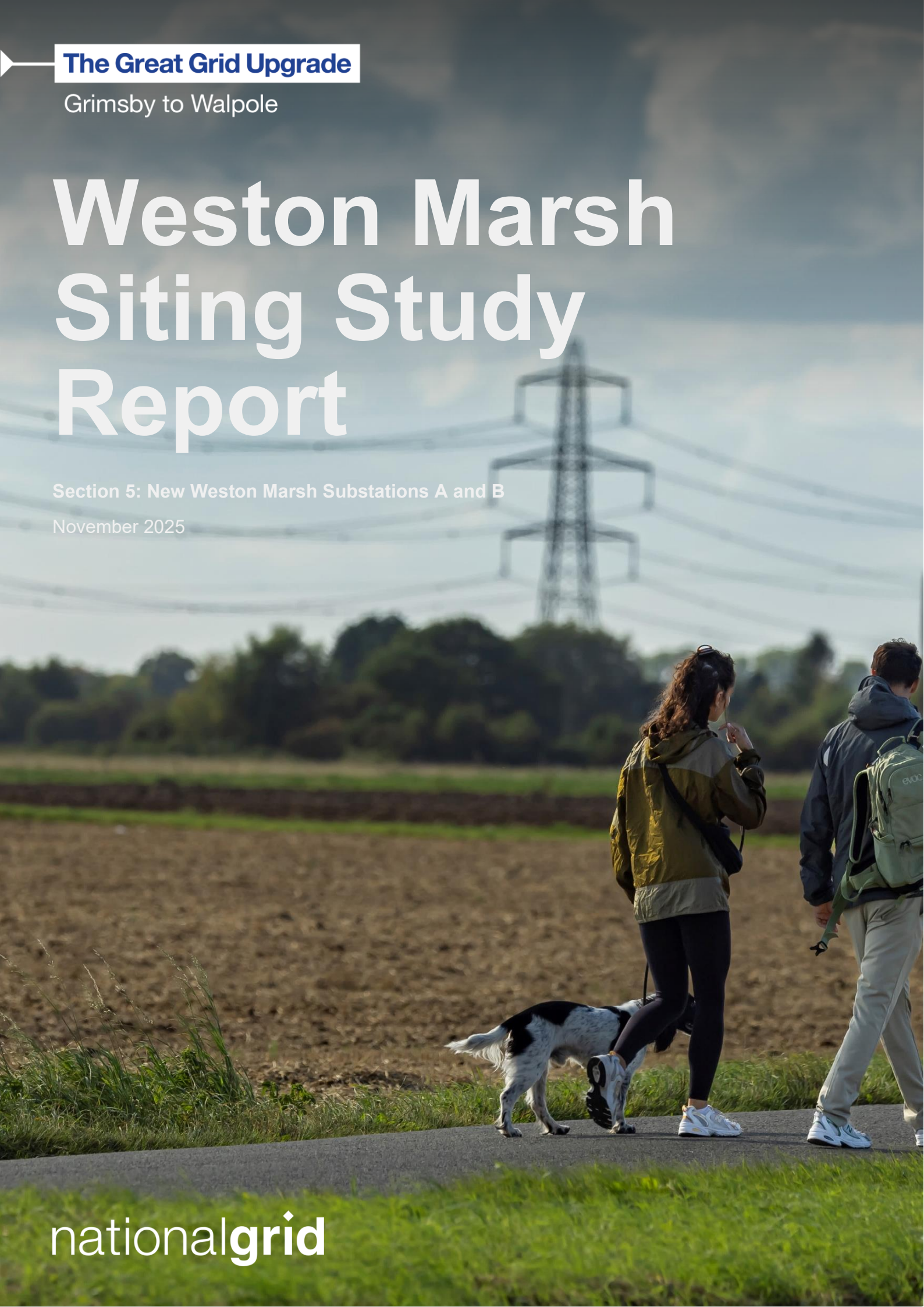
The Great Grid Upgrade

Grimsby to Walpole

Weston Marsh Siting Study Report

Section 5: New Weston Marsh Substations A and B

November 2025



nationalgrid

Contents

Glossary of Terms

Term	Definition
Graduated Swathe	Shaded areas within the emerging preferred corridor, Siting Zone and Siting Areas within which Project infrastructure was considered more or less likely to be located, shown by the varying levels of shading (detailed within the Corridor Preliminary Routeing and Siting Study (CPRSS)). Darker shaded areas represented where infrastructure is likely to be better located, in National Grid Electricity Transmission's (NGET) emerging view at this stage, within the corridor, siting zone and siting areas.
Grimsby to Walpole (The Project)	Located in the Humber, East Midlands, East of England and East Anglia regions of England, the Project comprises major reinforcement of the electricity transmission system. This will allow increased north south power flows and facilitate the connection of new sources of clean power, including offshore sources that will land on the Lincolnshire coast. The Project is expected to primarily comprise a new overhead electricity transmission line and will include the use of underground cables in limited locations only. There will be associated works to connect the new route into substations along the electricity transmission line and at either end, and to alter existing infrastructure crossed by the route, including crossings of existing 400 kV transmission lines and lower voltage lines.
June 2025 PEI Report	The Preliminary Environmental Information (PEI) Report produced for the Stage 2 Consultation in June 2025.
Weston Marsh Targeted Consultation	The period of targeted statutory consultation conducted by NGET, which this Siting Study forms part of, which provides all those with an interest in Section 5 of the Project (including local authorities, statutory consultees, parties with land interests and the local community) the opportunity to provide feedback on the developing design of Section 5 of the Project.
Option 1 Siting Area	The Siting Area considered for Option 1 of the new Weston Marsh Substation B within this Siting Study.
Option 2 Siting Area	The Siting Area considered for Option 2 of the new Weston Marsh Substation B within this Siting Study.
Option 3 Siting Area	The Siting Area considered for Option 3 of the new Weston Marsh Substation B within this Siting Study.
Siting Area	The area of land within the Study Area within which proposed infrastructure could be sited.
Siting Study	This report is titled the Siting Study.

Term	Definition
Siting Zone	The area considered within the June 2025 PEI Report for Section 5 of the Project. This was titled the 'Refined Weston Marsh Substation Siting Zone' in full in the June 2025 PEI Report.
Stage 1 Consultation	A period of non-statutory consultation on the Project previously conducted by NGET which aimed to introduce the Project and why it was needed, outline the work undertaken to identify the emerging preferred overhead line route corridor and substation Siting Areas, as well as the Graduated Swathe, and provide the public and stakeholders the opportunity to provide feedback.
Stage 2 Consultation	A period of statutory consultation required for Nationally Significant Infrastructure Projects (NSIPs) previously conducted by NGET, which provided all those with an interest in the Project (including local authorities, statutory consultees, parties with land interests and the local community) the opportunity to provide feedback on the developing of the developing Project.
Study Area	The area in which infrastructure could be sited for Section 5 of the Project. The Study Area has been used as part of the Siting Study to determine the Siting Areas for the new Weston Marsh Substation A and new Weston Marsh Substation B. The extent of the Study Area reflects the 'Refined Weston Marsh Substation Siting Zone' used in the June 2025 PEI Report.
Supplementary PEI Report: Section 5 New Weston Marsh Substations A and B	The PEI Report produced for the Weston Marsh Targeted Consultation in November 2025.
New Weston Marsh Substation A	New Weston Marsh Substation A, one of two substations considered to be required within the Weston Marsh area.
New Weston Marsh Substation B	New Weston Marsh Substation B, one of two substations considered to be required within the Weston Marsh area.

Grimsby to Walpole
Document control

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Executive summary

This Siting Study has been prepared for the purpose of identifying the preferred Siting Area for the new Weston Marsh Substation A and identifying a preferred Siting Area for the new Weston Marsh Substation B, together with associated overhead line and underground cable connections required at in the Weston Marsh area as part of the Grimsby to Walpole Project (the Project).

This Siting Study has been undertaken in accordance with National Grid's Approach to Consenting (Ref 1) and has considered the Horlock (Ref 2) and Holford (Ref 3) Rules as part of the appraisal. It builds on previous siting work already conducted in the Weston Marsh area for the Corridor Preliminary Routeing and Siting Study (CPRSS) (Ref 4).

A Strategic Options Report (SOR) for the Project was published in May 2023 which identified a preferred strategic option for the Project as a whole, comprising a new primarily overhead line connection between a new Grimsby West Substation and a new substation at Walpole, via new Lincolnshire Connection Substation(s) (LCS). Following the publication of the SOR, further work was undertaken on developing and evolving the strategic option. This concluded that construction of a new substation at Weston Marsh was also necessary (Ref 5).

The CPRSS, published in January 2024, then appraised overhead line route corridor and substation siting options and identified a preferred corridor and preferred siting zones, resulting in the production of a Graduated Swathe to indicate where infrastructure was considered more or less likely to be located. The CPRSS and Graduated Swathe were used in Stage 1 Consultation in Spring 2024 in order to gather feedback from the public and stakeholders. Consideration of the outcomes from this consultation, alongside further environmental and technical studies, led to the identification of the Refined Weston Marsh Substation Siting Zone (the Study Area used for this Siting Study) and the need for up to two substations in the Weston Marsh area.

The proposed location that had been identified for the new Weston Marsh Substation A, based on the Graduated Swathe presented in the CPRSS (Ref 4), has been appraised from an environmental, socio-economic and technical perspective to ensure this location remains environmentally and technically favourable, taking account of surveys and environmental assessment which have taken place since the production of the CPRSS (Ref 4).

The need for two substations was identified by National Grid through engaging with generators who are contracted to connect in the Weston Marsh area, as well as reviewing the technical specifications required, since Stage 1 Consultation. Two substations were found to provide resilience on the transmission network and would ensure the network's safety and reliability. The need for a 1 km clearance and an underground cable connection between these two substations was identified to manage system-wide resilience. Three Siting Areas ('Option 1 Siting Area', 'Option 2 Siting Area' and 'Option 3 Siting Area') were identified and appraised to select a preferred option for the additional substation required in the Weston Marsh area, referred to as the new Weston Marsh Substation B. Environmental topics scoped in to the appraisal considered the three Siting Areas in turn, and identified environmental constraints relevant to each option. Any technical constraints associated with each Siting Area were also considered.

Building on the siting work already conducted in the CPRSS (Ref 4), no further constraints were identified within the appraisal in the vicinity of the Weston Marsh A Siting Area and so the

selection of this Siting Area was re-affirmed as the preferred location for the new Weston Marsh Substation A.

For the new Weston Marsh Substation B, the Option 2 Siting Area was discounted due to the close proximity of a scheduled monument and grade I – II listed buildings and gate piers at Wykeham Chapel. The constraints present in the vicinity of the Options 1 and 3 Siting Areas were similar to one another from an environmental perspective, however the Option 3 Siting Area would require the diversion of a high-priority watercourse. The Option 1 Siting Area also provides greater opportunities for mitigation planting than the Option 2 and 3 Siting Areas, as planting could integrate with the existing nursery planting to the north of the new Weston Marsh Substation B, therefore making the Option 1 Siting Area preferrable from a landscape and visual perspective.

From a technical perspective, the Option 1 and 2 Siting Areas were similarly favourable when considering overhead line entries, as both options are largely unrestricted from the north and south in this regard. The Option 3 Siting Area was seen as less favourable as it is more limited than the other two Siting Areas options in terms of overhead line routeing flexibility due to properties situated to the north of the option and land related to the nearby Shepherds Farm. Both customer and National Grid Electricity Transmission's (NGET) connections would also have to cross a high pressure gas main to the north of the Option 3 Siting Area to connect into the new Weston Marsh Substation B (from the new Weston Marsh Substation A). Overall, this led to the selection of the Option 1 Siting Area as the preferred option to be taken forward for the new Weston Marsh Substation B location.

1. Introduction

1.1 Overview

1.1.1 This Weston Marsh Siting Study Report ('the Siting Study') has been prepared by Ove Arup and Partners Ltd and AECOM Ltd on behalf of National Grid Electricity Transmission plc ('National Grid').

1.1.2 The purpose of the Siting Study is to identify the preferred Siting Areas for the substations and associated overhead line and underground cable connections required at in the Weston Marsh area as part of the Grimsby to Walpole Project ('the Project'). Further details about the wider Project are provided in sections 1.3 and 2, below.

1.1.3 The Siting Study, which has been carried out broadly in line with the Corridor Preliminary Routeing and Siting Study (CPRSS) (Ref 4) methodology, but adapted to the specific circumstances of this Siting Study, has considered a range of factors in accordance with National Grid's statutory duties as a Transmission Licence Holder under the Electricity Act 1989 (Ref 6), including technical feasibility, cost and environmental and socio-economic impact.

1.2 National Grid

1.2.1 National Grid owns, builds and maintains the high voltage electricity transmission network in England and Wales which transports electricity from generators (such as wind farms, solar farms and power stations) to local distribution network operators. Under section 9 of the Electricity Act 1989 (Ref 6), National Grid as the transmission licence holder, is required to develop and maintain an efficient, coordinated and economical electricity transmission system.

1.3 Background

1.3.1 The Project is a proposal by National Grid to reinforce the transmission network with a new 400 kV electricity transmission line over a distance of approximately 140 km starting from a new 400 kV substation west of the town of Grimsby in North East Lincolnshire and ending at a new 400 kV substation west of the village of Walpole St Andrew and north of the town of Wisbech, in King's Lynn and West Norfolk District. The Project also includes the construction of two new 400 kV Lincolnshire Connection Substations located south west of Mablethorpe in East Lindsey, two new 400 kV substations in the vicinity of the Spalding Tee-Point in the Weston Marsh area in South Holland District and the decommissioning (in full or part) of the existing National Grid Electricity Transmission 400 kV Grimsby West Substation.

1.3.2 The Project is currently in the pre-application stage and a Preliminary Environmental Information (PEI) Report was recently prepared for the purposes of Stage 2 Consultation, which was undertaken from 11 June to 6 August 2025.

1.3.3 A full description of the Project, the consenting route and the need for the Project is included in section 2 of this Siting Study.

1.3.4 This Siting Study is specifically concerned with Section 5 of the Project. Section 5 is located in the southern extent of the Project and, at the time the June 2025 PEI Report (Ref 7) was produced for the Stage 2 Consultation, constituted a siting zone, known as the 'Refined Weston Marsh Substation Siting Zone' (the 'Siting Zone'). The Siting Zone was assessed in the June 2025 PEI Report, although the location and extent of the proposed infrastructure within the Siting Zone was not confirmed at that point in time.

1.3.5 As described in section 3 of this Siting Study, a CPRSS (Ref 4) for the Project, published in January 2024, detailed the development and refinement of the proposed siting areas for the location of the new substation infrastructure. At the time, the siting work was conducted on the assumption that a single substation would be sufficient for the Weston Marsh area. This culminated in the selection of a preferred siting zone and the production of a Graduated Swathe for a single substation at Weston Marsh within the CPRSS (Ref 4). Following this, after feedback from the Stage 1 Consultation was obtained and as a result of ongoing environmental and technical studies, the Refined Weston Marsh Siting Zone was established, which was assessed for the purposes of the June 2025 PEI Report (Ref 7).

1.3.6 Since the publication of the June 2025 PEI Report (Ref 7), and following the conclusion of further design work on Section 5 of the Project, the need for two substations in the Weston Marsh area has now been established. As noted in the June 2025 PEI Report published at Stage 2 Consultation, since the Stage 1 Consultation, National Grid has been engaging with generators who are contracted to connect in the Weston Marsh area, as well as reviewing the technical specifications required. This engagement and review has continued since Stage 2 Consultation, including consideration of the extent of the need and whether the identified need requires the provision of up to two new substations.

1.3.7 This review and the subsequent design work has been undertaken in the context of the statutory duties placed on National Grid as licence holder. As noted in section 2.2 of this report, National Grid must develop and maintain an efficient, co-ordinated and economical system of electricity transmission. This requires the reliability, security and resilience of the existing transmission network to be maintained when developing proposals for new substations, ensuring that the network is resilient by design in relation to incidents arising as a result of internal and external causes.

1.3.8 Network analysis was carried out to determine the optimal configuration for the network and the substations within this region, taking into account the need to ensure the resilience of the network. This analysis identified the need for two separate substations in the Weston Marsh area.

1.3.9 The requirement for two substations at Weston Marsh is influenced by the national and regional power demand, and the amount of generation planned to connect in the Weston Marsh area, of which there is a particularly large amount. By providing two substations at Weston Marsh the design establishes resilience on the transmission network given the number of new connections. Furthermore, with two substations it is much more straightforward to provide for maintenance on the network where outages are required and to reduce the impact of faults in the area, therefore mitigating against the risk of the network becoming reliant on a single 'node' connecting substantial amounts of power generation and ensuring the network's safety and reliability.

1.3.10 Based upon a confirmed requirement for two substations in the Weston Marsh Area, this Siting Study builds on the previous siting work presented in the CPRSS (Ref 4) by:

i. reviewing the appraisal of the emerging preferred location for the previously identified Weston Marsh Substation based on the darkest area of the Graduated Swathe presented in the CPRSS ('the new Weston Marsh Substation A');

ii. identifying and appraising a number of options for a second substation ('the new Weston Marsh Substation B'); and

iii. identifying and appraising associated overhead line and underground cable connections.

1.3.11 This Siting Study concludes by identifying the preferred siting options for the new Weston Marsh Substation A and new Weston Marsh Substation B. These have been taken forward for the purposes of the Weston Marsh Targeted Consultation.

1.4 Structure of this Siting Study

1.4.1 The Siting Study is structured as follows:

i. The Grimsby to Walpole Project – This section provides an overview of the proposals for the wider Project;

ii. Evolution of Section 5 – This section provides an overview of the evolution that has taken place for Section 5 of the Project, from the strategic proposal for the wider Project to the Refined Weston Marsh Substation Siting Zone presented at Stage 2 Consultation, as well as design development that has taken place post Stage 2 Consultation;

iii. Approach to the Siting Study – This section describes National Grid's statutory obligations, the Horlock and Holford Rules, and the overarching approach to the Siting Study;

iv. Refined Weston Marsh Substation Siting Zone (Study Area) – This section provides a high-level description of the Study Area and its key characteristics and designations;

v. Substations and Associated Connection Infrastructure – This section provides a description of the infrastructure currently proposed for the New Weston Marsh Substations A and B and the assumed National Grid and customer connections at this stage;

vi. New Weston Marsh Substation A – This section presents the preferred Siting Area for the new Weston Marsh Substation A, based on the darkest area of the Graduated Swathe in the CPRSS, and re-appraises this location from an environmental, socio-economic and technical perspective;

vii. Options Appraisal for the New Weston Marsh Substation B – This section details the options appraisal undertaken to determine a preferred Siting Area (and associated overhead line and underground cable connections routes) for the new Weston Marsh Substation B; and

viii. Conclusion – This section summarises the Siting Study findings and the preferred New Weston Marsh Substations A and B Siting Areas.

2. The Grimsby to Walpole Project

2.1 Background to the Project

2.1.1 The Project is a proposal by National Grid to build the following principal components:

i. Approximately 140 km of new 400 kV overhead transmission line;

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 400 kV substation would be partly or fully decommissioned. The extent of decommissioning will be determined prior to an application for a Development Consent Order (DCO) and reported in the Environmental Statement (ES);

iii. Two new 400 kV Lincolnshire Connection substations located south west of Mablethorpe in East Lindsey (to be referred to as New Lincolnshire Connection Substation A and New Lincolnshire Connection Substation B);

iv. As explained in section 1.3, two new 400 kV substations in the vicinity of the Spalding Tee-Point in South Holland District (to be referred to as new Weston Marsh Substation A and new Weston Marsh Substation B);

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 New Walpole B Substation); and

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.

2.1.2 The majority of the Project is located in the East Midlands Region within Lincolnshire, with part of the Project extending to Norfolk. The Project is located in an area that is predominately rural, with large parts of land under arable farming use. The towns of Grimsby, Louth, Boston, Spalding, Wisbech, Skegness, Spilsby and Alford are located within 5 km of the Project. There are also multiple villages and individual properties near the Project.

