford Rules [online]. Available at:  
<https://www.nationalgrid.com/sites/default/files/documents/13795-The%20Holford%20Rules.pdf>

<sup>17</sup> National Grid; Horlock Rules [online]. Available at:  
<https://www.nationalgrid.com/sites/default/files/documents/13796-The%20Horlock%20Rules.pdf>

<sup>18</sup> Circular economy principles prioritise the reuse of materials, avoiding the over extraction of natural resources and the number of usable materials that end up in landfill.



## 5.15 Cumulative Effects

5.15.1 As described in **Supplementary PEI Report Volume 2 Part C Route-wide Chapter 9 Cumulative Effects**, there are two types of cumulative effects, which are:

- i. Intra-project cumulative effects: which occur where a single receptor is affected by multiple aspects of the Project – for example occupants of a house may be impacted by a combination of visual impacts, noise and changes and air quality, leading to a greater overall effect on them.
- ii. Inter-project cumulative effects: which occur where the effects of the Project interact with the effects of other developments in the area to generate a greater overall effect.

### Intra-project cumulative effects

5.15.2 As the Supplementary PEI Report presents a preliminary assessment and some topics are unable to confirm the level of effect, an assessment of intra-project cumulative effects has not been undertaken at this time. However, a pre-screening exercise has been undertaken to identify where a receptor is exposed to more than one type of effect. This is presented in **Supplementary PEI Report Volume 2 Part C Route-wide Chapter 9 Cumulative Effects**.

5.15.3 Once information is available on the significance of effects within each assessment, a review will be undertaken to identify whether there may be any potentially significant intra-project cumulative effects across the Project. This will be presented in the ES which will be submitted alongside the application for development consent.

### Inter-project cumulative effects

5.15.4 The preliminary assessment of inter-project cumulative effects is carried out in four key stages:

- i. Stage 1: Establish a 'zone of influence' for each environmental topic within which effects associated with that topic could occur and develop a 'long list' of other developments which could have effects which interact with those of the Project;
- ii. Stage 2: Develop a 'shortlist' of other developments which could have effect interactions with the Project, using a series of criteria including the size of developments, available environmental information, and their likely timescales;
- iii. Step 3: Gather information available on the shortlisted developments;
- iv. Step 4: Assess the likely significant cumulative effects of the shortlisted developments with the Project.

5.15.5 For the Stage 2 consultation and Weston Marsh Targeted Consultation, Stages 1 and 2 have been completed and are reported in the **Supplementary PEI Report Volume 2 Part C Chapter 10 Cumulative Effects**. Stages 3 and 4 will be undertaken and the findings of these will be presented in the ES.

5.15.6 The Supplementary PEI Report presents an updated route-wide initial screening exercise on relevant developments. A total of 47 developments have been shortlisted and are proposed to be taken forward into Stages 3 and 4 of the cumulative assessment.

# 6. Looking Forward

## 6.1 What Happens Next?

- 6.1.1 Following the close of the consultation, all feedback will be collated and analysed to identify key themes and understand comments, concerns and any requests for changes to the design. National Grid will review its proposals and, where appropriate, refine these in light of feedback.
- 6.1.2 Based on consultation responses, design refinements and additional information that becomes available from site visits and surveys, the environmental assessment will be reviewed and updated for the ES.
- 6.1.3 National Grid expects to submit its DCO application for the Project in summer 2027, which will be accompanied by the ES, which will report the findings of the EIA process.

## 6.2 Where Can I Find Further Information?

- 6.2.1 This document is a non-technical summary of the Supplementary PEI Report for Section 5 of the proposed Grimsby to Walpole Project. The Supplementary PEI Report Volumes 1, 2, and 3 provide more detailed and technical information which is available on the Project website:  
  
<https://www.nationalgrid.com/electricity-transmission/network-and-infrastructure/infrastructure-projects/grimsby-to-walpole>
- 6.2.2 Further information can also be obtained:
  - i. Via email: [contact@g-w.nationalgrid.com](mailto:contact@g-w.nationalgrid.com)
  - ii. Telephone: 0808 258 4395 (lines are open Monday to Friday, 9:00 AM-5:30 PM)
- 6.2.3 Public information events will also take place as follows:

Table 6.1 Details of 2025 in-person information events

Date and Time	Venue
Friday 28 November 2025 2pm - 7pm	Weston Village Hall
Saturday 29 November 2025 11am - 4pm	Moulton Seas End Village Hall

- 6.2.4 In addition to the in-person events as detailed in **Table 6.1**, one public online webinar will take place over the Weston Marsh Targeted Consultation period. Information on how to sign up for this event can be found on National Grid’s website for the Project. The date for the webinar is presented in Table 6.2 below.

Table 6.2 Public online webinars

Date and Time	Topic
3 December 2025 6:30pm – 7:30pm	Route Section 5 Webinar

- 6.2.5 Printed copies of the Community newsletter, Feedback form, and the Stage 2 consultation document are available free of charge on National Grid's website for the Project, at public information events and at local information points (where key documents will be available). Reference-only copies of this NTS, Supplementary Design Development Report for Section 5 and a copy of the Statement of community consultation will also be available to view at local information points and on our Project website. The location of these points are presented in Table 6.3 below.

Table 6.3 Details of information points (2025)

Local Information Points	Opening times
Spalding Library Victoria Street, Spalding, PE11 1EA	Monday, Tuesday, Wednesday and Friday – 9am-5pm Thursday – 9am-6pm Saturday – 9am-1pm Sunday - Closed
Long Sutton Library Trafalgar Square, Long Sutton, Spalding, PE12 9HB	Monday and Thursday – 2pm-6pm Tuesday and Friday – 10am-5pm Wednesday – Closed Saturday – 10am-1pm Sunday - Closed

## 6.3 How Can I Have My Say?

- 6.3.1 National Grid want to hear your views on the proposals for Grimsby to Walpole. You can get in touch in the following ways:
- Complete the feedback questionnaire online via the Project website: [nationalgrid.com/g-w](https://nationalgrid.com/g-w);
  - Providing feedback by email ([contact@g-w.nationalgrid.com](mailto:contact@g-w.nationalgrid.com)); or
  - completing a paper feedback form available at public information events, local information points or online. The feedback form can be returned free of charge using the Freepost address FREEPOST G TO W (no stamp required).
- 6.3.2 Comments received via any other method than those listed above may not be formally recorded as part of the consultation.

- 6.3.3 Comments given orally, such as via telephone on 0808 258 4395 or at public events will only be considered in exceptional circumstances on a case-by-case basis where someone may not otherwise be able to respond to the consultation.
- 6.3.4 All responses must be submitted by 11:59pm on Friday 19 December 2025. Feedback submissions sent via post will be accepted for up-to five working days after this date.
- 6.3.5 All feedback will be handled in accordance with all applicable laws concerning the protection of personal data, including the UK General Data Protection Regulation (GDPR).
- 6.3.6 Responses may also be made public as part of the consultation report submitted as part of the DCO application.
- 6.3.7 More information on how National Grid will use the information collected about respondents will be made available in the consultation feedback form and on the Project's website during the consultation period.

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