2.1.3 As presented in the June 2025 PEI Report (Ref 7) and the Supplementary PEI Report, the Project has been split into seven sections based largely on the different project components. The seven sections of the Project are described below and are illustrated in Image 1 below:

i. Section 1 New Grimsby West Substation;

ii. Section 2 New Grimsby West Substation to New Lincolnshire Connection Substation A;

iii. Section 3 New Lincolnshire Connection Substations A and B;

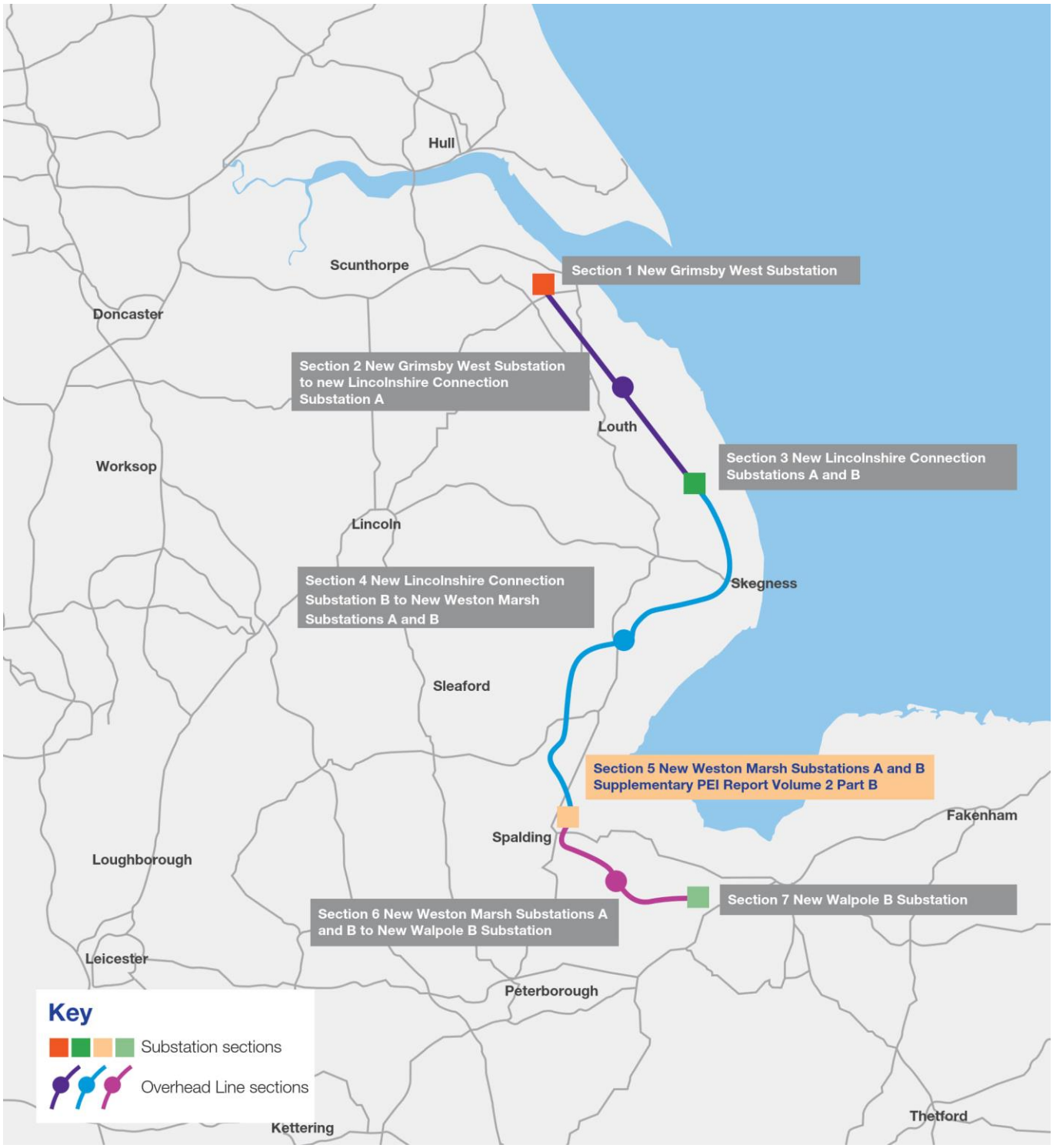
iv. Section 4 New Lincolnshire Connection Substation B to New Weston Marsh Substations A and B;

v. Section 5 New Weston Marsh Substations A and B;

vi. Section 6 New Weston Marsh Substations A and B to New Walpole B Substation; and

vii. Section 7 New Walpole B Substation.

Image 1 Sections of the Project



2.2 Legislative Background

The Planning Act 2008

2.2.1 The Planning Act 2008 ('the PA 2008') (Ref 8) provides the statutory framework for making and deciding applications for a DCO for Nationally Significant Infrastructure Projects (NSIPs). The PA 2008 defines projects meeting certain defined criteria as NSIPs. A DCO must be obtained from the relevant Secretary of State (SoS) to authorise the construction and operation of an NSIP.

2.2.2 As the Project consists of the installation of an electric line above ground of more than 132 kV and more than 2 kilometres (km) in length, it is classified as an NSIP under section 14(1)(b) of the PA 2008, and therefore requires a DCO from the SoS.

Electricity Act 1989

2.2.3 Section 9(2) of the Electricity Act 1989 (Ref 6) places general duties on National Grid as a license holder:

"to develop and maintain an efficient, co-ordinated and economical system of electricity transmission…"

2.2.4 In addition, Section 38 and Schedule 9 of the Electricity Act 1989 require an electricity licence holder such as National Grid, when formulating proposals for new lines and other works, to:

"(a)… have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and

(b) shall do what it reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects."

2.2.5 National Grid's Stakeholder, Community and Amenity Policy (Ref 9), published December 2016, sets out how the company will meet the Schedule 9 duty placed upon it by the legislation.

National Planning Policy

2.2.6 This section sets out the current national planning policy documents which the SoS must have regard to when determining the DCO application for the Project. The following documents have been considered relevant in the context within which the routeing and siting for electricity infrastructure networks is undertaken.

2.2.7 The Project is an NSIP which requires development consent under the PA 2008. Section 104 of the PA 2008 (Ref 8) provides for the role of National Policy Statements (NPS) in the decision-making process by which applications for development consent are considered. Section 104(2) states, so far as relevant:

"In deciding the application, the Secretary of State must have regard to - a) any additional policy statement which has effect in relation to development of the description to which the application relates (a 'relevant national policy statement';

aa) the appropriate marine policy documents (if any), determined in accordance with section 59 of the Marine and Coastal Access Act 2009; …

d) any other matters which the SoS thinks are both important and relevant to the SoS decision"

2.2.8 Section 104(3) requires the SoS to decide the DCO application in accordance with any relevant NPS, except to the extent that one or more of the exceptions set out in Section 104 applies.

2.2.9 As identified in paragraph 1.3.4 of the Overarching NPS for Energy EN-1 (Ref 10), for infrastructure projects providing above ground electric lines at or above 132 kV (meeting the thresholds set out in the PA 2008), the following NPSs will be the primary basis for SoS decision making:

i. Overarching NPS for Energy (EN-1) (NPS EN-1) (Adopted 2024) (Ref 10); and

ii. National Policy Statement for Electricity Networks Infrastructure (EN-5) (NPS EN-5) (Adopted 2024) (Ref 11).

2.2.10 Reference should also be made to NPS for Renewable Energy (EN-3) (NPS EN-3) (Adopted 2024) (Ref 12) which includes support for the onshore infrastructure required to deliver new offshore wind developments. This is relevant given the purpose of the Project includes enabling such projects to connect to the transmission system.

2.2.11 NPS EN-1, EN-3 and EN-5 (17 January 2024) include policies to ensure the appropriate balance between the need to build vital infrastructure and the impacts this can have on the environment and communities and to ensure that the planning policy framework is suitably robust to support the infrastructure required for the transition to net zero carbon emissions. Low-carbon infrastructure, including electricity grid infrastructure projects, are given 'Critical National Priority' (CNP) status to reflect the need for critical national infrastructure.

2.2.12 New draft versions of the energy NPSs, including EN-1, EN-3 and EN-5 were published for consultation on 24 April 2025. At the time of writing, the consultation for these versions recently closed and the Department for Energy Security and Net Zero (DESNZ) are currently reviewing responses to this consultation. As a result, these draft NPSs may be subject to change and have not been reviewed in detail for the purposes of this Siting Study. Any updates to the NPSs (EN-1 to EN-5) which came into force on 17 January 2024, will be considered in other DCO Application documents in due course.

Overarching National Policy Statement for Energy (EN-1)

2.2.13 NPS EN-1 sets out the Government's overarching policy regarding the development of NSIPs in the energy sector. NPS EN-1 emphasises the need for new energy projects to contribute to a secure, diverse, and affordable energy supply. NPS-EN-1 is underpinned by the principle that there will be a need for significant amounts of new large-scale energy infrastructure to meet the Government's energy objectives. NPS EN-1 recognises that to *'produce the energy required for the UK and ensure it can be transported to where it is needed, a significant amount of infrastructure is needed at both local and national scale. High quality infrastructure is crucial for economic growth, boosting productivity and competitiveness'* (Para 2.1.3). It continues *'There is an urgent need for new electricity network infrastructure to be brought forward at pace to meet our energy objectives'* (Para 3.3.65).

2.2.14 Section 3 of NPS EN-1 explains why the government sees a need for significant amounts of new large-scale energy infrastructure to meet its energy objectives and why the government considers that the need for such infrastructure is urgent.

2.2.15 NPS EN-1 paragraph 3.3.68 states that substantial onshore reinforcement works are needed to meet decarbonisation targets, and that forecasts show that the transmission network will require a doubling of north to south power transfer due to increased generation in Scotland and North of England, with substantial reinforcement in the Midlands to accommodate increased power flows.

2.2.16 Section 4.2 sets out the CNP for low carbon infrastructure and states:

> *"Government has committed to fully decarbonising the power system by 2035, subject to security of supply, to underpin its 2050 net zero ambitions. More than half of final energy demand in 2050 could be met by electricity, as transport and heating in particular shift from fossil fuel to electrical technology" (para 4.2.1) concluding that there is a CNP for the provision of nationally significant low carbon infrastructure."*

2.2.17 For electricity grid infrastructure, all power lines in scope of NPS EN-5 including network reinforcement and upgrade works, and associated infrastructure such as substations are CNP.

2.2.18 Section 4.7 provides details on the criteria for good design for energy infrastructure. Paragraph 4.7.1 states:

> *"The visual appearance of a building, structure, or piece of infrastructure, and how it relates to the landscape it sits within, is sometimes considered to be the most important factor in good design. But high quality and inclusive design goes far beyond aesthetic considerations. The functionality of an object – be it a building or other type of infrastructure – including fitness for purpose and sustainability, is equally important."*

2.2.19 Section 4.10 of NPS EN-1 details how the effects of climate change should be taken into account during the design stage to ensure new energy infrastructure is sufficiently resilient against the possible impacts of climate change. Specifically, as new energy infrastructure is typically likely to remain operational over many decades, the direct and indirect impacts of climate change when considering the Project location, design, build, operation and where appropriate decommissioning will need consideration.

2.2.20 In line with Part 5 of NPS EN-1, this Siting Study considers the following topics:

i. Landscape and Visual
ii. Ecology and Biodiversity
iii. Historic Environment
iv. Air Quality
v. Noise and Vibration
vi. Geology and Hydrogeology
vii. Water Environment
viii. Socio-economics, Recreation and Tourism

2.2.21 Agriculture and Soils, Climate Change (Greenhouse Gas Emissions), Traffic and Transport, Aviation and Defence (Civil and Military Aviation and Defence Interests), Coastal Change, Odour, Artificial Light, Smoke, Steam, Insect Infestation and waste management impacts, as described in EN-1, do not have a significant influence on the determination of the preferred substation location options considered in this Siting Study. Where relevant, these topics have been considered within wider documentation supporting the Weston Marsh Targeted Consultation.

Overarching National Policy Statement for Energy (EN-5)

2.2.22 NPS EN-5 relates to electricity networks, and Part 2 provides general assessment principles and technology-specific policies relating to matters including climate change adaptation, consideration of good design, biodiversity and geological conservation, landscape and visual and noise and vibration. Section 2.12 of NPS EN-5 establishes the importance of a co-ordinated approach to offshore-onshore transmission.

2.2.23 Paragraph 2.1.5 of NPS EN-5 reinforces Section 4.2 of NPS EN-1 which supports the urgent need for new low carbon infrastructure and confirms that:

> *"all power lines in scope of EN-5 including network reinforcement and upgrade works, and associated infrastructure… are considered to be CNP infrastructure."*

2.2.24 Paragraph 2.2.10 of NPS EN-5 reiterates the duties under Section 9 of the Electricity Act 1989, both in relation to developing and maintaining an economical and efficient network and, in formulating proposals for new electricity network infrastructure, to:

> *"have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiological features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and…do what [they] reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects."*

National Policy Statement for Renewable Energy (EN-3)

2.2.25 NPS EN-3 also includes support for the onshore infrastructure required to deliver new offshore wind developments. Section 2.8 deals with offshore wind, paragraph 2.8.1 states that, *'as set out in the British Energy Security Strategy, the Government expects that offshore wind… will play a significant role in meeting demand and decarbonising the energy system. The ambition is to deploy up to 50GW of offshore wind capacity by 2030, with an expectation that there will be a need for substantially more installed offshore capacity beyond this to achieve net zero carbon emissions by 2050'.*

2.2.26 Paragraphs 2.8.34 to 2.8.43 reiterate the position set out in NPS EN-1 and NPS EN-5 that a co-ordinated approach to onshore-offshore transmission is required. Paragraph 2.8.35 states that, *'the previous standard approach to offshore-onshore connection involved a radial connection between single wind farm projects and the shore.'*

2.2.27 Paragraph 2.8.38 states that, *'As part of the transition to more co-ordinated transmission, it is anticipated that some proposals for transmission could be consented separately to those for the wind farm application.'*

2.2.28 NPS EN-3 also includes references to CNP Infrastructure outlining that the assessment principles outlined in Section 4 of NPS EN-1 continue to apply to this.

Applicants must show how likely significant negative effects would be avoided, reduced, mitigated or compensated for, following the mitigation hierarchy.

National Planning Policy Framework

2.2.29 The National Planning Policy Framework (NPPF) was most recently updated in December 2024 (Ref 13). Paragraph 5 of the NPPF sets out that it does not contain specific policies for NSIPs and states that:

> *"These are determined in accordance with the decision-making framework in the Planning Act 2008 (as amended) and relevant national policy statements for major infrastructure, as well as any other matters that are relevant (which may include the National Planning Policy Framework)".*

2.2.30 Notwithstanding the above, paragraph 161 of the NPPF confirms the Framework's support for the transition to net zero by 2050 whilst taking full account of changing climate impacts. It states that:

> *"the planning system should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience...and support renewable and low carbon energy and associated infrastructure."*

Sequential Test

2.2.31 The Sequential Test is set out in Planning Practice Guidance and is explained within NPS EN-1 at Paragraph 5.8.21. The Sequential Test ensures that a systematic, risk-based approach is followed to guide new development to areas with the lowest risk of flooding. It applies to all types of development and is used to assess the flood risk associated with potential sites.

2.2.32 In summary, the Sequential Test requires the following steps: Initially, the focus is on locating development in low-risk areas (i.e., Flood Zone 1). Paragraph 5.8.21 of NPS EN-1 states that preference should be given to locating new development to areas with the lowest risk of flooding.

i. If it is not possible to locate development in low-risk areas, the test moves on to compare reasonably available sites within medium risk areas (i.e., Flood Zone 2). If there is no reasonably available site in Flood Zone 1, then projects can be located in Flood Zone 2 provided that the Secretary of State is satisfied that the Sequential Test is met.

ii. Only where there are no reasonably available sites in low and medium risk areas the test considers high-risk areas (i.e., Flood Zone 3a). In these circumstances, energy NSIPs can be located in Flood Zone 3 provided that Secretary of State is satisfied that the requirements of the Sequential Test and Exception Test (discussed further below) are met.

2.2.33 Therefore, the Sequential Test must be applied both during the site selection process and at the site level when a site has been selected. In other words, as well as applying the Sequential Test when selecting a site, development should take place on the area(s) of the selected site(s) with the lowest flood risk.

The Exception Test

2.2.34 If, following application of the Sequential Test, it is not possible for the project to be located in zones of lower probability of flooding than Flood Zone 3 the Exception Test can be applied. The test is intended to provide a method of managing flood risk while still allowing necessary development to occur. NPS EN-1 is clear that the Exception Test is only appropriate for use where the Sequential Test alone cannot deliver an acceptable site. Given the sheer extent of Flood Zone 3 across the Siting Zone this is likely to apply to the Project.

2.2.35 The Exception Test is explained in Paragraphs 5.8.9, 5.8.10 and 5.8.11 of NPS EN-1. For the test to be passed:

i. it must be demonstrated that the project provides wider sustainability benefits to the community that outweigh flood risk; and

ii. it must be demonstrated that the project will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere and, where possible, will reduce flood risk overall.

2.3 Need for the Project

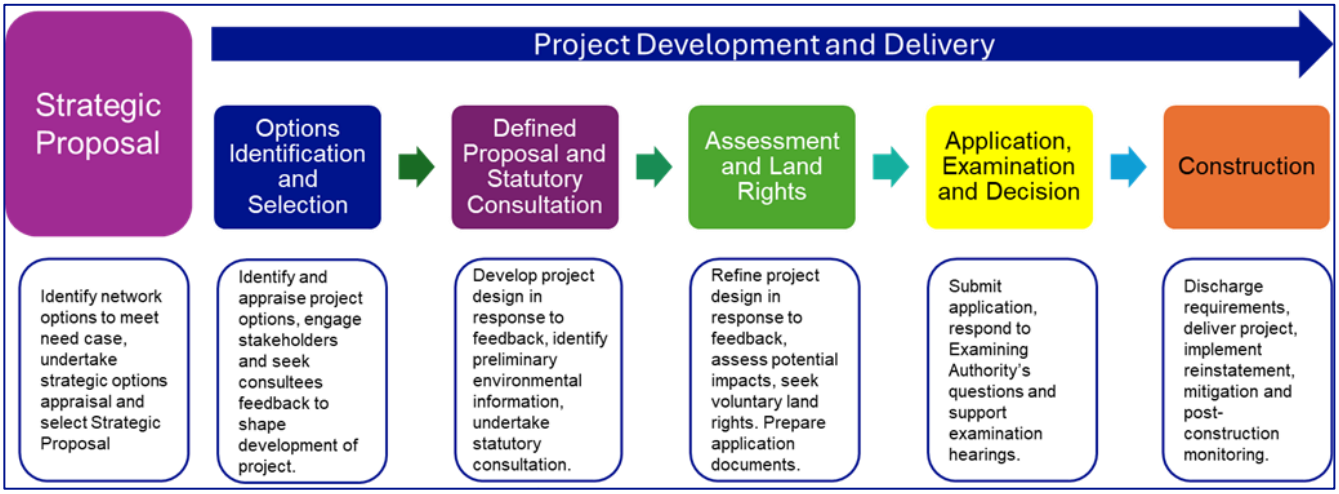
2.3.1 The need case for the Project as a whole is described in section 4 of the Strategic Options Report Update (Ref 14), prepared as part of the Stage 2 Consultation for the Project. The need for the two substations in the Weston Marsh area specifically is described in section 3 of this report.

3. Evolution of Section 5

3.1 Overview

3.1.1 The development of the Project has followed a staged approach in accordance with National Grid's Approach to Consenting (Ref 1). This document outlines the project development process for major infrastructure projects, from initial inception to consent and construction, divided into six stages. This is presented in **Image 2** below:

Image 2 National Grid's Consenting Process



3.2 Strategic Proposal

3.2.1 In 2023 National Grid undertook a strategic options appraisal considering alternative solutions for the 'North Humber to High Marnham' and 'Grimsby to Walpole' projects which would meet the need to (1) address the connection of new generation within the Humber/Trent and Lincolnshire regions and (2) reinforce network boundaries B8 and B9 (in the Grimsby to Walpole and North Humber to High Marnham Strategic Options Report (SOR) (Ref 14). This concluded with the identification of strategic option ECO 5 comprising connection of new transmission circuit connections between a new Grimsby West substation to new Lincolnshire Connections substation(s), and Lincolnshire Connections substation(s) to a new Walpole substation following a route through Lincolnshire, with a route length of approximately 140 km.

3.2.2 Following changes in contracted generation along the east coast, further analysis was undertaken of strategic options via an Addendum to the SOR (Ref 5), published in 2024. A New Weston Marsh 400 kV substation formed part of option ECO 6 which was previously considered in the SOR but was discounted in favour of ECO 5. At that point in time, this additional substation did not directly result in an improvement in the performance of the Project against its need case and would have resulted in additional costs and environmental impacts, and as such was discounted. However, additional drivers which emerged following the original SOR demonstrated the need

for the Weston Marsh substation, which resulted in a need to revisit the selection of the strategic proposal. This review of strategic options concluded with the selection of ECO 6 as the Strategic Proposal with it comprising new transmission circuit connections between a new Grimsby West substation to new Lincolnshire Connection substation(s), new Lincolnshire Connection substation(s) to a New Weston Marsh Substation and between a New Weston Marsh Substation and New Walpole substation following a route approximately 140 km long through Lincolnshire, Cambridgeshire and Norfolk.

3.2.3 A Strategic Options Report Update was prepared by National Grid in June 2025 to present the review of the conclusions of the Strategic Options Report and Grimsby to Walpole – Addendum to Strategic Options Report 2024, carried out as part of the ongoing strategic options assessment and decision-making process involved in promoting new transmission projects. The Strategic Options Report Update was prepared after close of the Stage 1 Consultation for the Project and published as part of the Stage 2 Consultation.

3.2.4 Following the consideration of options to meet system need, and the need for up to two 400 kV substation(s) at Weston Marsh, the Strategic Options Report Update proposed to continue to take forward option ECO 6 as the preferred strategic option for the Project.

3.3 Options Identification and Selection

3.3.1 Following identification of the Strategic Proposal, National Grid undertook a CPRSS (Ref 4). This considered the Project as a whole and identified preliminary corridors and siting zones. It concluded with the identification of an emerging preferred corridor, siting zones and siting areas, forming an end-to-end solution between Grimsby and Walpole. The following section summarises the evolution of the Project, with a focus on the Weston Marsh area.

3.3.2 As identified within the Addendum to the SOR (Ref 5), to facilitate future projects requiring connections into the electricity transmission system, a single substation was proposed in the Weston Marsh area. This substation would connect to the new 400 kV transmission line from the new Lincolnshire Connection Substation B and the new transmission line to the new Walpole B substation. Future projects identified at that time as potentially requiring connections included:

i. Meridian Solar (formerly referred to as Holbeach Marsh Energy Park);

ii. Spalding Photovoltaic (PV) and Battery Energy Storage System (BESS) Station; and

iii. Outer Dowsing Offshore Wind Farm.

3.3.3 The Weston Marsh area was also proposed as the location for a new substation due to the presence of the existing 400 kV overhead line connecting between the existing Bicker Fen and Walpole 400 kV substations, (known as ‘4ZM’), and the 400 kV double circuit transmission route from Spalding substation, in Spalding, to a Tee-Point (the Spalding Tee-Point) along the 4ZM 400 kV double circuit transmission route (known as ‘2WS’). Locating close to the Spalding Tee-Point would reduce the extent of required diversions to the existing 400 kV overhead lines to facilitate the turn-in of the circuits to the New Weston Marsh substation. Increasing the distance further from the Spalding Tee-Point was discounted as this would increase the required reconfiguration of existing transmission lines (distance to the new

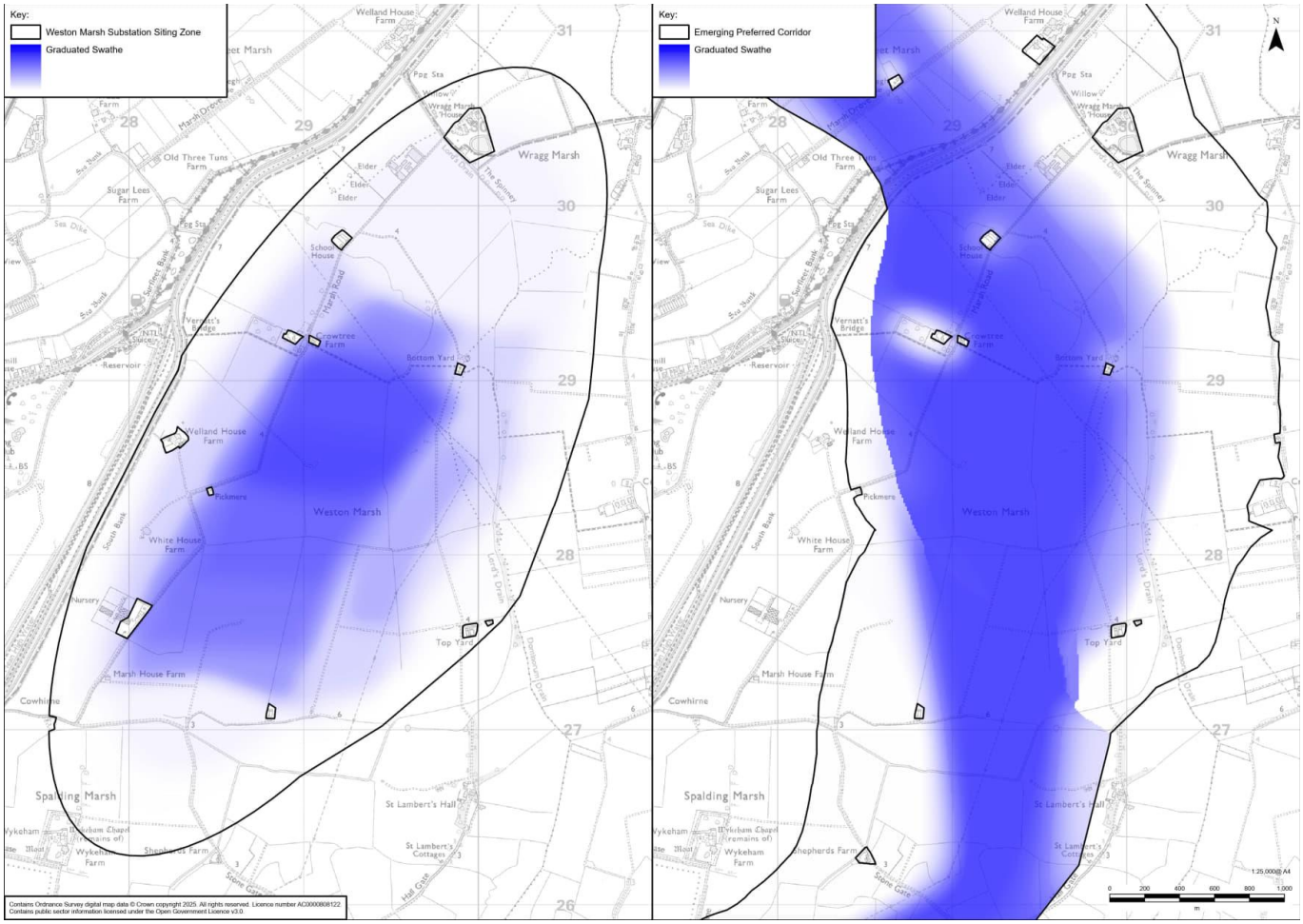
substation). This increase in distance would increase the geographical spread of development and be likely to increase the scale of environmental and socio-economic impacts. The Meridian Solar and Spalding PV and BESS Station projects listed in section 3.3 are located in proximity to the Weston Marsh area, so a new substation in this area would also provide a centralised connection point for multiple generators. This reduces the potential spread of development caused by these projects being required to construct longer connections to more distant substations.

3.3.4 For the Weston Marsh substation, the CPRSS identified four siting zones (WMZ1, WMZ2, WMZ3 and WMZ4) in the proximity of the 4ZM and 2WS. These zones were developed through definition of a study area (Step 1), mapping and weighting of features (Step 2 and Step 3), and an iterative identification, review and refinement process (Steps 4, 5 and 6). Water Environment, Noise and Vibration and Air Quality were not considered to be differentiating factors between the siting zones. For Landscape, Visual, Ecology and Biodiversity, Historic Environment and Socio-economics, a comparative appraisal of the options was undertaken. WMZ4 was discounted due to its proximity to the Wash designated sites, with WMZ1 also discounted due to a long diversion of the 2WS as well as a potential interaction with the Outer Dowsing offshore wind farm proposals. There was little to choose between WMZ2 and WMZ3, however WMZ2, which eventually became the preferred siting zone, was marginally preferred from an environmental perspective due to being slightly more remote.

3.3.5 Within this emerging preference, the Weston Marsh siting zone, four siting areas were identified (WM1, WM2, WM3 and WM4). Ecology and Biodiversity, Water Environment, Socio-economics, Noise and Vibration and Air Quality were not considered to be differentiating factors between the siting areas. From a Landscape and Visual perspective, siting areas WM2 and WM3 were preferred as infrastructure would be sited closer to the existing 4ZM and 2WS overhead lines therefore reducing the spread of infrastructure and limiting the length of permanent realignments to the existing overhead lines. From a Historic Environment perspective, siting areas WM2 and WM3 were also preferred as these areas were more distant from designated heritage assets and therefore limited the spread of infrastructure (and therefore impacts upon setting) to surrounding areas. As there was little to choose between siting areas WM2 and WM3 from an environmental and technical perspective, an area primarily encompassing WM2 and WM3 was identified as the emerging preference.

3.3.6 From the identification of an area encompassing WM2 and WM3, a Graduated Swathe for the substation at Weston Marsh area was developed, taking into account the location of constraints within and beyond the siting zone. The darker areas on the Graduated Swathe indicated where the substation infrastructure was more likely to be situated within the siting zone. A Graduated Swathe is both preliminary and indicative in nature, and ultimately intended to facilitate early feedback on the Project proposals and serve as a tool for future development of the Project. The Graduated Swathe for this substation was developed for the purposes of Stage 1 Consultation for the Project. It should be noted that for the Project, multiple Graduated Swathes were produced for both substation and overhead line locations more widely, as presented within the CPRSS. **Image 3** below shows the Graduated Swathes for the Weston Marsh area presented side by side (left: substation Graduated Swathe; right: overhead line Graduated Swathe), which were taken forward to Stage 1 Consultation. The full appraisal of options and the development of the Graduated Swathe is detailed in the CPRSS (Ref 4).

Image 3 Graduated Swathes from the CPRSS for the Weston Marsh area of the Project.



3.4 Stage 1 Consultation

3.4.1 Stage 1 Consultation was undertaken in Spring 2024. This was a non-statutory consultation on the Project which aimed to:

i. introduce the Project and why it was needed;

ii. outline the work undertaken as part of the CPRSS to identify the emerging preferred siting zones and corridor, then siting areas, as well as the Graduated Swathe; and

iii. provide the public and stakeholders the opportunity to provide feedback.

3.5 Design Development up to and post Stage 2 Consultation

Design Development up to Stage 2 Consultation

3.5.1 Following the Stage 1 Consultation, there were two core activities that informed design development; firstly, a review of feedback from Stage 1 Consultation, and secondly, consideration of emerging results of environmental studies being undertaken as part of the Environmental Impact Assessment (EIA) of the Project and other technical or engineering studies.

3.5.2 During development of the Weston Marsh Substation, National Grid undertook engagement with generators contracted to connect in this area alongside reviewing technical specifications. This identified a need for further design work to be undertaken including consideration of whether there is a need for up to two new substations in the Weston Marsh area. As a result, for the purposes of PEI and Stage 2 Consultation, less design information was presented for Weston Marsh Substation and proposed overhead line routes compared to other sections of the Project to enable further technical studies to be undertaken.

3.5.3 For Section 5 specifically, and as a result of ongoing environmental and technical studies that were conducted on the Weston Marsh area and the Graduated Swathes presented in the CPRSS (as described in section 3.3 above), a Refined Weston Marsh Substation Siting Zone (the 'Siting Zone') was developed, as shown at **Image 4** below. This Siting Zone was developed taking account of the potential requirement for up to two substations in the Weston Marsh area and forms the basis of this Siting Study (as described in section 1).

3.5.4 The Siting Zone was based on a combination of the overhead line Graduated Swathe and the Weston Marsh substation Graduated Swathe presented at Stage 1 Consultation. The rationale for the merging of these two swathes considered the ongoing design evolution in this area for the positioning of infrastructure. Slight modification was made to the original Graduated Swathes to remove areas where infrastructure would not be sited, due to identified constraints. As such, the Siting Zone included additional cut-outs around identified structures and the curtilages of domestic properties that were not originally excluded from the Graduated Swathes.

3.5.5 When the Siting Zone was being developed from the preferred siting zone presented in the CPRSS, a review of the other potential siting zones considered in the CPRSS (Ref 4) was conducted to ensure that the area primarily encompassing WM2 and WM3 still represented the preferred location should two substations be required in the Weston Marsh area.

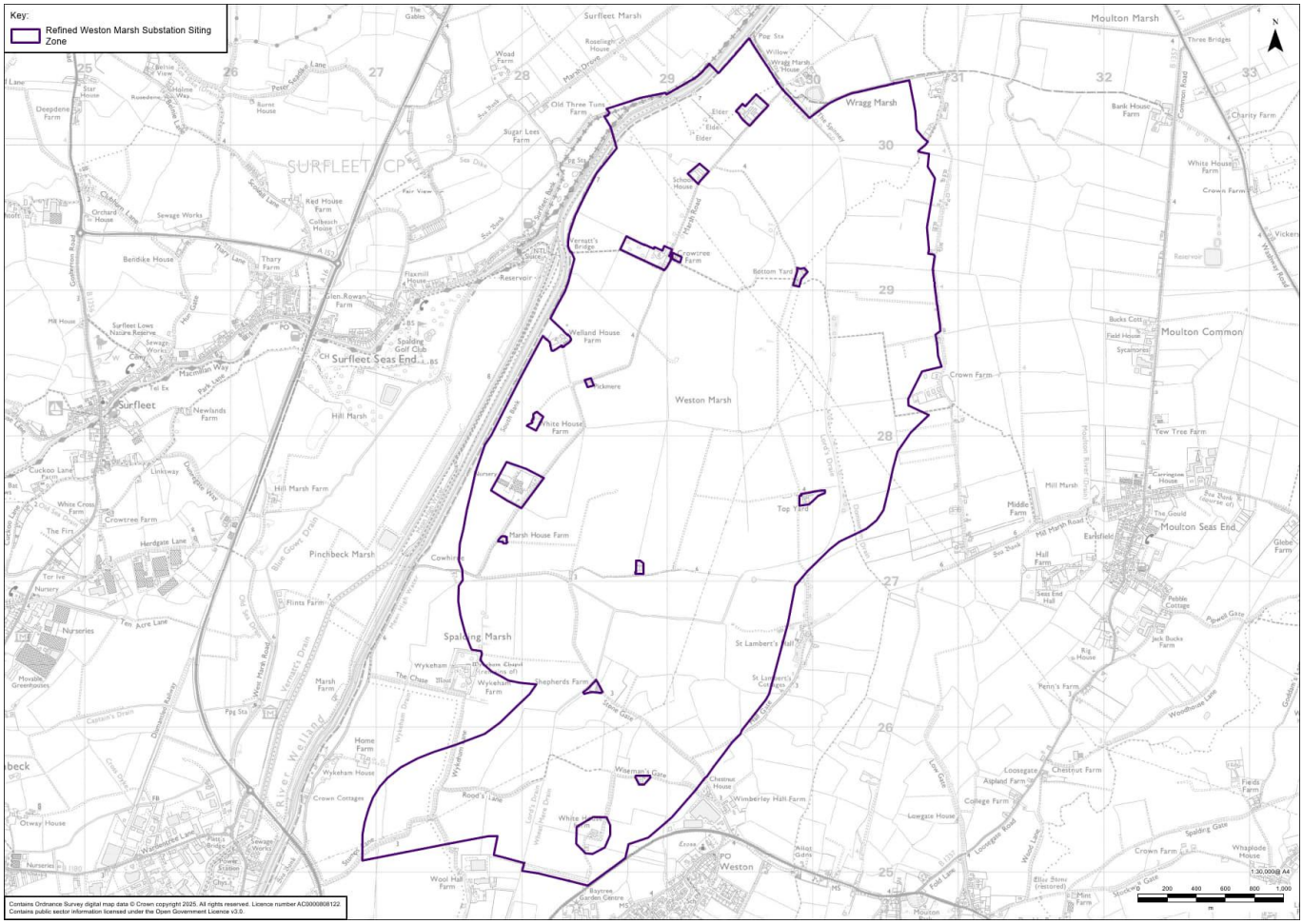
3.5.6 From an environmental perspective, all constraints associated with each of the siting zones identified in the original siting exercise and presented within the CPRSS (Ref 4) were found to be equally applicable following the review. The review considered these constraints in the context of a proposal incorporating two substations and concluded that the inclusion of the second substation would not alter the conclusions of the CPRSS, based on those constraints. As such, the review concluded that the area primarily encompassing WM2 and WM3 remained the preferred location from an environmental perspective.

3.5.7 From a technical perspective, a high level technical review was undertaken to appraise the siting of one or both Weston Marsh substations in the other CPRSS siting zones, outside of the Refined Weston Marsh Substation Siting Zone. The purpose of this review was primarily to understand the level of technical complexity associated with the overhead line diversions and network reconfigurations in each option, as well as the overall spread of infrastructure that would be required based on the potential geographical extent of the diversion works. As the network arrangement required is determined by electrical system studies based on the required connections at both substations, the distribution of overhead line circuits across the two substations is common to all options, allowing high level network designs and overhead line diversions to be drawn up. The conclusion of this study reinforced the findings from an environmental perspective, as all options outside WM2 and WM3

resulted in a significantly increased level of technical complexity and geographical spread of overhead line infrastructure.

3.5.8 The driver to site the a new substation (the new Weston Marsh Substation A) near the Spalding Tee-Point remained as a key consideration based on the connections required to the existing 4ZM overhead line, whilst siting a second substation (the new Weston Marsh Substation B) to the south-west of Spalding Tee-Point elsewhere in the Siting Zone allows for a less extensive permanent diversion of the existing 2WS overhead line and connection to the existing 4ZM overhead line from the north without introducing additional overhead line crossings. As a result, the technical review also concluded that the area primarily encompassing WM2 and WM3 remained the preferred location.

Image 4 Refined Weston Marsh Substation Siting Zone (the 'Siting Zone')



Design Development post Stage 2 Consultation

3.5.9 As set out in section 1.3 of this Siting Study, the technical studies that were completed during Summer 2025 confirmed that two substations are required in the Weston Marsh area. This decision was informed by network analysis to determine the optimal configuration for the network and the substations within this region, taking into account the need to ensure the resilience of the network. Various considerations were taken into account, including the amount of generation planned to connect in the Weston Marsh area and maintenance of the network. The construction of two substations would offer improved operational flexibility, whilst mitigating against the risk of the network becoming reliant on a single node of substantial generation. The

need for a 1 km clearance and an underground cable connection between these two substations was also identified during this process to manage system-wide resilience.

3.5.10 Feedback received from the Stage 2 Consultation on the Siting Zone is detailed in the **Section 5 Consultation Feedback Report**.

4. Approach to the Siting Study

4.1 National Grid's Approach to Consenting

4.1.1 The key document that is applicable and is followed for this Siting Study is National Grid's Approach to Consenting (Ref 1). This document outlines the options appraisal process, predominantly utilised for major infrastructure projects.

4.1.2 Within the CPRSS (Ref 4), a nine-step approach was employed to inform the options identification and selection process, this is detailed within section 4 of the CPRSS (Ref 4). For the purposes of this Siting Study, Steps 6 (establishment of siting areas) and 7 (appraisal of siting areas) have been repeated to take account of the second substation identified as being required at Weston Marsh, the new Weston Marsh Substation B.

4.1.3 On a project-by-project basis, National Grid's approach to consenting considers the following topics and sub-topics:

i. Environmental: Landscape and Visual Amenity; Ecology; Historic Environment; Air Quality; Noise and Vibration; Agriculture and Soils; Geology and Hydrogeology; Water Environment; and Climate Change;

ii. Socio-economic: Economic Activity; Traffic and Transport; Aviation and Defence;

iii. Technical: Technical Complexity; Construction/Delivery issues; Technology issues (which includes sustainability issues); Capacity issues; Network efficiency/benefits (which includes energy efficiency); and

iv. Cost: Capital cost; Lifetime cost; and Constraint costs (where applicable).

4.1.4 The environment and socio-economic topics are aligned with applicable requirements of section 5 of NPS EN-1 (Ref 10) and section 2 of NPS EN-5 (Ref 11).

4.1.5 For this Siting Study, rather than considering Soils and Geology as one appraisal criteria, as per National Grid's Approach to Options Appraisal, Agriculture and Soils has been considered as one sub-topic and Geology and Hydrogeology has been considered as another. This has been done for consistency so that the topics considered in this appraisal align with those considered within the June 2025 PEI Report (Ref 7) that was published for Stage 2 Consultation. Landscape and Visual were also assessed as separate sub-topics in the June 2025 PEI Report, therefore the same has been done in this appraisal.

4.1.6 Option appraisal provides a means of objectively comparing options, through collecting and assessing information which allows distinctions to be drawn between options and identify a preferred site option. However, National Grid acknowledges that sub-topics (and potentially whole topics) may be scoped-out if it is likely that there would be no material impact on the topic as a result of any of the options because of the nature of the Project, or it will not be a differentiating factor between any of the options identified.

4.1.7 It should be noted that scoping out a sub-topic simply reflects the fact that either: (i) there are no features for that sub-topic within or in the vicinity of the Study Area that could be affected; or (ii) the different Siting Areas could not be distinguished based

on that sub-topic. It does not mean that the topic or sub-topic is not important, nor does it mean that it would necessarily be scoped out during subsequent stages, such as environmental impact assessment.

4.1.8 For this Siting Study, the following topics were scoped out on the basis that either no constraints have been identified for a particular topic or there were no material differences between each Siting Area in relation to the topic such that it would not be a differentiating factor. The reason for scoping these topics out is outlined below:

i. Agriculture and soils;

ii. Climate Change;

iii. Traffic and Movement;

iv. Aviation and Defence; and

v. Cost.

4.1.9 Agriculture and Soils was scoped out because the entirety of the Siting Zone is within land which is provisionally mapped as Grade 1, the highest quality land, under the Agricultural Land Classification (ALC) guidelines. The development of any infrastructure within the Siting Zone on this Grade 1 land would have the potential for impacts upon agriculture and soils, regardless of location, and is therefore not a differentiating factor between Siting Areas.

4.1.10 With regards to potential climate change risks or constraints, any impact on construction-related greenhouse gas emissions is expected to be negligible and no material climate resilience risks are anticipated in respect of the substations or associated connection infrastructure, nor is there anticipated to be a material difference in the impacts associated with each of the Siting Areas.

4.1.11 Traffic and movement is scoped out because construction Heavy Goods Vehicle traffic is expected to take a route via Stone Gate and Marsh Road from the A151 to the south which would be common to all Siting Areas. There are also multiple Public Rights of Way (PRoWs) present in the Siting Zone, but these are not anticipated to be directly impacted by construction or operation of the substations, meaning there is no material difference between the Traffic and Transport associated risks or constraints for the Siting Areas.

4.1.12 No aviation or defence receptors have been identified within 5 km of the Siting Zone, and therefore there is no material difference between the Siting Areas in this context.

4.1.13 Cost is not a differentiating factor for the Siting Areas, in the context of substation options at Weston Marsh specifically. The slight difference in length of the overhead line and underground cable connections associated with each Siting Area may result in slight differences in cost, however, given the relative proximity of each of the options to one another, the difference is negligible and has therefore not been considered further.

4.2 Holford Rules

4.2.1 Guidelines on overhead line routeing were first formulated in 1959 by Sir William, later Lord, Holford, as advisor to the Central Electricity Generating Board. Holford developed a series of planning guidelines in relation to amenity issues, that have subsequently become known as the Holford Rules (Ref 3) and remain a valuable tool

in selecting and assessing potential overhead line route options as part of the options appraisal process. A summary of the Holford Rules can be found in (Ref 3). The guidelines provide a set of design criteria that have become accepted industry best practice in overhead line routeing. The guidelines now form an important part of national planning policy relating to the development of electricity networks, as set out in NPS EN-5 (Ref 11). The principles of the Holford Rules are being applied to the Project.

Table 1 The Holford Rules

Rule	Description
Rule 1	Avoid altogether, if possible, the major areas of highest amenity value, by so planning the general route of the first line in the first place, even if the total mileage is increased in consequence.
Rule 2	Avoid smaller areas of high amenity value, or scientific interests by deviation; if this can be done without using too many angle towers, i.e., the more massive structures which are used when lines change direction.
Rule 3	Other things being equal, choose the most direct line, with no sharp changes of direction and thus with fewer angle towers.
Rule 4	Choose tree and hill backgrounds in preference to sky backgrounds wherever possible; and when the line must cross a ridge, secure this opaque background as long as possible and cross obliquely when a dip in the ridge provides an opportunity. Where it does not, cross directly, preferably between belts of trees.
Rule 5	Prefer moderately open valleys with woods where the apparent height of towers will be reduced, and views of the line will be broken by trees.
Rule 6	In country, which is flat and sparsely planted, keep the high voltage lines as far as possible independent of smaller lines, converging routes, distribution poles and other masts, wires, and cables, to avoid a concentration or 'wirescape.'
Rule 7	Approach urban area through industrial zones, where they exist; and when pleasant residential and recreational land intervenes between the approach line and the substation, go carefully into the comparative costs of the undergrounding, for lines other than those of the highest voltage.

4.2.2 For the purposes of the appraisals undertaken within this Siting Study, only Holford Rules 1 and 2 have been considered in relation to the siting of substations at Weston Marsh. The remaining Holford Rules relate specifically to the routeing of overhead lines and have therefore not been considered further in this Siting Study, as although the requirement for the associated overhead line entries to and from the New Weston Marsh Substations A and B was considered as part of this appraisal, the exact alignments were not.

4.3 Horlock Rules

4.3.1 National Grid devised the Horlock Rules (Ref 2) in 2003 and these were subsequently updated in 2006. The Horlock Rules provide guidelines for the siting and design of new substations, or substation extensions, to avoid or reduce the environmental effects of such developments. In summary, like the Holford Rules, they

facilitate consideration of environmental and amenity considerations within the design and siting of new substation infrastructure. Therefore, these rules are particularly relevant to the siting of the substations in the Weston Marsh area.

4.3.2 The Horlock Rules contain the following guidelines in relation to siting:

i. Overall System Options and Site Selection

- Rule 1: In the development of system options including new substations, consideration must be given to environmental issues from the earliest stage to balance the technical and capital cost requirements for new developments against the consequential environmental effects to keep adverse effects to a reasonably practicable minimum.

ii. Amenity, Cultural or Scientific Value of Sites

- Rule 2: The siting of new National Grid Company (NGC) substations, sealing end compounds and line entries should as far as reasonably practicably seek to avoid altogether internationally and nationally designated areas of the highest amenity, cultural or scientific value by the overall planning of the system connections.
- Rule 3: Areas of local amenity value, important existing habitats and landscape features including Ancient Woodland, historic hedgerows, surface and ground water sources and nature conservation areas should be protected as far as reasonably practicable.

iii. Local Context, Land Use and Site Planning

- Rule 4: The siting of substations, extensions and associated proposals should take advantage of the screening provided by landform and existing features and the potential use of site layout and levels to keep intrusion into surrounding areas to a reasonably practicable minimum.
- Rule 5: The proposals should keep the visual, noise and other environmental effects to a reasonably practicable minimum.
- Rule 6: The land use effects of the proposal should be considered when planning the siting of substations or extensions.

iv. Design

- Rule 7: In the design of new substations or line entries, early consideration should be given to the options available for terminal pylons, equipment, buildings, and ancillary development appropriate to individual locations, seeking to keep effects to a reasonably practicable minimum.
- Rule 8: Space should be used effectively to limit the area required for development consistent with appropriate mitigation measures and to reduce the adverse effects on existing land use and rights of way, whilst also having regard to future extension of the substation.
- Rule 9: The design of access roads, perimeter fencing, earth shaping, planting and ancillary development should form an integral part of the site layout and design to fit in with the surroundings.

v. Line Entries

- Rule 10: In open landscape especially, high voltage line entries should be kept, as far as possible, visually separate from low voltage lines and other overhead lines to avoid a confusing appearance.
- Rule 11: The inter-relationship between pylons and substation structures and background and foreground features should be studied to reduce the prominence of structures from main viewpoints. Where practicable the exposure of terminal pylons on prominent ridges should be reduced by siting pylons against a background of trees rather than open skylines.

4.3.3 For the purposes of the appraisals undertaken within this Siting Study, Horlock Rules 7, 9, 10 and 11 have not been considered in relation to the siting of substations at Weston Marsh as they these rules are primarily concerned with detailed design of substations.

4.4 Siting Study Methodology

4.4.1 The appraisal has been conducted in accordance with National Grid's Approach to Consenting (Ref 1). This guidance provides a framework to inform the appraisal of project options and decision making. It also enables National Grid to document, in a transparent manner, the information on which substation site selection judgements (and associated overhead line and underground cable connections) have been based.

4.4.2 As stated in section 1.3 above, with respect to the location of the new Weston Marsh Substation A, this Siting Study is building on extensive siting work already conducted in relation to the Weston Marsh area, reported in the CPRSS (Ref 4). Therefore, different approaches to siting have been adopted in this report for each of the two required substations. This Siting Study has reviewed the Weston Marsh substation siting preference set out in the CPRSS, to determine whether the preferred siting zone and siting areas within it are appropriate from a technical and environmental perspective for the new Weston Marsh Substation A. The Horlock (Ref 2) and Holford Rules (Ref 3) have also been considered in this context. This is given the extensive work undertaken previously to establish the area primarily encompassing WM2 and WM3 as a preferred substation location, as described in section 3.The results of this re-appraisal are presented in section 7 below, including whether there have been any changes to the conclusions presented in the CPRSS (Ref 4).

4.4.3 In determining the preferred location of the new Weston Marsh Substation B, a three-stage approach was taken to the Siting Study, incorporating National Grid's Approach Consenting (Ref 1) and the Holford and Horlock Rules. These stages are described below.

Stage 1: Constraints Mapping

4.4.4 To identify options that best satisfy National Grid's statutory duties and obligations and meet the Project objectives, it is necessary to understand the environmental, socio-economic and technical constraints and opportunities within the Study Area for this Siting Study. The Study Area is the Refined Weston Marsh Substation Siting Zone (as described in section 1.3) that was presented at Stage 2 Consultation and in the June 2025 PEI Report (Ref 7) for the Project. As set out in Section 3, this is the area within which the required infrastructure within Section 5 of the Project could be sited.

4.4.5 A constraints mapping exercise was undertaken to identify and review all relevant constraints within the defined Study Area, this is presented on **Image 5**.

4.4.6 This used the initial constraints mapping exercise undertaken for the CPRSS (Ref 4) as the starting point, using well defined parameters such as, but not limited to, statutory designations, residential settlements and dwellings and Environment Agency Flood Zones. Identified constraints have been re-verified to ensure all constraints relevant to the Siting Study have been captured.

4.4.7 The baseline studies undertaken to inform the June 2025 PEI Report (Ref 7) and specifically relevant to Section 5 of the Project were also considered as part of this exercise. This included consideration of site survey data where available.

4.4.8 As part of this process, geographical information system (GIS) web mapping was developed to include available environmental, socio-economic and technical data within the Study Area using publicly available data sources.

4.4.9 The environmental constraints identified during Stage 1 are shown cartographically on **Image 5** below.

Stage 2: Identification of Siting Areas

4.4.10 Based on the constraints mapping exercise conducted in Stage 1 and the desk-based study, three potential Siting Areas for the new Weston Marsh Substation B and associated overhead line and underground cable connections routes were identified within the Study Area (referred to as Weston Marsh B Siting Areas). All are at least 1 km away from the Weston Marsh A Siting Area.

4.4.11 The environmental, technical and socio-economic appraisals conducted on each Siting Area have considered receptors beyond this Study Area on a topic by topic basis, where considered relevant.

4.4.12 The need for a 1 km clearance between the new Weston Marsh Substation A and new Weston Marsh Substation B was determined by the network analysis that identified the need to manage system-wide resilience. In addition to this separation, the network analysis identified a requirement for the connection between the new Weston Marsh Substations A and B to be via underground cable, to provide additional mitigation for residual system-wide resilience.

4.4.13 At this stage of project development, it is anticipated that the new Weston Marsh Substation B would require an area of approximately 13 hectares. However, to allow for design flexibility as the detailed design progresses, larger areas have been defined and appraised in this Siting Study, with minor differences in size for each to take into account access to each Siting Area and natural field boundaries. Taking into account the constraints mapping exercise, three Siting Areas within the Study Area have been identified based on the following overarching siting considerations:

i. The area being generally flat;

ii. Proximity to major roads, to reduce the extent of required new access roads;

iii. Proximity to existing overhead lines, to limit the need for new lengths of overhead line/pylons and/or underground cable connections;

iv. Avoiding being in close proximity to residential properties, as far as practicable;

v. Avoiding designated assets; and

vi. The presence of constraints which may limit the ability to provide further facilities for the substation in the future, if required.

4.4.14 Each Siting Area is presented in section 6 and appraised in section 8 of this Siting Study. Each Siting Area has an associated description of the general routeing the overhead line connections would connect into the new substations, as well as an underground cable connection between the new Weston Marsh Substations A and B.

Stage 3: Detailed Options Appraisal

4.4.15 Stage 3 consisted of a detailed options appraisal of the Siting Areas to consider the environmental, socio-economic and technical factors listed previously (section 4.1), alongside the feasibility of each Siting Area and associated overhead line and underground cable connections.

4.4.16 The findings of environmental and socio-economic appraisals of the Siting Areas were weighed against technical considerations (consistent with National Grid's statutory obligations), as well as consideration of the Holford and Horlock Rules, to select a preferred Siting Area for the new Weston Marsh Substation B.

5. Refined Weston Marsh Substation Siting Zone (Study Area)

5.1.1 This section presents the work conducted for Stage 1: Constraints Mapping, as per National Grid's Approach to Consenting (Ref 1). It details the environmental, socio-economic and technical constraints and opportunities for this Siting Study.

5.2 Physical Characteristics

5.2.1 The Study Area (in accordance with the Siting Zone considered in the June 2025 PEI Report) (Ref 7) covers an area of approximately 1,233 hectares (ha). The topography of the Study Area is generally flat and located in a lowland river valley.

5.2.2 The River Welland and River Glen, including the confluence of these two rivers, are located to the west of the Study Area, with the River Welland continuing to run adjacent to the Study Area and eventually continuing to the north.

5.2.3 The majority of the Study Area is classified as Flood Zone (FZ) 3, with smaller pockets of FZ2, due to the close proximity of the River Welland and River Glen. Environmental constraints within and in the immediate vicinity of the Study Area are displayed cartographically on **Image 5** below.

5.3 Landscape Character

5.3.1 The Study Area is located in a predominantly open rural landscape mostly comprising agricultural land.

5.3.2 The Study Area is located within National Character Area (NCA) 46: The Fens (NCA 46). At a local level, the Study Area is located within Regional Landscape Character Type (RLCT) 2A Settled Fens and Marshes, as defined in the East Midlands Region Landscape Character Areas.

5.4 Settlement and Land Use

5.4.1 The Study Area is located in an area predominantly made up of agricultural land, with numerous agricultural holdings and isolated hamlets throughout the Study Area. It is located approximately 0.1 km north west of Weston, 0.2 km east of Surfleet Seas End, and 1.5 km west of Moulton Seas End at the closest point.

5.5 Statutory Designations

5.5.1 The Study Area is not within or adjacent to any National Landscapes, the closest being Norfolk Coast National Landscape (formerly Area of Outstanding Natural

Beauty (AONB)[1]) over 28 km to the east. There are no Country Parks, areas of open access land or registered parks and gardens within the Study Area. No statutory designated ecological sites are present within the Study Area.

5.5.2 There are no World Heritage Sites, Registered Parks and Gardens or Registered Battlefields within the Study Area.

5.5.3 Wykeham Chapel scheduled monument (designated heritage asset) is located immediately south west of the Study Area. There are no designated heritage assets within the Study Area. There are 17 non-designated heritage assets recorded within the Study Area, including the Medieval Sea Bank in Weston (MLI98445), and three former historic farmsteads which have all been demolished (MLI122922, MLI122921 and MLI122920). Buried archaeological remains relating to the farmsteads may be present within their former footprints. The find spots of two post-medieval artefact scatters are recorded, in addition cropmarks, earthworks, road/trackway/railway/canal and a former watercourse.

5.6 Transportation

5.6.1 The A16 runs approximately 300 m to the west of the Study Area at its closest point. The A151 runs adjacent to the southern boundary of the Study Area at its closest point.

5.6.2 There are multiple PRoWs located within the Study Area, these are denoted on **Image 5** below.

5.7 Agricultural Land Classification

5.7.1 ALC is a classification system used to assess the quality of agricultural land within England and Wales. The Provisional ALC mapping shows that the Study Area comprises Best and Most Valuable (BMV) Grade 1 land (excellent quality agricultural land) (Ref 15).

5.8 Noise and Vibration

5.8.1 The Study Area is a predominantly rural area, therefore the majority of noise sensitive receptors within it are isolated dwellings, farms and small settlements. The Study Area is located in proximity to several villages and built-up areas, including Surfleet Seas End and Spalding to west of the Study Area; and Weston, southeast of the Study Area.

5.8.2 The main sources of environmental noise within the Study Area include the nearby A16 and the A151, as well as traffic on local roads. In terms of industrial sources, the main source of noise is likely to be agricultural activity.

5.8.3 There are no Noise Important Areas within or close to the Study Area.

[1] Since November 2023, AONBs are now known as ‘National Landscapes’. Legally these areas remain AONB and as such Government and other policy continues to refer to AONB, but they are now known as National Landscapes in common usage.

5.9 Air Quality

5.9.1 Sensitive receptors within the Study Area include small settlements, individual scattered properties and individual agricultural holdings.

5.9.2 There are no recorded exceedances of the annual mean Nitrogen dioxide (NO_2) or Particulate Matter (PM_{10}) objectives in the Study Area (based upon Local Authority monitoring data).

5.9.3 There are no Air Quality Management Areas (AQMAs) within or close to the Study Area.

5.10 Economic Activity

5.10.1 Two local businesses, including tourist accommodations, fall within the Study Area:

i. Wigwam Holidays (tourist accommodation); and

ii. Ball Colegrave Ltd (horticultural Company).

5.10.2 There are no development land allocations, including existing and proposed land used for above ground renewable energy generation (solar and onshore wind farms), alongside development land allocations set out in local planning policy, within the Study Area.

5.10.3 There are no community facilities within the Study Area.

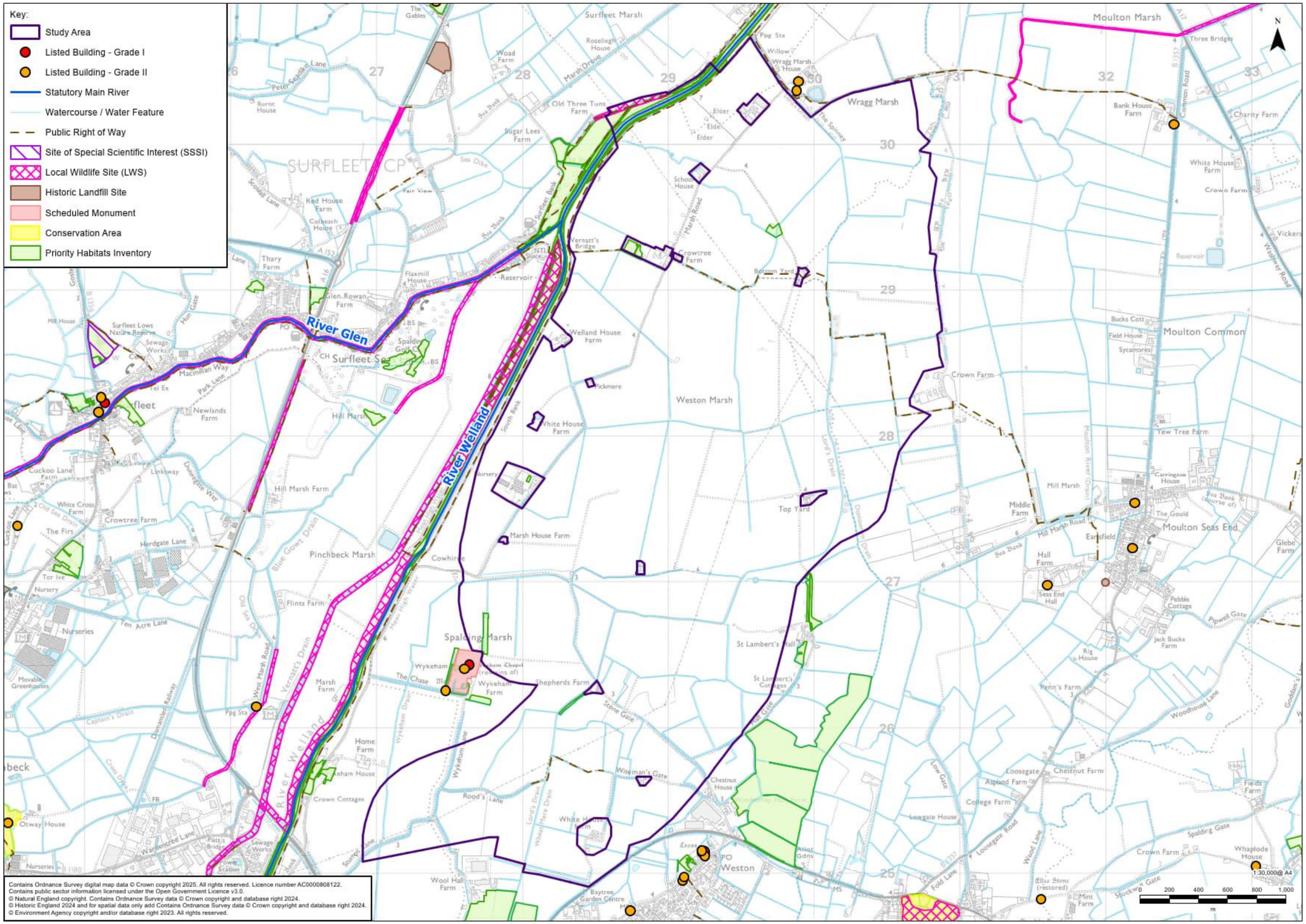
5.10.4 One open space, the tennis court along the Weston Footpath, sits within the Study Area.

5.10.5 There are five PRoWs within the Study Area (three public footpaths and two public bridleways), including MacMillan Way long-distance footpath (promoted/recreational route).

5.11 Aviation and Defence

5.11.1 No airfields have been identified within or within 5 km of the centre of the Study Area.

Image 5 Environmental Constraints Plan of the Study Area



6. Substations and Associated Connection Infrastructure

6.1 New Weston Marsh Substation A

6.1.1 The new Weston Marsh Substation A, for the purposes of the appraisal undertaken and consistent with paragraph 2.5.6 of the CPRSS (Ref 4), is assumed to incorporate a new 400 kV Air Insulated Substation (AIS)[2], as well as associated overhead line works including connection of the existing 4ZM overhead line route into the new substation and an assumed underground cable connection to the Weston Marsh Substation B.

6.1.2 Modification works to the existing 4ZM would also be required to facilitate the substation, including reconductoring, temporary diversions, the removal of pylons and existing overhead line, and structural changes to existing pylons. New overhead line and pylons would also be required.

6.1.3 As described within the **Grimsby to Walpole Weston Marsh Targeted Consultation Document**, National Grid are seeking to deliver the proposed works within Section 5 via a phased construction programme, so that part of the new Weston Marsh Substation A is built earlier than the rest of the Project (referred to in the Targeted Consultation Document as Phase 1 – Weston Marsh Substation A).

6.1.4 In this scenario the existing 2WS overhead line would require similar modification works to the existing 4ZM, both to connect into the New Weston Marsh Substation A in the first instance and to be permanently diverted into the New Weston Marsh Substation B later in the construction sequence.

6.1.5 **Image 6** to **Image 8** show the proposed sequence of network modifications in the Weston Marsh area across three scenarios: the existing network arrangement with no modifications; construction of new Weston Marsh Substation A and diversion of the 2WS and 4ZM overhead lines into the new substation in the intermediate configuration; and the final configuration including new Weston Marsh Substation B and the full scope of network reconfiguration in the area. The diagrams are not drawn to scale and are indicative only, to aid understanding of the proposed sequence of modifications to the existing transmission network.

[2] Air insulated technologies have been assumed due to National Grid policy generally precluding the use of gas insulated technologies due to the associated negative environmental impacts, the reduced operational maintainability and the significantly increased cost of gas insulated equipment.

Image 6 Existing network configuration at Weston Marsh

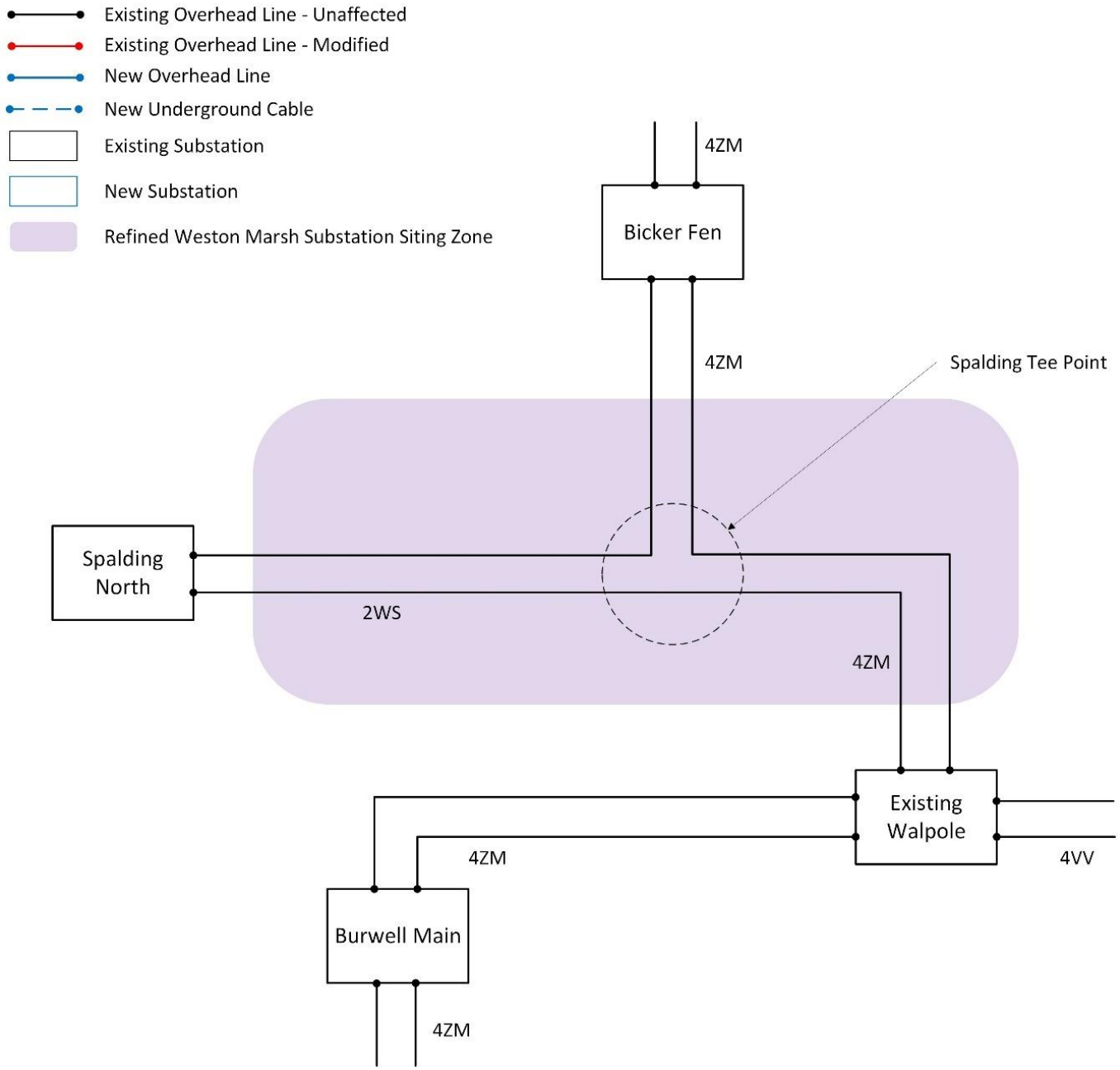


Image 7 Proposed intermediate network configuration at Weston Marsh

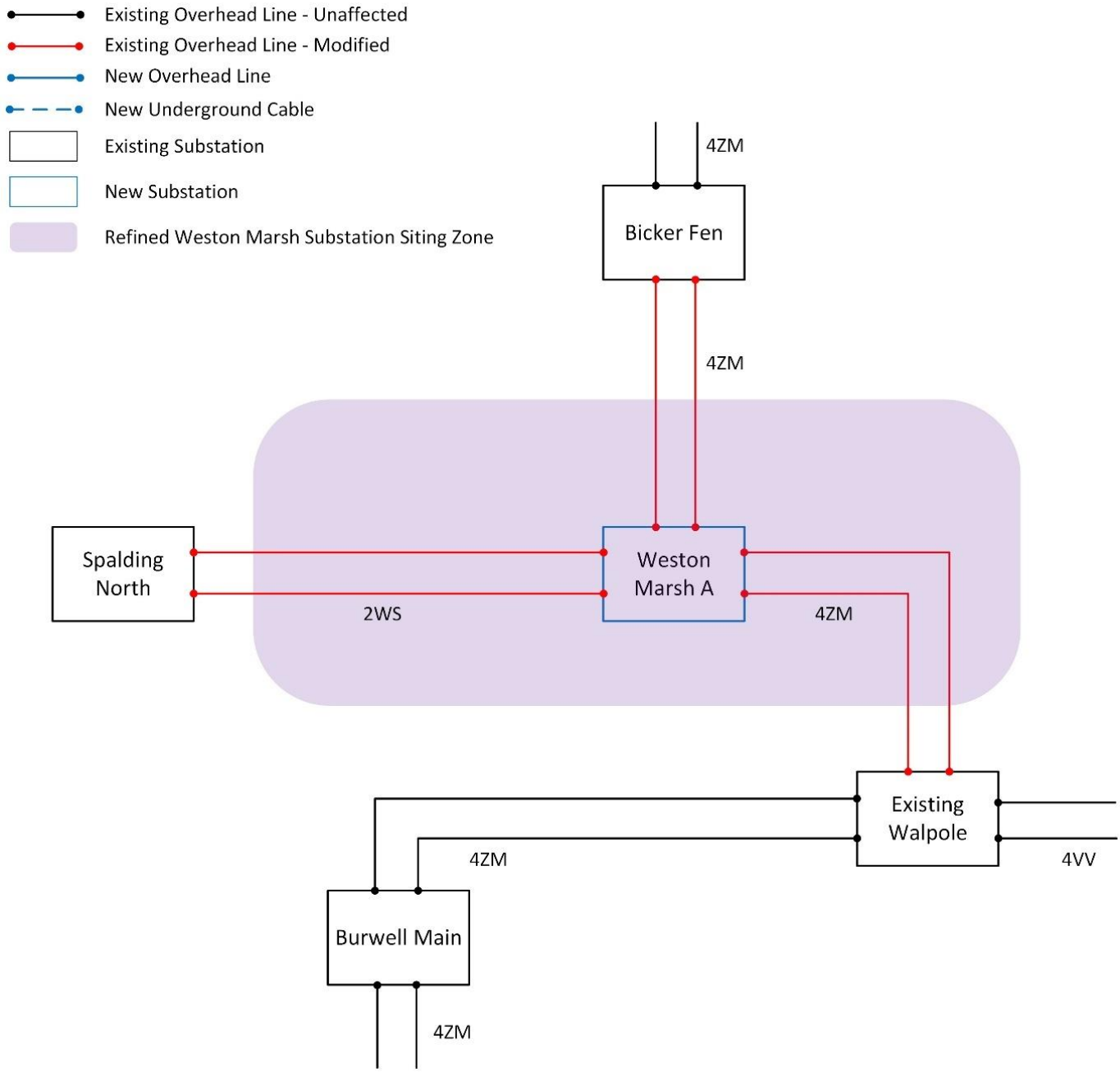
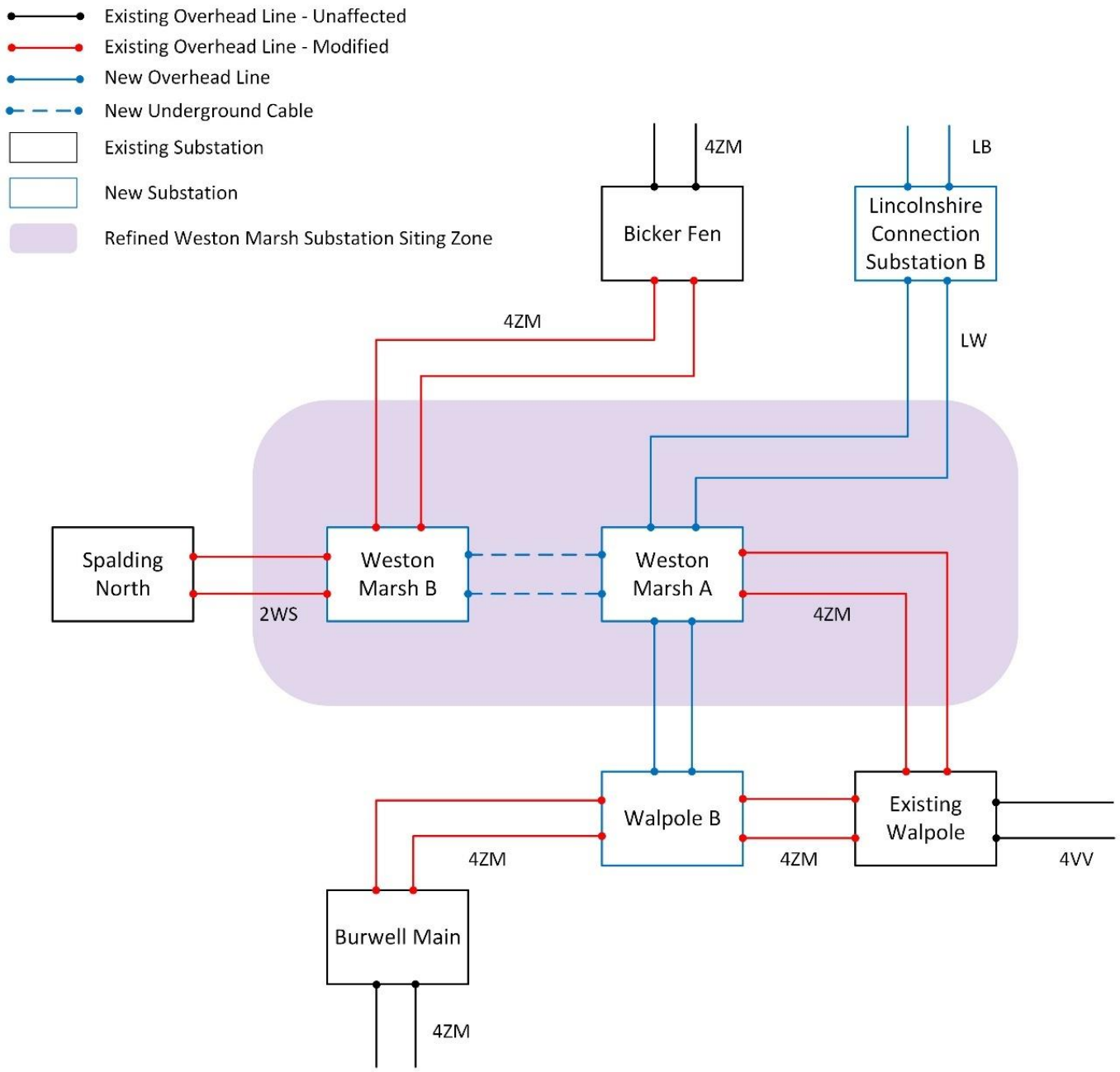


Image 8 Proposed final network configuration at Weston Marsh



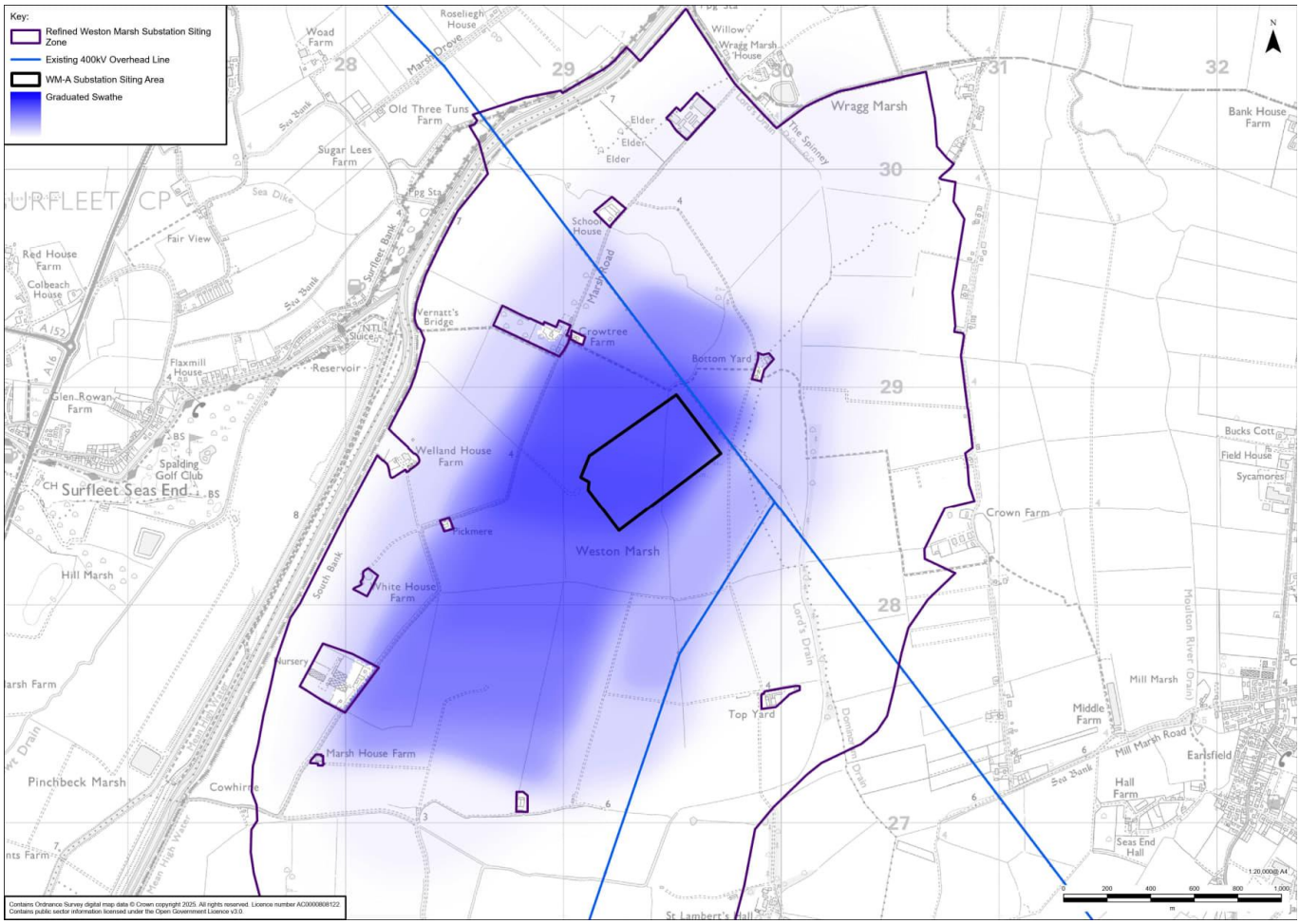
6.1.6 For the purposes of the appraisal of the preferred location of the new Weston Marsh Substation A, a Siting Area has been defined (referred to as the Weston Marsh A Siting Area), situated in the darkest area of the Graduated Swathe (see **Image 9** below) presented in the CPRSS (Ref 4). The Siting Area has been defined based on the current assumption as to the land required to deliver the new Weston Marsh Substation A, with the Siting Area made slightly larger to allow suitable flexibility as the design of the substation develops further.

6.1.7 For the purposes of the appraisal of the preferred location of the new Weston Marsh Substation A, in addition to a consideration of the substation itself, overhead line connections have been assumed and considered within the appraisal. One of these would enter the substation from the north (proposed new build line), continuing north west in parallel to the existing 4ZM overhead line. One would leave the substation to the south to connect back in to the existing 4ZM overhead line as it continues south

east. A new proposed overhead line leaving the substation to the south has also been assumed, which is required to facilitate the Project as it continues to Walpole.

6.1.8 **Image 9** below illustrates the Weston Marsh A Siting Area.

Image 9 Weston Marsh A Siting Area



6.2 New Weston Marsh Substation B

6.2.1 The new Weston Marsh Substation B, for the purposes of the appraisal undertaken and consistent with paragraph 2.5.6 of the CPRSS (Ref 4)[3], is assumed to incorporate a new 400 kV AIS Substation as well as new overhead lines to integrate the existing 4ZM and 2WS overhead line routes into the new substation. An underground cable connection, connecting the new Weston Marsh Substation B to the new Weston Marsh Substation A, is also assumed to be required between the two substations.

6.2.2 For the purposes of the appraisal, three potential Siting Areas have been defined ('Weston Marsh B Siting Areas') and appraised from an environmental, socio-economic and technical perspective. The appraisal of the Siting Areas for the new Weston Marsh Substation B included consideration of the substation itself, as well as

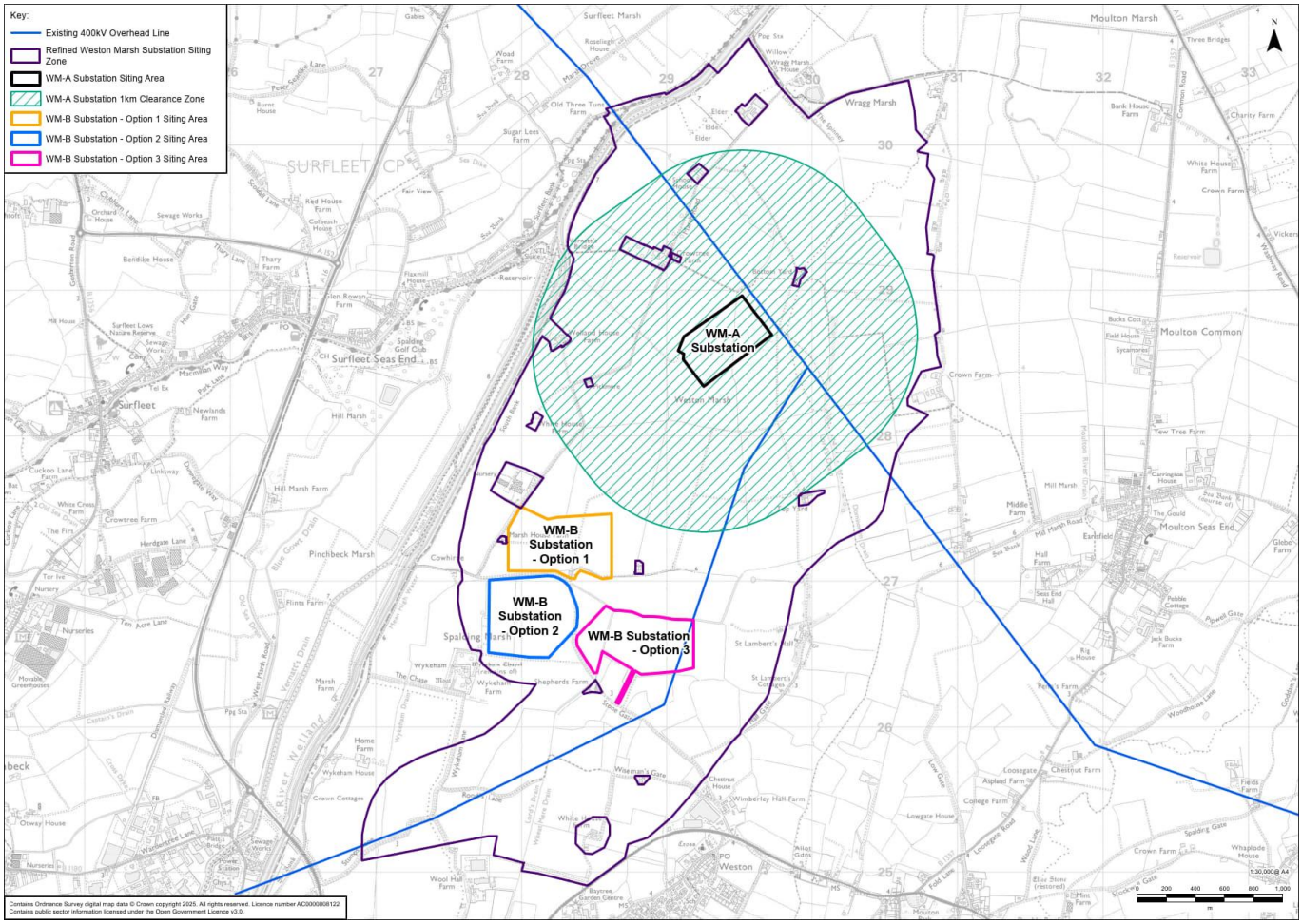
[3] Air insulated technologies have been assumed due to National Grid policy generally precluding the use of gas insulated technologies due to the associated negative environmental impacts, the reduced operational maintainability and the significantly increased cost of gas insulated equipment.

an underground cable connection to the new Weston Marsh Substation A and overhead line connections to the existing 4ZM and 2WS overhead line routes.

6.2.3 The proposed positioning of the new Weston Marsh Substation A has informed the three Siting Areas considered for the new Weston Marsh Substation B, given the separation required. As previously described, the need for a 1 km clearance between the new Weston Marsh Substation A and new Weston Marsh Substation B and a connecting underground cable was determined based on network analysis that identified the need to manage system-wide resilience.

6.2.4 The three Siting Areas ('Option 1 Siting Area', 'Option 2 Siting Area' and 'Option 3 Siting Area') are shown on **Image 10** below.

Image 10 Weston Marsh B Siting Areas



Weston Marsh B – Option 1 Siting Area

6.2.5 This Siting Area is located adjacent to the western extent of the Study Area and to the south west of the Spalding Tee-Point. This Siting Area is located in an area predominantly comprising of agricultural land and is enclosed to the north and south by field drains, one of which partially overlaps the Siting Area. Marsh House Farm, Bass Cottages, Sunnyfield House and Cowhirne Cottage are all located in close proximity (between approximately 50 m – 360 m) to the north, east and west of this Siting Area. Wykeham Chapel is located approximately 600 m to the south west of this Siting Area. Access to this Siting Area could either be provided via Marsh Road to the west or Stone Gate (road) to the south of the Siting Area.

6.2.6 The location of the Option 1 Siting Area is presented on **Image 11** below.

Image 11 Weston Marsh B - Option 1 Siting Area

Weston Marsh B – Option 2 Siting Area

6.2.7 This Siting Area is located to the western extent of the Study Area and to the south west of the Spalding Tee-Point and is situated slightly further south than the Option 1 Siting Area. This Siting Area is located in an area predominantly comprising agricultural land, with drains to the north, east, south and west of the Siting Area boundary. The Siting Area is also crossed by one drain. The Siting Area is located in close proximity to Wykeham Farm, Cowhirne Cottage, Shepherd's Farm, as well as Marsh House Farm and Bass Cottages (between approximately 205 m - 490 m). With regards to Marsh House Farm and Bass Cottages, this Siting Area benefits from some screening provided by trees situated along Stone Gate. Wykeham Chapel is located approximately 50 m to the south west of this Siting Area. Access to this Siting Area would be provided via Stone Gate.

6.2.8 The location of the Option 2 Siting Area is presented on **Image 12** below.

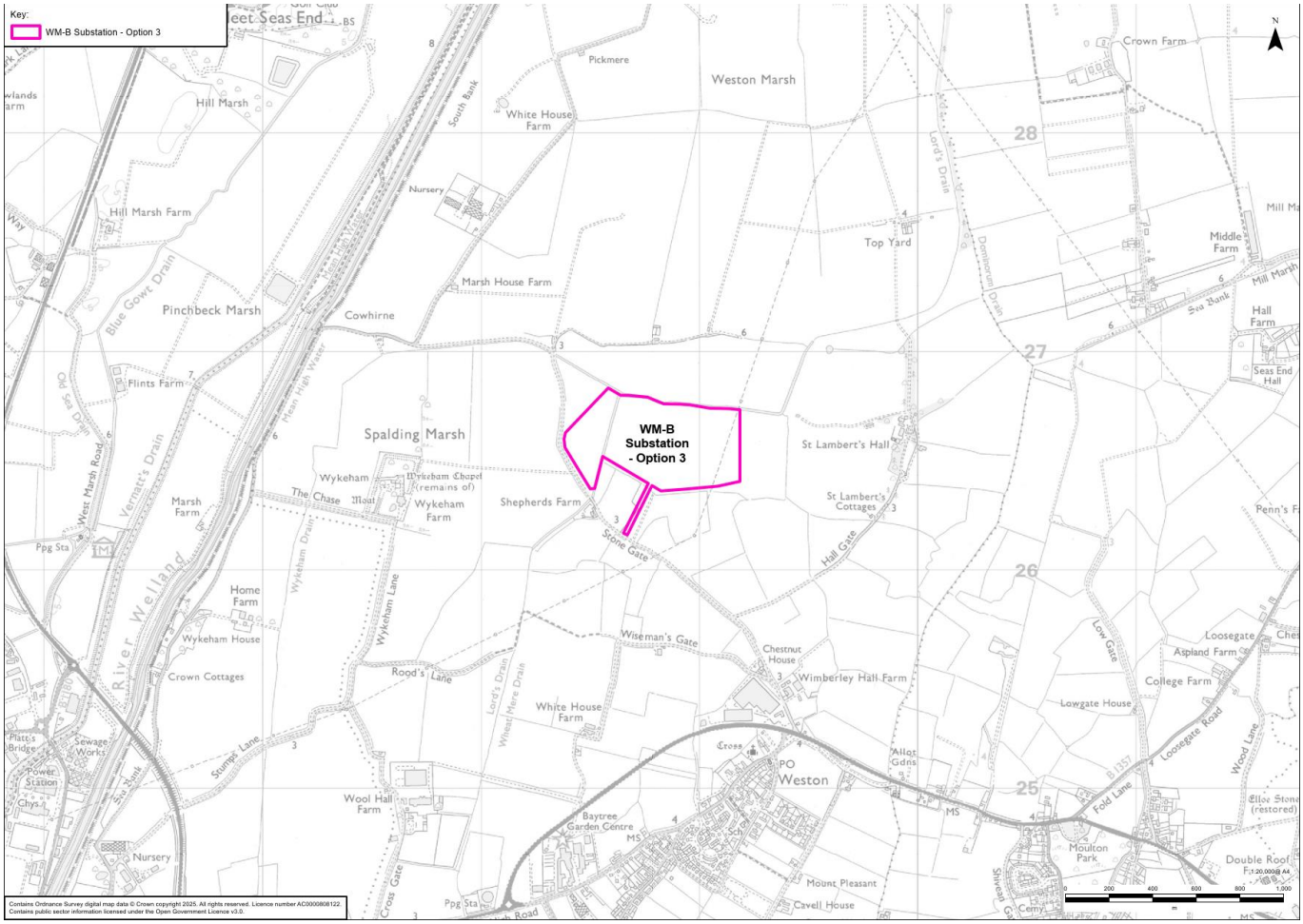
Image 12 Weston Marsh B - Option 2 Siting Area

Weston Marsh B – Option 3 Siting Area

6.2.9 This Siting Area is located immediately to the east of the Option 2 Siting Area and is the southernmost of the three Siting Areas. This Siting Area is located to the south of the existing 4ZM overhead line and is adjacent to and west of the existing 2WS overhead line. As is the case with the other Siting Areas, this Siting Area is situated in an area of agricultural land and is surrounded by drains to the north, east, south and west of the Siting Area boundary. A high priority watercourse (South Holland Internal Drainage Board (IDB) watercourse) between Reach ID DRN208P1701 and Reach ID DRN208P0702 crosses the western extent of the Siting Area. A high pressure gas pipeline routes to the north / north west of the Siting Area, along its western boundary. This Siting Area is located in close proximity to Shepherd's Farm to the south, Bass Cottages to the north and St Lamberts Farm to the east (between approximately 50 m – 606 m) and is the closest of the three Siting Areas to the settlement of Weston. Receptors to the north benefit from screening provided by trees situated along Stone Gate. Wykeham Chapel is located approximately 660 m to the south west of this Siting Area. Access to the site would be provided via Stone Gate.

6.2.10 The location of the Option 3 Siting Area is presented on **Image 13** below.

Image 13 Weston Marsh B - Option 3 Siting Area



6.3 National Grid and Customer Connections

6.3.1 A number of National Grid and customer connections are assumed to be connecting into the Weston Marsh substations, building on connections originally identified within the CPRSS (see section 3.3 above), including but not limited to the following:

i. Weston Marsh to East Leicestershire (WMEL);

ii. Meridian Solar (formerly Holbeach Marsh Energy Park);

iii. Spalding PV and BESS Station;

iv. Outer Dowsing Offshore Wind Farm; and

v. Ossian Offshore Wind Farm.

6.3.2 These connections into the Weston Marsh substations are the subject of further discussions regarding their potential alignments and the specific substations they would connect into at Weston Marsh. As such, definitive connection routes to potential substation locations have not been considered in detail within the appraisal. However, the comparative flexibility and potential technical challenges regarding connections to the Siting Areas have been taken into account. Further details of connections to new Weston Marsh Substations A and B will be included within the ES or respective applications brought forward following the DCO application for the Project. National Grid will be working with the developers of these connections to

manage any environmental impacts as far as practicable, whilst ensuring technically feasible solutions for both parties.

7. Appraisal of the Weston Marsh A Siting Area

7.1 Overview

7.1.1 The purpose of the Weston Marsh A Siting Area re-appraisal is to review the rationale in the CPRSS (Ref 4) to confirm that the darkest shaded area of the Graduated Swathe remains the most suitable location for the new Weston Marsh Substation A, taking into account the completion of environmental studies and any new information arising since the CPRSS (Ref 4). In the following sections, the Siting Area defined for the new Weston Marsh Substation A is appraised from an environmental, socio-economic and technical perspective, taking into account the Holford and Horlock Rules, with each topic concluding as to whether there have been any changes to the conclusions presented in the CPRSS (Ref 4).

7.2 Environmental and Socio-Economic Considerations

Ecology and Biodiversity

7.2.1 No statutory designated ecological sites are present within the immediate vicinity of the Weston Marsh A Siting Area. The closest site is Surfleet Lows Site of Special Scientific Interest (SSSI), approximately 4km west of the Weston Marsh A Siting Area. The Impact Risk Zone (IRZ) for this SSSI covers a large part of the Study Area as a whole, and requires consideration for primarily winter snipe and duck species. Species of relevance to the IRZ are not explicitly listed on the SSSI citation. From the Year 1 data gathered, it is unlikely that land within the Weston Marsh A Siting Area would be viewed as functionally-linked land, given relatively low numbers of birds on the ground.

7.2.2 The next closest sites are the Wash Special Protection Area (SPA) and Ramsar site and the Wash and North Norfolk Coast Special Area of Conservation (SAC), both of which fall within approximately 10 km to the east of the Weston Marsh A Siting Area. There are however a number of constraints present in the vicinity of the underground cable connection between the new Weston Marsh Substation A and new Weston Marsh Substation B, including trees with bat roost suitability, badger setts and a potential otter holt. There is one ditch which intercepts the Weston Marsh A Siting Area, which would potentially need to be diverted.

7.2.3 The area is known to support a breeding assemblage of farmland birds, such as skylark and corn bunting. Permanent loss of habitat could lead to a significant impact on breeding farmland birds primarily. Mitigation would be provided through the provision of suitable habitat to offset the permanent impact of the new Weston Marsh Substation A. Fields in the area are likely to support a number of birds over-winter, though the distribution and abundance is likely to be driven by crop type.

7.2.4 There is potential for an impact during construction of the substation due to disturbance to a minor ditch, with the potential for habitat removal and disturbance of

aquatic receptors as a result. Any impacts as a result of the underground cable connection are likely to be temporary (during construction only).

7.2.5 No further constraints from an ecology and biodiversity perspective were identified when considering the overhead line connections into the new Weston Marsh Substation A.

7.2.6 Given the few constraints and potential impacts within the Weston Marsh area, Ecology and Biodiversity was not considered to be a differentiating factor in the identification of the Graduated Swathe in the CPRSS (Ref 4). The re-appraisal of Ecology and Biodiversity for the Weston Marsh A Siting Area has identified no further constraints which would change the original conclusions presented within the CPRSS (Ref 4).

Geology and Hydrogeology

7.2.7 The Weston Marsh A Siting Area is in a low sensitivity hydrogeological setting (Tidal Flat superficial deposits and Oxford Clay bedrock geology, both of which are classified as Unproductive Strata). There are no sensitive geological or hydrogeological receptors or identified features of potential contamination within the Siting Area or surrounding areas. In addition, the substation and surrounding areas are not located within any Mineral Safeguarding Areas (MSA). It is anticipated, at this stage, that there is no potential for material Geology and Hydrogeology impacts.

7.2.8 No further constraints from an Geology and Hydrogeology perspective were identified when considering the overhead line connections into the new Weston Marsh Substation A or the underground cable connection between the new Weston Marsh Substation A and new Weston Marsh Substation B.

7.2.9 Geology and Hydrogeology was not considered as an environmental topic in the CPRSS (Ref 4) for the Weston Marsh substation, but is considered in relation to the re-appraisal of the Weston Marsh A Siting Area, as this topic was scoped in to the June 2025 PEI Report (Ref 7) published as part of the Stage 2 Consultation. No constraints have been identified from a Geology and Hydrogeology perspective that would conflict with the original conclusions of the CPRSS (Ref 4) or the formation of the Graduated Swathe at Weston Marsh.

Historic Environment

7.2.10 There are no designated heritage assets located within 1 km of the Weston Marsh A Siting Area. There are six non-designated heritage assets located within 1 km of the Weston Marsh A Siting Area, as follows:

i. MLI22401 (19th century tramway);

ii. MLI122914 (School Farm, 19th century farmstead);

iii. MLI122915 (Bottom Yard, Historic farmstead);

iv. MLI122916 (Crowtree Farm, Historic farmstead);

v. MLI122918 (Welland House Farm, 19th century farmstead); and

vi. MLI85279 (Artefact scatter containing post-medieval pottery).

7.2.11 The potential also exists for previously unknown buried archaeological or palaeoenvironmental remains to survive within or in close proximity to the new Weston Marsh Substation A.

7.2.12 Where unavoidable, impacts to known and previously unknown archaeological and palaeoenvironmental remains can be mitigated by a programme of appropriate archaeological investigation and recording (e.g. archaeological excavation and recording or geoarchaeological borehole investigation) prior to construction. Appropriate archaeological mitigation measures would be informed by a programme of archaeological evaluation (geophysical survey, trial and trench evaluation).

7.2.13 The potential for permanent impacts to buried archaeological remains during construction would be compensated or offset by the implementation of appropriate mitigation measures.

7.2.14 From a historic environment perspective, no further constraints to those detailed in the CPRSS (Ref 4) were identified when considering the Weston Marsh A Siting Area, the overhead line connections into the new Weston Marsh Substation A and the underground cable connection between the new Weston Marsh Substation A to new Weston Marsh Substation B. The re-appraisal of the Weston Marsh A Siting Area validates the original conclusions of the CPRSS (Ref 4) as no designated heritage assets are present within 1 km of the Weston Marsh A Siting Area.

Landscape

7.2.15 The Weston Marsh A Siting Area lies in NCA46 The Fens National Character Area and at a local level, within RLCT 2A Settled Fens and Marshes, as defined in the East Midlands Region Landscape Character Areas. The Weston Marsh A Siting Area is not within or adjacent to any National Landscapes, the closest being the Norfolk Coast National Landscape (AONB) over 28 km to the east.

7.2.16 The Weston Marsh A Siting Area comprises flat arable fields bounded by drains and farm access tracks. There are isolated hamlets and agricultural holdings in the vicinity of the Weston Marsh A Siting Area, the closest of which is approximately 480 m to the north east.

7.2.17 The Weston Marsh A Siting Area is situated in close proximity to the existing 4ZM and 2WS overhead line routes, limiting the need for new overhead lines as far as reasonably practicable. Any new overhead lines would therefore be seen within a landscape that already contains existing overhead lines, and so would not constitute a new element within the landscape.

7.2.18 Effects during construction would be anticipated due to the proximity of receptors, but longer term effects during operation of the substation would be very localised and would likely not have significant effects upon the wider landscape given the implementation of mitigation planting for landscape integration[4].

7.2.19 No further constraints from a landscape perspective were identified when considering the underground cable connection from the new Weston Marsh Substation A to the new Weston Marsh Substation B.

[4] As noted in section 9.3, for a consideration of the combined landscape impacts of all elements of the proposed infrastructure at Weston Marsh, refer to the Supplementary PEI Report for Section 5.

7.2.20 As per the CPRSS (Ref 4), the location of the Graduated Swathe for the Weston Marsh area considered the presence of the existing 4ZM and 2WS overhead line routes in the area, which would result in fewer landscape and visual impacts. The re-appraisal of Landscape considerations for the Weston Marsh A Siting Area validates the original conclusions of the CPRSS (Ref 4), with the limited need for new overhead lines due to proximity to the Spalding Tee-Point, still being a key factor in reducing potential landscape impacts as a result of the Project.

Visual

7.2.21 Visual receptors around the Weston Marsh A Siting Area comprise a small number of scattered farms, the closest being Western Barn House approximately 480 m to the north east, Crowtree Farm 520 m to the north west and Welland Farm House 880 m to the west. Views are generally open in this area due to a lack of significant vegetation. A PRoW is situated approximately 150 m to the north of the Weston Marsh A Siting Area.

7.2.22 The existing overhead lines are visible to the north and east and are detracting features in an area with an otherwise rural character, which would be inevitably changed by the introduction of large-scale infrastructure.

7.2.23 Effects during construction would be anticipated, however, there are few visual receptors in close proximity. Screening planting would help to reduce the visual effects of the substation and with this mitigation in place, the longer term effects would be localised and would likely not result in a significant effect on the wider visual amenity of the area.[5]

7.2.24 No further constraints from a visual perspective were identified when considering the underground cable connection from the new Weston Marsh Substation A to the new Weston Marsh Substation B.

7.2.25 As per the CPRSS (Ref 4), the location of the Graduated Swathe for the Weston Marsh area gave consideration to the presence of the existing 4ZM and 2WS overhead line routes, the collocation with which would assist in limiting the spread of infrastructure in the area. The re-appraisal of visual constraints for the Weston Marsh A Siting Area validates the original conclusions of the CPRSS (Ref 4) with the limited need for new overhead lines due to proximity to the Spalding Tee-Point, still being a key factor in reducing potential visual impacts as a result of the Project.

Water Environment

7.2.26 The Weston Marsh A Siting Area is located entirely within FZ2 and FZ3, primarily attributed to the River Welland and River Glen. A drain intercepts the Weston Marsh A Siting Area and would need to be diverted.

7.2.27 The Weston Marsh A Siting Area is also located within a flood warning area (FWA) (Tidal flooding from the right bank of the River Welland near Spalding and Moulton Common).

[5] As noted in section 9.3, for a consideration of the combined landscape impacts of all elements of the proposed infrastructure at Weston Marsh, refer to the Supplementary PEI Report for Section 5.

7.2.28 The Weston Marsh A Siting Area may require a Flood Risk Activity Permit (FRAP) and/or Land Drainage Consent, which would require additional assessment, survey and stakeholder consultation.

7.2.29 All options considered for the Weston Marsh area in the formation of the Graduated Swathe in the CPRSS (Ref 4) are within FZ2 and FZ3, with similar environmental characteristics. Therefore, the Water Environment was not considered to be a differentiating factor. The re-appraisal of the Water Environment for the Weston Marsh A Siting Area has identified no further constraints which would change the original conclusions presented within the CPRSS (Ref 4).

Air Quality

7.2.30 There are no high sensitivity human receptors (such as residential properties) within 250 m of the boundary of Weston Marsh A Siting Area. There are, however, three houses (one detached, two semi-detached) within approximately 150 m of the assumed site access onto Marsh Road. There is also a 'low' sensitivity human receptor, a Public Right of Way (PRoW), situated approximately 150 m to the north of the Weston Marsh A Siting Area.

7.2.31 There are no ecological receptors of concern from an Air Quality perspective surrounding the boundary of Weston Marsh A Siting Area.

7.2.32 A review of the preliminary air quality assessment presented in Section 5 of the June 2025 PEI Report (Ref 7) indicates that overall air quality within the Siting Area is good (taking into account current levels of key air pollutants (nitrogen dioxide (NO_2) and particulate matter (PM_{10} and $PM_{2.5}$)).

7.2.33 Mitigation would be secured within a Code of Construction Practice (CoCP) or Dust Management Plan (DMP) in line with the best practice measures outlined in the Institute of Air Quality Management (IAQM) construction dust management measures.

7.2.34 As per the CPRSS (Ref 4), Air Quality was not considered to be a differentiating factor in the formation of the Graduated Swathe for the Weston Marsh area. The re-appraisal of Air Quality considerations for the Weston Marsh A Siting Area has identified no further constraints which would change the original conclusions presented within the CPRSS (Ref 4).

Noise and Vibration

7.2.35 Sensitive receptors around the Weston Marsh A Siting Area comprise a small number of scattered farms, the closest being Western Barn House approximately 480 m to the north east, Crowtree Farm 520 m to the north west and Welland Farm House 880 m to the west. A PRoW is situated approximately 150 m to the north of the Weston Marsh A Siting Area.

7.2.36 At this distance there is potential for impacts from construction noise and vibration. However construction noise and vibration would be managed through the implementation of suitable mitigation in the form of best practicable means (BPM).

7.2.37 With regards to operational noise, it is currently understood that there would be no material sources of operational noise at Weston Marsh (e.g. transformers, shunt reactors, etc). However, there may still be sources of noise such as back-up

generators and switchgear. Although the operation of such equipment would not be expected to be frequent, there is potential for noise and vibration impacts.

7.2.38 As per the CPRSS (Ref 4), Noise and Vibration was not considered to be a differentiating factor in the formation of the Graduated Swathe in the Weston Marsh area. The re-appraisal of Noise and Vibration considerations for the Weston Marsh A Siting Area has identified no further constraints which would change the original conclusions presented within the CPRSS (Ref 4).

Socio-economics

7.2.39 Wigwam Holidays, located at Crowtree Farm, is the nearest sensitive business receptor in close proximity to the Weston Marsh A Siting Area. It is located along Marsh Road, approximately 520 m to the north west of the Weston Marsh A Siting Area.

7.2.40 Additionally, PRoW WSTN/7/1 in the Boston and South Holland division runs approximately 105 m north of the Weston Marsh A Siting Area at its closest point. It is anticipated that users of this route would have a changed experience during construction and operation, and it is likely that there would be a need for a temporary diversion in place during construction.

7.2.41 A CoCP will be submitted with the DCO Application, which would include mitigation measures for noise, dust and working hours. Furthermore, a PRoW Management Plan (PRoWMP) will also be submitted with the DCO Application, which would include a hierarchy of mitigation measures to ensure safe and continued access, to mitigate impacts upon users of the PRoW network as far as practicable. A Preliminary CoCP was prepared and submitted as part of the June 2025 PEI Report (Ref 7).

7.2.42 There is potential for air quality, dust, noise and vibration and visual impacts during construction by virtue of the proximity of the substation to socio-economic receptors. There is likely no potential for significant socio-economics effects upon the identified receptors during the operation or maintenance of the substation.

7.2.43 The re-appraisal of Socio-economic considerations for the Weston Marsh A Siting Area has identified no further constraints which would change the original conclusions presented within the CPRSS (Ref 4).

7.3 Technical Considerations

7.3.1 In a permanent configuration, the new Weston Marsh Substation A would require connections from the 400 kV 4ZM overhead line, new proposed circuits from the new Lincolnshire Connection Substation B and new proposed circuits from the new Walpole B Substation.

7.3.2 In a permanent configuration, the new Weston Marsh Substation B would require overhead line connections from the 400 kV 2WS overhead line and the 400 kV 4ZM overhead line.

7.3.3 The substations would be connected via a section of underground cable to allow for energy flow between the sites. All Siting Areas have been appraised from a technical perspective to ensure sufficient flexibility for these incoming connections in line with the Holford and Horlock Rules, also factoring the requirements of customer

connections to each site and the overhead line connection of the NGET WMEL project overhead line into the new Weston Marsh Substation B.

7.3.4 The key technical considerations when considering a best performing siting area for the new Weston Marsh Substation A include the proximity to the Spalding Tee-Point (closer being preferred as it would reduce/minimise the length of diversions for the 4ZM and 2WS 400 kV overhead lines) and the minimisation of system outages required to facilitate construction. The Weston Marsh A Siting Area, as outlined in the original appraisal of Weston Marsh Substation Siting Zones 2 and 3 (CRPSS Chapter 11.3 (Ref 4)), maintains close proximity to the Spalding Tee-Point, reducing the required lengths of new build overhead line diversions.

7.3.5 Both the Weston Marsh A and Weston Marsh B Siting Areas would benefit from rationalised construction sequencing which would aim to minimise system outages through the construction of both substations offline. The required 400kV transmission connections and diversions would also be constructed offline from the existing infrastructure wherever practicable, however system outages would be required to finalise overhead line connections.

7.3.6 Both Weston Marsh A and Weston Marsh B Siting Areas are within FZ2 and 3. Therefore, based upon the previous conclusions of the SOR and CPRSS, the placement of infrastructure within these areas of flood risk is unavoidable. Infrastructure required within FZ2 and FZ3 will be designed accordingly and the mitigation required will be determined, secured and delivered as the Project progresses.

7.3.7 A high-pressure gas pipeline is located to the east of both the Weston Marsh A and Weston Marsh B Siting Areas. The presence of this pipeline restricts the siting of the substation and associated infrastructure closer to the Spalding Tee-Point, with the Weston Marsh A Siting Area maintaining flexibility for the siting of the substation and connections without a need to divert the pipeline. The selection of the Weston Marsh B Siting Areas ensures that the assumed underground cable connection between the new Weston Marsh Substations A and B can avoid a crossing of the high-pressure gas pipeline and maintain sufficient clearances.

7.3.8 The Weston Marsh A and Weston Marsh B Siting Areas are approximately 2 and 3 kilometres respectively from the closest major A-Road (A151). To ensure minimal disruption to the local road network, primary access routes aim to utilise nearby A-Roads wherever practicable. Under the technical considerations of the Weston Marsh A and Weston Marsh B Siting Areas, it is noted that additional highway improvements may be required to the existing road network between the A151 and the Siting Areas, to facilitate the temporary construction and permanent operation of the substations.

7.3.9 Overall, as per the original CPRSS appraisals, the Weston Marsh A Siting Area continues to be the preferred Siting Area for the new Weston Marsh Substation A. The technical appraisal of the Weston Marsh A Siting Area has included, in accordance with the Holford and Horlock Rules, consideration of potential impacts on the operation of the substation, the design flexibility of overhead and underground connections and key external constraints. The Weston Marsh A Siting Area strikes a balance between the factors considered within the appraisal and remains the preferred substation Siting Area for the Weston Marsh Substation A.

7.4 Horlock Rules

7.4.1 Consideration of the Horlock Rules in relation to the Weston Marsh A Siting Area is presented in **Table 2**Table 2 below.

Table 2 Consideration of the Horlock Rules in relation to the Weston Marsh A Siting Area.

Horlock Rule	Comment
1	Environmental, socio-economic and technical matters were considered as part of the CPRSS (Ref 4), and have been re-appraised as part of this Siting Study.
2	The Weston Marsh A Siting Area avoids internationally and nationally designated sites and assets. There would be no physical impact upon Scheduled Monuments, Battlefields and Listed Buildings.
3	Areas of local amenity value including woodlands, surface and groundwater sources and nature conservation areas are avoided by the Weston Marsh A Siting Area.
4	By virtue of the nature of the landscape in which the substation is being sited, the area is generally low lying and does not benefit from natural screening options. Views across an open rural landscape are likely from Weston, Moulton Seas End and Surfleet Seas End. Landscape effects would be mitigated as far as reasonably practicable through effective landscape planting and screening and will be fully assessed within the ES for the Project.
5	There is sufficient space to implement effective mitigation planting to screen views towards the new Weston Marsh Substation A. It is anticipated that visual, noise and other environmental effects could be effectively controlled through the implementation of a CoCP, this will be fully assessed within the ES for the Project.
6	The Weston Marsh A Siting Area is located in a large area of provisional Grade 1 BMV agricultural land. However, this constraint would be present regardless of the positioning of the Weston Marsh A Siting Area within the Study Area. The new Weston Marsh Substation A would also require the diversion of a drainage ditch around the boundary of the substation. The DCO Application will include a drainage strategy to mitigate any effects on land drainage.
8	This option has sufficient space to provide effective mitigation planting and is in close proximity to the existing 400 kV infrastructure, therefore using space effectively to limit the area required for development.

7.4.2 The consideration of the Horlock Rules as part of the re-appraisal of the Weston Marsh A Siting Area confirms the analysis in the CPRSS (Ref 4) in respect of the Weston Marsh A Siting Area.

7.5 Holford Rules

7.5.1 Consideration of the Holford Rules in relation to the Weston Marsh A Siting Area is presented in **Table 3**Table 3 below.

Table 3 Consideration of the Holford Rules in relation to the Weston Marsh A Siting Area.

Holford Rule	Comment
1	The Weston Marsh A Siting Area avoids the areas of highest amenity value.
2	The Weston Marsh A Siting Area avoids SSSIs and areas of high amenity value. The closest SSSI in relation to the Weston Marsh A Siting Area is the Surfleet Lows SSSI, located approximately 3.8km to the west.

7.5.2 The consideration of the Holford Rules as part of the re-appraisal of the Weston Marsh A Siting Area confirms the analysis in the CPRSS (Ref 4) in respect of the Weston Marsh A Siting Area.

8. Options Appraisal for the Weston Marsh B Siting Areas

8.1 Overview

8.1.1 As described in section 4 of this report, a constraints mapping exercise has been undertaken (Stage 1: Constraints Mapping of National Grid's Approach Consenting (Ref 1)), to identify and review all relevant interests within the defined Study Area, as illustrated in section 5 of this report. During Stage 2: Identification of Siting Options, three potential Siting Areas for the new Weston Marsh Substation B were identified within the Study Area. The Siting Areas for the new Weston Marsh Substation B are presented in section 6 of this report.

8.1.2 This section of the report presents Stage 3: Detailed Options Appraisal of National Grid's Approach Consenting process (Ref 1), whereby environmental, socio-economic and technical factors have been considered alongside the Holford and Horlock Rules to determine a preferred Siting Area for the new Weston Marsh Substation B.

8.2 Environmental and Socio-economic Considerations

Ecology and Biodiversity

8.2.1 No statutory designated ecological sites are present within the immediate vicinity of the Weston Marsh B Siting Areas. The closest site is Surfleet Lows SSSI, approximately 3 km west of the Option 1 Siting Area. The IRZ for this SSSI covers a large portion of the Study Area, and requires consideration for primarily winter snipe and duck species. Species of relevance to the IRZ are not explicitly listed on the SSSI citation. Based upon the survey data gathered (as available at the time of completing the Siting Study), it is unlikely that the Weston Marsh B Siting Areas would be viewed as functionally-linked land, given relatively low numbers of birds on the ground.

8.2.2 The next closest sites are the Wash SPA and Ramsar site and the Wash and North Norfolk Coast SAC, both of which fall within approximately 10 km to the east of the Weston Marsh B Siting Areas.

8.2.3 At the time of undertaking the Siting Study, there are no protected species constraints identified within the footprint of any of the Weston Marsh B Siting Areas however surveys are ongoing.

8.2.4 With regards to the Option 1 Siting Area, there is the potential for impacts during construction of the substation due to disturbance to a minor ditch, with the potential for habitat removal and disturbance of aquatic receptors as a result. Likewise, the diversion of field ditches, specifically tributaries of Wykeham Drain (Option 2 Siting Area) and Lord's Drain (Option 3 Siting Area) would be required to enable construction of the substation within the respective Siting Areas.

8.2.5 The Option 2 and 3 Siting Areas have the potential to cause disturbance and loss of aquatic habitat and/or species that are part of the Wykham Drain and Lord's Drain catchments respectively during construction of the substation, if the drains require diversion. Mitigation would be required in the form of creation of new aquatic habitat, which may be constrained by the existing ditch network in places.

8.2.6 Based on currently available survey data for the Project, there are a number of constraints present in the vicinity of the underground cable connection between the new Weston Marsh Substation A and the new Weston Marsh Substation B, including trees with bat roost suitability, badger setts and a potential otter holt. These constraints are present for all Siting Areas. Any impacts as a result of the underground cable connection are however likely to be temporary (during construction only) given it is assumed the working area would be reinstated.

8.2.7 Regarding the overhead line connections into the new Weston Marsh Substation B, direct impacts to aquatic habitats would be limited as far as practicable for all Siting Areas through the setting back of pylons from the River Welland and marginal habitats.

8.2.8 Regarding ornithology receptors, there is the potential for impacts on skylark and other farmland birds during construction and operation due to the loss of suitable habitat. This land is required to facilitate the construction of substation infrastructure and the potential impact would be comparable across all three Siting Areas. Mitigation would be required in the form of replacement habitat. Fields in the area are likely to support a number of birds over-winter, though the distribution and abundance is likely to be driven by crop type.

8.2.9 Any impacts upon habitats and/or species or ornithology receptors within the Weston Marsh area as a result of underground cable or overhead line connections are likely to be temporary (during construction only), due to the presence of construction vehicles and machinery.

8.2.10 Overall, while each Siting Area presents some localised ecological constraints, these are broadly comparable in nature and scale, and no Siting Area is considered to be materially more or less constrained than the others from an Ecology and Biodiversity perspective.

Geology and Hydrogeology

8.2.11 All Siting Areas are in an area of low sensitivity hydrogeological setting (Tidal Flat superficial deposits and Oxford Clay bedrock geology, both of which are classified as Unproductive Strata). There are no public water supply boreholes, or known private water supplies from groundwater in the vicinity of any Siting Areas.

8.2.12 Some areas of potentially contaminative current or former land use have been identified (in the June 2025 PEI Report) (Ref 7) in the area to the south of the Option 3 Siting Area, comprising a scrapyard and a location with historical tanks, though these are at sufficient distance from the Option 3 Siting Area (>500 m) that they are not considered likely to present a risk or constraint.

8.2.13 A CoCP would be submitted with the DCO application for the Project and be in place for the construction of the Project. This would include a range of controls to limit impacts upon geology and hydrogeology, including appropriate measures in the instance of encountering unexpected contamination during construction.

8.2.14 There are no additional geology and hydrogeology constraints surrounding the overhead line connections into the new Weston Marsh Substation B or the underground cable connection between new Weston Marsh Substation A and new Weston Marsh Substation B.

8.2.15 Overall, the constraints present from a Geology and Hydrogeology perspective are similar in nature and scale for all three Siting Areas, though the Option 1 or 2 Siting Areas would be marginally preferred due to the potentially contaminative current or former land use identified to the south of the Option 3 Siting Area.

Historic Environment

8.2.16 Four designated heritage assets are located within 1 km of the Weston Marsh B Siting Areas:

i. Wykeham Chapel scheduled monument (National Heritage List for England (NHLE) 1019096);

ii. grade I listed building, Wykeham Chapel of St Nicholas (NHLE 1064471);

iii. grade II listed building, Chapel Farmhouse (NHLE 1147513); and

iv. grade II listed gate piers to Chapel Farmhouse (NHLE 1064472).

8.2.17 The receptor group is located at varying distances to the three Siting Areas (at their closest points), as follows:

i. Approximately 600 m to the south west of the Option 1 Siting Area;

ii. Approximately 50 m to the south west of the Option 2 Siting Area; and

iii. Approximately 660 m to the south west of the Option 3 Siting Area.

8.2.18 Given the proximity of the Siting Areas, both temporary construction activities and the permanency of the substation infrastructure in the landscape would impact upon the setting of a scheduled monument and grade I (both high value) and grade II (medium value listed buildings associated with Wykeham Chapel located to the south west. There is existing vegetation and trees to the west and north west of the designated heritage assets. Additional screening may assist with limiting intervisibility to and from the heritage assets with the substation, but this could be seasonally dependent and may be detrimental altering the existing open landscape with views across the adjacent fields. The new infrastructure would be within the agricultural and historical setting of the assets which contributes to their value.

8.2.19 This potential for setting impacts applies to all three Siting Areas by virtue of their respective proximities, however, due to the Option 2 Siting Area being in the closest proximity to this receptor group, this is least preferred from a historic environment perspective.

8.2.20 There are numerous non-designated heritage assets within 1 km of the Option 1 Siting Area. The Option 1 Siting Area is also situated directly on the site of a former 19th century historic farmstead which has been demolished.

8.2.21 A number of non-designated heritage assets are recorded within 1 km of the Option 2 Siting Area, including findspots, post-medieval farmsteads and the Medieval Sea Bank in Weston (MLI98445) immediately north of the Siting Area.

8.2.22 A number of non-designated heritage assets are recorded within 1 km of the Option 3 Siting Area, including findspots, post-medieval farmsteads and the Medieval Sea Bank in Weston (MLI98445). The north western extent of the Option 3 Siting Area also overlaps with a post-medieval artefact scatter location (MLI85278).

8.2.23 A non-designated historic farmstead (MLI122924), Shepherd's Farm, is located approximately 50 m to the south of the Option 3 Siting Area at its nearest point. However, potential effects arising from changes to the setting of this receptor are not anticipated.

8.2.24 There would be the potential for impacts upon the Medieval Sea Bank (medium value) for all three Siting Areas. There is the potential for buried archaeological remains relating to the farmstead remaining in situ. In addition, the Option 1 Siting Area partially extends across the Medieval Sea Bank in Weston (MLI98445), a medieval earthwork bank/flood defence.

8.2.25 There is the potential for previously unknown archaeology or palaeoenvironmental remains to survive within the extent of all three Siting Areas.

8.2.26 Where unavoidable, impacts to known and previously unknown archaeological and palaeoenvironmental remains would be mitigated by a programme of appropriate archaeological investigation and recording (e.g. geophysical survey, trial trench evaluation and archaeological excavation and recording) prior to construction.

8.2.27 Permanent impacts to buried archaeological remains during construction, including in respect of the underground cable connection from new Weston Marsh Substation A to new Weston Marsh Substation B, would be limited following the implementation of appropriate mitigation measures.

8.2.28 The introduction of new overhead line connecting into the new Weston Marsh Substation B would also have impacts on the setting of heritage assets, which would be closer to the assets than existing overhead lines already present in the landscape further to the east and south.

8.2.29 Overall, all three Siting Areas have the potential to affect the setting of designated and non-designated heritage assets, as well as potential to cause physical impacts on non-designated heritage assets or previously unknown archaeology. Particularly of importance is the designated receptor group at Wykeham Chapel. The sensitivity of this receptor resulted in the Option 1 and 3 Siting Areas being preferred from a heritage perspective due to the greater distance from this high value receptor group, which reduces the potential for setting impacts.

Landscape

8.2.30 All three of the Weston Marsh B Siting Areas lie in the NCA46 The Fens National Character Area and within East Midlands Regional LCA 2A Settled Fens and Marshes.

8.2.31 All three of the Weston Marsh B Siting Areas are situated approximately 30 km from the North Norfolk National Landscape (previously AONB) and over 40 km from Lincolnshire Wolds National Landscape (AONB). The Siting Areas would not affect either of these designations due to their distance from the Siting Area boundaries.

8.2.32 The Option 1 Siting Area comprises flat arable fields of medium scale bounded by drains and farm access tracks. There is little vegetation, although there are some scattered trees along the Stone Gate to the south, with a larger area of trees around

Wykeham. There are few buildings, limited to scattered farms and a larger plant nursery to the north which is well screened by vegetation.

8.2.33 The Option 2 Siting Area comprises flat arable fields of medium scale, bounded by drains and farm access tracks. There is a limited amount of vegetation, with the exception of mature trees around Wykeham to the west and south west, some scattered trees along Stone Gate to the north and a mature line of trees to the east. There are few buildings, limited to scattered farms and a larger plant nursery to the north which is well screened by vegetation.

8.2.34 The Option 3 Siting Area comprises flat arable fields of medium scale bounded by drains, including Lords Drain to the north, and Stone Gate to the west. There is a limited amount of vegetation, with the exception of mature trees around Wykeham to the west, scattered trees along Stone Gate and mature trees around Shepherds Farm to the south west. There are few buildings, limited to scattered farms.

8.2.35 With regards to the Option 1 Siting Area, the substation would be located slightly further west from the existing overhead lines, resulting in new overhead line connections being slightly more spread across the landscape in comparison to the other Siting Areas.

8.2.36 Planting would help to integrate the substation into the landscape for all three Siting Areas, as is shown by the planting around the nursery to the north. For the Option 2 Siting Areas, mitigation planting opportunities exist associated with Wykeham and the scattered trees along South Gate to the north. For the Option 3 Siting Area, planting opportunities exist around Shepherds Farm and potentially along Lord's Drain to the north, although the existing overhead line is a constraint to planting to the east. However, the Option 1 Siting Area would provide greater opportunities for mitigation planting than the Option 2 and 3 Siting Areas, as planting could integrate with the existing nursery planting to the north of the new Weston Marsh Substation B, therefore making the Option 1 Siting Area preferrable from a landscape perspective.

8.2.37 For all three Siting Areas, effects during construction would be anticipated due to the proximity of receptors, but longer term effects during operation of the substation would be very localised and would likely not have significant impacts upon the wider landscape given the implementation of mitigation planting for landscape integration.[6]

8.2.38 In addition, for all three Siting Areas there would be effects from new overhead line connections into the new Weston Marsh Substation B, but these would be seen within a landscape that contains existing overhead lines, so would not be a new element within the landscape.

8.2.39 However, as mentioned above, the Option 1 Siting Area would be located slightly further west from the existing overhead lines (compared to the other Siting Areas), resulting in new overhead line connections being slightly more spread across the landscape. The Option 3 Siting Area is adjacent to the existing 2WS overhead line and so would reduce the spread of infrastructure in the landscape. The overhead lines from the north would be closer to the existing overhead lines.

8.2.40 For all three Siting Areas, no further constraints from a landscape perspective were identified when considering the underground cable connection from new Weston Marsh Substation A to new Weston Marsh Substation B.

[6] As noted in section 9.3, for a consideration of the combined landscape impacts of all elements of the proposed infrastructure at Weston Marsh, refer to the Supplementary PEI Report for Section 5.

8.2.41 Overall, the Option 1 Siting Area is marginally favoured from a landscape perspective given the greater opportunities for mitigation planting in comparison to the other Siting Areas.

Visual

8.2.42 Visual receptors across all three Siting Areas primarily comprise a small number of scattered farms and residential properties. The nearest visual receptors to each Siting Area are as follows:

i. Option 1 Siting Area:
   - Bass Cottages – approximately 180 m to the east
   - Sunnyfield House – approximately 200 m to the north
   - Cowhirne Cottage – approximately 360 m to the south west (on Stone Gate)

ii. Option 2 Siting Area:
   - Wykeham Farm – approximately 205 m to the south west
   - Cowhirne Cottage – approximately 225 m to the north west
   - Shepherd's Farm – approximately 355 m to the south east
   - Bass Cottages – approximately 490 m to the north east
   - Sunnyfield House – approximately 750 m to the north

iii. Option 3 Siting Area:
   - Shepherd's Farm – approximately 50 m to the south
   - Bass Cottages – approximately 280 m to the north
   - St Lambert's Cottages – approximately 606 m to the east
   - Hereward Cottage – approximately 700 m to the south
   - Wykeham Farm – approximately 750 m to the south west

8.2.43 Most of these properties benefit from boundary vegetation that filters views, with additional screening provided by scattered trees along Stone Gate and planting associated with Wykeham and the nursery to the north. Although the surrounding landscape is generally open, these features help to soften views towards the Siting Areas. There are no PRoWs immediately adjacent to any of the Siting Areas, the nearest in each case runs along the River Welland to the west.

8.2.44 The existing overhead lines are visible to the east and are detracting features in an area with an otherwise rural character, which would be inevitably changed by the introduction of large-scale infrastructure.

8.2.45 Screening planting would help to reduce the visual effects of the substation for those receptors in closer proximity, of which there are few. For the Option 2 and 3 Siting Areas, this could tie into planting associated with Wykeham or Shepherds Farm respectively, although the latter would be restricted to the east by the existing 2WS overhead line. The Option 1 Siting Area would provide greater opportunities for mitigation planting than the Option 2 and 3 Siting Areas, as planting could integrate

with the existing nursery planting to the north of the new Weston Marsh Substation B, therefore making the Option 1 Siting Area preferrable from a visual perspective.

8.2.46 For all Siting Areas, effects during construction would be anticipated, however, there are few visual receptors in close proximity. With mitigation planting to screen views of the substation the longer term effects would be localised and would likely not have significant impacts upon the wider visual amenity of the area.[7]

8.2.47 There would be visual effects from new overhead line connections to the Siting Areas. However, these would be seen within views that contain an existing overhead line and therefore would not constitute a new element within the landscape.

8.2.48 For all three Siting Areas, no further constraints from a visual perspective were identified when considering the underground cable connection from new Weston Marsh Substation A to new Weston Marsh Substation B.

8.2.49 Overall, the Option 1 Siting Area is marginally favoured from a visual perspective given the greater opportunities for mitigation planting in comparison to the other Siting Areas.

Water Environment

8.2.50 The Option 1 and Option 2 Siting Areas are located within FZ2 and FZ3, primarily attributed to the River Welland and River Glen. FZ2 and FZ3 cover 100 per cent of the Siting Areas. The Option 3 Siting Area is located within FZ1, FZ2 and FZ3, also primarily attributed to the River Welland and River Glen. FZ3 covers part of the western and southern extents of the Option 3 Siting Area, encroaching from the south west. FZ2 covers approximately 50 per cent of the Option 3 Siting Area, covering the central and northern areas. Pockets of FZ1 are present in the centre of the Option 3 Siting Area.

8.2.51 Within the Option 1 Siting Area there is one unnamed watercourse present to the south. Wykeham Drain (IDB) maintained watercourse (Reach ID. DRN208P1702), runs to the south of Stone Gate and is outside of the extent of this Siting Area. An additional drain is located along the northern boundary of the Option 1 Siting Area.

8.2.52 With regards to the Option 2 Siting Area, a field drain, which is a tributary of Wykeham drain, would require diverting or culverting. The Option 3 Siting Area would require the diversion of a 'high priority watercourse'[8] (South Holland IDB watercourse) between Reach ID. DRN208P1701 and Reach ID. DRN208P0702. The Lord's Drain/Domino Drainium also runs adjacent to the north of the Option 3 Siting Area whilst an unnamed watercourse runs adjacent to the south.

8.2.53 For the sensitive water environment receptors listed above, potential impacts include:

i. Changes to surface water runoff patterns affecting flood risk during construction;

ii. Potential damage to flood defences or surface water drainage infrastructure during construction;

[7] As noted in section 9.3, for a consideration of the combined landscape impacts of all elements of the proposed infrastructure at Weston Marsh, refer to the Supplementary PEI Report for Section 5.

[8] A "high priority" watercourse refers to a watercourse deemed critical for flood management and water level management within the IDB's district. The watercourse receives a higher level of maintenance and are prioritised for improvements and interventions. This watercourse serves as a main drainage channel and is critical for the overall drainage of the district.

iii. Pollution or flow disruption of groundwater caused through excavation or piling as part of construction work;

iv. Changes to surface water drainage at the site during operation

v. Potential risk that infrastructure could result in the release of sediment laden runoff and pollution to controlled water bodies (surface water and groundwater), changes to hydrological regime and physical disturbance to watercourses.

vi. Potential risk of impacts on water resource availability, including impacts to groundwater levels from any dewatering required; and

vii. Risk that infrastructure would increase flood risk.

8.2.54 The Option 1 and Option 3 Siting Areas are located within one FWA (Spalding and Moulton Common FWA), whilst the Option 2 Siting Area is located within two FWAs (Fulney and Fosdyke Bridge FWA Spalding and Moulton Common FWA).

8.2.55 There are areas of surface water ponding within the Option 2 Siting Area, but not in the other two Siting Areas.

8.2.56 The Option 1 Siting Area would result in four drains being crossed, and six crossings in total. The Options 2 and 3 Siting Areas would result in five drains being crossed. The underground cable connection between the new Weston Marsh Substation A and new Weston Marsh Substation B would also transect watercourses currently present in the Weston Marsh area. The impacts of these crossings would be managed through suitable mitigation, secured in a CoCP submitted with the DCO Application.

8.2.57 There are no additional water environment or flood risk constraints surrounding the overhead line connections into the new Weston Marsh Substation B and the underground cable connection between new Weston Marsh Substation A and new Weston Marsh Substation B, for any of the three Siting Areas.

8.2.58 All three Siting Areas may require a FRAP and/or Land Drainage Consent, which may require additional assessment, survey and stakeholder consultation.

8.2.59 A stated above, the Option 3 Siting Area is situated in an area of lower risk from flooding when compared to the Options 1 and 2 Siting Areas. However, all three sites are partially within FZ3 and modelling undertaken for the flood risk assessment (Ref 16) prepared and submitted into the Outer Dowsing Offshore Wind project examination indicates all three locations are protected by existing defences during all events up to and including the 0.1% probability plus climate change event. When locating a substation and associated infrastructure within the Option 3 Siting Area, the area of FZ3 cannot be completely avoided, and therefore any potential benefit the Siting Area may offer in terms of flood risk reduction is likely to be minimal. In addition, to facilitate construction works in the Option 3 Siting Area, a high priority IDB watercourse would also have to be diverted.

8.2.60 Although the Option 1 Siting Area is within the vicinity of a number of watercourses and drains, and is situated in an area of FZ3, notwithstanding the Sequential Test this is the preferred option from a water environment perspective. Given the general prevalence of FZ3 throughout the Study Area, all three options will to some extent be located within an area at risk from flooding. However, the primary benefit of the Option 1 Siting Area from a water environment perspective is that this would avoid the need for diversions to a drain or high priority IDB watercourse.

Air Quality

8.2.61 The Option 1 Siting Area is located in close proximity to residential receptors on Marsh Road, approximately 130 m north west of the Option 1 Siting Area. There are also sensitive receptors approximately 280 m east of the site at Bass Cottages. At this distance, during construction, there is potential for impacts upon sensitive receptors. However, this would be managed through the implementation of suitable mitigation. In regard to the Option 2 Siting Area, the closest sensitive receptor is approximately 225 m away at Cowhirne Cottage, and in regard to the Option 3 Siting Area, there are sensitive receptors within 250 m at Stone Gate, meaning there is likely no potential for impacts upon these receptors given the implementation of suitable mitigation. For all three Siting Areas, operational effects upon Air Quality are unlikely.

8.2.62 There are no high value ecological receptors sensitive to changes in air quality adjacent to the boundary of any of the three Siting Areas.

8.2.63 Section 5 of the June 2025 PEI Report (Ref 7) indicates that overall air quality across the Study Area is good (taking into account current levels of key air pollutants (nitrogen dioxide (NO_2) and particulate matter (PM_{10} and $PM_{2.5}$)).

8.2.64 In relation to the overhead line connections into the new Weston Marsh Substation B and the underground cable connection between new Weston Marsh Substation A and new Weston Marsh Substation B, for all three Siting Areas, there are no additional air quality constraints.

8.2.65 Mitigation would be secured within a CoCP or DMP in line with the best practice measures outlined in the IAQM construction dust management measures.

8.2.66 Overall, the main consideration from an air quality perspective is the proximity to the sensitive receptors identified above. The Option 1 Siting Area is least preferred in this regard as it is situated approximately 130 m from sensitive receptors on Marsh Road. The Option 3 Siting Area is marginally preferred from an air quality perspective due to it being situated the furthest from identified sensitive receptors. However, it is anticipated potential impacts from all three Siting Areas would be adequately controlled through the implementation of best practice measures secured and implemented within a CoCP or DMP submitted with the DCO Application.

Noise and Vibration

8.2.67 The Option 1 Siting Area is located relatively close to residential receptors, approximately 130 m to the north west off Marsh Road. The Option 2 Siting Area is located at a moderate distance to residential receptors, approximately 280 m to the north west off Marsh Lane, and 300 m to the south west off Wykeham Lane. The Option 3 Siting Area is located at a moderate distance to residential receptors, approximately 250 m to the south off Stone Gate, and 300 m to the north at Bass Cottages.

8.2.68 The proximity of the Option 1 Siting Area to such residential receptors means that there is potential for impacts from construction noise and vibration, however this would be managed through the implementation of suitable mitigation in the form of BPM. For the Option 2 and Option 3 Siting Areas, the distance to such residential receptors means that there is a lower potential for construction noise and vibration impacts.

8.2.69 For all three Siting Areas, with regards to operational noise, it is currently assumed that there would be no material sources of operational noise at the substation (e.g. transformers, shunt reactors, etc). However, there may still be sources of noise such as back-up generators and switchgear. Although the operation of such equipment would not be expected to be frequent, there is potential for noise and vibration impacts.

8.2.70 For all three Siting Areas there are no additional noise and vibration constraints surrounding the overhead line connections into the new Weston Marsh Substation B and the underground cable connection between new Weston Marsh Substation A and new Weston Marsh Substation B.

8.2.71 Construction noise and vibration would be controlled through standard BPM, implemented in a CoCP to be submitted with the DCO Application.

8.2.72 Overall, the main consideration from a noise and vibration perspective is the proximity to sensitive receptors identified above. The Option 1 Siting Area is least preferred in this regard as it is situated approximately 130 m from residential receptors on Marsh Road. The Option 2 Siting Area is marginally preferred from a noise and vibration perspective due to it being situated the furthest from identified sensitive receptors, however, it is anticipated potential impacts from all three Siting Areas would be adequately controlled through the implementation of BPM secured and implemented within a CoCP to be submitted with the DCO Application.

Socio-economics

8.2.73 The Option 1 Siting Area is situated within approximately 280 m of the proposed Spalding PV and BESS development, with the Option 3 Siting Area located within approximately 290 m and the Option 2 Siting Area within approximately 500 m. The Option 1 Siting Area is located within approximately 200 m of two local businesses, the closest of which is ‘Ball Colegrave LTD’, within approximately 120 m. The Option 2 Siting Area is located within approximately 150 m from Wykeham Chapel and 220 m from Wykeham Farm. Both the Option 1 and Option 2 Siting Areas are located within approximately 400-500 m of two PRoWs, whilst the Option 3 Siting Area is located within approximately 400-500 m of one PRoW. All three Siting Areas do not directly impact upon any socio-economic receptors.

8.2.74 For all three Siting Areas, there is potential for effects (in-combination effects of changes in air quality/dust, noise/vibration and visual impacts) during construction by virtue of the proximity of the substation to socio-economic receptors.

8.2.75 There are no additional socio-economic constraints surrounding the overhead line connections into the new Weston Marsh Substation B and the underground cable connection between the new Weston Marsh Substation A and new Weston Marsh Substation B, for any of the three Siting Areas.

8.2.76 A CoCP would be submitted with the DCO Application, which would include mitigation measures for noise, dust, working hours and measures to mitigate any identified temporary impacts to users of the nearby PRoWs.

8.2.77 Overall, no preference between the three Siting Areas emerged from a socio-economic perspective. All three Siting Areas have the potential for socio-economic impacts by virtue of their respective proximity to receptors. It is an anticipated that these potential impacts would be adequately managed through the implementation of a CoCP, submitted with the DCO Application.

8.3 Technical Considerations

Substation

8.3.1 The substation design is expected to be relatively consistent across all three Siting Areas, utilising a 400kV double busbar AIS design. For all three Siting Areas, an initial desktop study did not reveal any clashes with existing services in the area, however there is a high-pressure gas main to the immediate south east of the Option 2 Siting Area and the immediate north west of the Option 3 Siting Area. The Option 2 and Option 3 Siting Areas do not overlap with the gas main, but any potential interactions would need to be assessed and managed.

8.3.2 The ground levels were shown to be consistent (relatively flat agricultural land) and connections to services at this stage are also assumed to be viable for all three Siting Areas.

8.3.3 The Option 1 and Option 2 Siting Areas are situated within areas of FZ2 and FZ3, and the Option 3 Siting Area is situated within areas of FZ1, FZ2 and FZ3. Flood mitigation measures would therefore be incorporated into the design of the substation in all three Siting Areas.

8.3.4 With regards to cable entry and exit, the northern and southern edges of the Option 1 and Option 2 Siting Areas are not immediately obstructed, though Stone Gate (to the south of the Option 1 Siting Area and the north of the Option 2 Siting Area), may introduce some complexities depending upon the relative location of customer connection routes. The northern and southern edges of the Option 3 Siting Area are not immediately obstructed, though the high-pressure gas main may introduce some complexities.

8.3.5 With regards to the presence of constraints which may limit the ability to provide further facilities for the substation in the future if required, there are constraints limiting all three Siting Areas. Marsh Road to the east and a high-pressure gas main to the west could present obstacles to future extension of the Option 1 Siting Area. However, there is still potential to the east and/or west. For the Option 2 Siting Area, Stone Gate to the east and existing trees to the west present obstacles for further facility provision, however tree removal could provide additional space to the west (but this could be challenging depending on the exact nature/designation of the trees). For the Option 3 Siting Area, the high-pressure gas main to the west and the 2WS 400kV overhead line to the east present obstacles for further facility provision.

8.3.6 Overall, the Option 1 Siting Area is marginally preferred from a technical perspective, due to the Siting Area being located at a further distance from the high-pressure gas main. For all three Siting Areas, the constraints are expected to be capable of resolution through the detailed design of the New Weston Marsh Substation B.

Overhead Line Entries

8.3.7 The Option 1 Siting Area is largely unconstrained to the north in terms of technical limitations. This means a direct overhead line alignment from the 4ZM to the north is likely to be achievable.

8.3.8 Subject to the desired connection point on the existing overhead line, the 2WS connection into the Option 1 Siting Area may route in close proximity to the Wykeham Chapel scheduled monument. However there are no technical constraints present in

this area that would prevent a straight alignment and there is potential to reroute the 2WS whilst utilising an existing angle, which could remove the need for temporary diversions (subject to confirmation that the existing pylons could be suitably modified). Alternatively, a new pylon, as close as reasonably practicable to the new Weston Marsh Substation B, could be introduced on the existing alignment to enable a shorter diversion. In this instance, a slightly greater separation could be achieved from the Wykeham Chapel Scheduled Monument, however this would introduce the need for temporary diversions of the existing asset to facilitate the new on-line tower. Tower positioning will be reviewed for all overhead line connections to ensure, where practicable, impacts on receptors are minimised. All alignments from the 2WS in the Option 1 Siting Area would cross a high-pressure gas pipeline, which could restrict the positioning of infrastructure.

8.3.9 To the west, potential connections into the Option 1 Siting Area are more significantly constrained, particularly if bay connections are assumed to be on the northern side of the new Weston Marsh Substation B. A key constraint is Sunny Fields Nurseries, which leaves an approximately 100 m corridor for overhead line or underground cable entry between substation perimeter and the nursery. This limits flexibility for infrastructure placement and adds technical complexity for crossings of assets in proximity to the New Weston Marsh Substation B. Any connection from the west is therefore likely to run along the edge of the Siting Area before turning north into the New Weston Marsh Substation B.

8.3.10 To the south, Stone Gate road may also constrain infrastructure, although it is expected that terminal structures could be located to the north of the road. Cable construction methodology will be confirmed as the Project progresses, however connections from the south may require horizontal directional drilling (HDD) beneath Stone Gate Road. Adequate clearance would need to be maintained between the new Weston Marsh Substation B and the road to allow for the safe installation and operation of the cable subject to site specific requirements and further detailed design.

8.3.11 The underground cable entries routeing from the north into the southern side of the new Weston Marsh Substation B from the Option 1 Siting Area may face geometric constraints. In particular, checks on the cable bend radius are needed to confirm it can navigate the southeast corner of the substation. Additionally, the distance between the Option 1 Siting Area and the nearby farm track to the south east is approximately 70 m, which may limit flexibility for overhead line entries and cables.

8.3.12 The Option 2 Siting Area, like the Option 1 Siting Area, is relatively unconstrained to the north and south. A direct alignment from the 4ZM is likely to be feasible. However, overhead line entries to the Option 2 Siting Area from the south west are significantly constrained by the presence of Wykeham Farm and the scheduled monument, both of which are likely to prevent routeing in this direction. Residential properties to the north east and south east may also reduce routeing flexibility, although sufficient room exists in the area for connections into the new Weston Marsh Substation B. Connections from the west are likely to be affected by the property on Marsh Road and the road itself, particularly at the junction with Stone Gate road. The distance between a large field drain to the south of Marsh Road and the extent of the Option 2 Siting Area is around 80 m, offering limited space for infrastructure.

8.3.13 As with the Option 1 Siting Area, subject to engineering feasibility, there is potential to reroute the 2WS to take advantage of existing angle pylons, reducing the need for

temporary diversions, or alternatively, a new pylon could be placed on the existing alignment near the substation to facilitate a direct connection.

8.3.14 The underground cable entries into the new Weston Marsh Substation B for the Option 2 Siting Area are also likely to face constraints. Stone Gate Road would need to be crossed in close proximity to the northern, eastern and southern boundaries of the new Weston Marsh Substation B, and the presence of a high-pressure gas main to the south may also require HDD (as with the Option 1 Siting Area). These factors could reduce the flexibility of cable alignment and entry positioning considering the necessary room for horizontal directional drilling.

8.3.15 The Option 3 Siting Area is more limited in terms of overhead line routeing flexibility compared to the Option 1 and 2 Siting Areas. To the north, the presence of a high-pressure gas main and a residential property constrain infrastructure placement. If a connection is made from the north west, there is a risk that the property could become encircled. To the south, connection into the south west corner of the new Weston Marsh Substation B is significantly constrained by a clearly maintained fenced area.

8.3.16 Despite these constraints, line entries to facilitate the Project may still be achievable without placing infrastructure directly within the network of small fields potentially related to Shepherds Farm, though future customer connections should be considered. Given the close proximity of the 2WS overhead line to the east of the Option 3 Siting Area, a new angle pylon is likely to be required on the existing alignment to facilitate a turn-in. However, there is also potential to reuse an existing angle pylon, subject to further design development and assessment.

8.3.17 Customer connections, new National Grid overhead line connections, and the proposed underground cable are all affected by the gas main to the north of the Option 3 Siting Area. Cables may require trenchless crossing and flexibility for new pylon placement could be reduced. The underground cables are expected to cross the 2WS overhead line between the new Weston Marsh Substation A and new Weston Marsh Substation B, to reach the southern side of the new Weston Marsh Substation B.

8.3.18 Overall, the Option 1 Siting Area is marginally preferred from a technical perspective. This is due to greater flexibility, provided by increased clearance to the high-pressure gas main, for substation line entries both overhead and underground. The Option 3 Siting Area is likely the most constrained of the Siting Areas due the reduced flexibility placed on substation connections to the south west of the substation and the requirement for connections originating from Weston Marsh A likely having to cross the high-pressure gas main. The Option 2 Siting Area performs similarly to the Option 1 Siting Area, however the available space and allowances for changes in substation orientation due in part to the Wykeham Chapel scheduled monument and nearby residential properties more greatly restricted the siting of overhead lines and cables into the substation when compared to Option 1 Siting Area.

8.4 Horlock Rules

8.4.1 Consideration of the Horlock Rules in relation to the New Weston Marsh Substation B Siting Areas is presented in **Table 4** below.

Table 4 Consideration of the Horlock Rules in relation to the Weston Marsh B Siting Areas.

Horlock Rule	Comment
1	Environmental features and potential impacts have been taken into consideration in this Siting Study, in accordance with National Grid's Approach to Consenting (Ref 1).
2	All three Siting Areas avoid international and nationally designated sites. The closest site is Surfleet Lows SSSI, approximately 3 km west of the Option 1 Siting Area. The IRZ for this SSSI covers a large portion of the Study Area, and requires consideration for primarily winter snipe and duck species. Species of relevance to the IRZ are not explicitly listed on the SSSI citation. Based upon available survey data, it is unlikely that the Weston Marsh B Siting Areas would be viewed as functionally-linked land, given relatively low numbers of birds on the ground. All three Siting Areas are in close proximity to a group of designated heritage assets at Wykeham Chapel, however the Option 2 Siting Area is the closest to Wykeham Chapel and due to the greater likely effects on setting, is the least preferred from a historic environment perspective.
3	Based on current survey data, all three Siting Areas do not directly impact upon areas of ancient woodland, historic hedgerows, surface and groundwater sources or any other nature conservation areas. However, there are ecological constraints in the vicinity which would need to be considered through further assessment.
4	By virtue of the nature of the Study Area, which generally comprises flat arable fields, there is little vegetation present which could act as a natural screen for the new Weston Marsh Substation B. However, in regard to the Option 1 Siting Area, there is an opportunity for mitigation planting to integrate with the existing nursery planting to the north of the new Weston Marsh Substation B, making the Option 1 Siting Area marginally favourable. Mitigation screening planting would be considered and incorporated as part of the detailed design, as required.
5	For all three Siting Areas, a small number of receptors would be impacted by the new Weston Marsh Substation B from a visual, noise and air quality perspective by virtue of their proximity to the new Weston Marsh Substation B, however the Option 2 Siting Area is situated in the closest proximity to the group of designated heritage assets at Wykeham Chapel and due to the greater effects on setting, this option is the least preferred from an environmental perspective. For all three Siting Areas, some visual effects during construction are anticipated, however, with mitigation planting incorporated into the design of the substation, longer term effects can be avoided. Any noise and air quality effects during construction would be controlled via a CoCP. The potential for impacts during operation are not anticipated at this stage.

6	All three Siting Areas are located within land provisionally mapped as Grade 1 BMV land, which is the highest quality agricultural land. However, as this is the case for all three Siting Areas, it is not a differentiating factor in selecting a preferred Siting Area. For the Option 1 Siting Area, there is one unnamed watercourse present to the south and one additional drain to the north. For the Option 2 Siting Area however, a field drain, which is a tributary of Wykeham drain, would require diverting or culverting. For the Option 3 Siting Area, a field ditch, which is a tributary of Lord's Drain/Comino Drainium, would also require diverting or culverting. However, this field ditch is considered to be an IDB high priority watercourse, therefore making the Option 3 Siting Area least favourable.
8	All three Siting Areas have sufficient space to provide effective mitigation planting and are in close proximity to the existing 400 kV infrastructure, therefore using space effectively to limit the area required for development.

8.5 Holford Rules

8.5.1 Due consideration of the Holford Rules in relation to the three Siting Areas is presented in **Table 5** below.

Table 5 Consideration of the Holford Rules in relation to the three Siting Areas.

Holford Rule	Comment
1	All three Siting Areas have avoided the areas of highest amenity value.
2	All three Siting Areas have avoided SSSIs. However, all three Siting Areas are within close proximity to a group of designated heritage assets at Wykeham Chapel, and by virtue of the receptor groups in proximity to the Siting Areas, impacts on the setting of these receptors are anticipated. The Option 2 Siting Area however is situated in the closest proximity to the group of designated heritage assets at Wykeham Chapel of the three options, and due to the greater effects on setting, this option is the least preferred from a historic environment perspective.

9. Conclusions

9.1.1 This Siting Study has been undertaken to establish the preferred Siting Areas for two proposed substations, the new Weston Marsh Substation A and the new Weston Marsh Substation B (whilst also considering the associated overhead line and underground cable connections), within the Siting Zone that was presented in the June 2025 PEI Report (Ref 7) for the Project.

9.1.2 This Siting Study builds upon previous extensive siting work undertaken for a new substation in the Weston Marsh area within the CPRSS (Ref 4), which culminated in a Graduated Swathe for the new Weston Marsh Substation A. This Siting Study therefore re-appraises a Siting Area for the new Weston Marsh Substation A, in the context of a requirement for two substations in the Weston Marsh area. The approach adopted within the Siting Study is in accordance with National Grid's Approach to Consenting, taking into account the Horlock (Ref 2) and Holford (Ref 3) Rules. This takes account of surveys and environmental assessments that have taken place since the production of the CPRSS (Ref 4) to confirm that the darkest part of the Graduated Swathe remains environmentally and technically feasible. This has been reported in section 7 of this Siting Study.

9.1.3 This Siting Study was also conducted to establish a preferred Siting Area for the new Weston Marsh Substation B. Three potential Siting Areas were identified, informed by environmental constraints analysis, as presented in section 6. Each option was then appraised in accordance with National Grid's Approach to Consenting, taking into account the Horlock (Ref 2) and Holford (Ref 3) Rules. This appraisal aimed to identify a preferred option to be taken forward to the design stage, through a balanced consideration of environmental, socio-economic and technical feasibility. This has been reported in section 8 of this Siting Study.

9.1.4 The results of the Siting Study for each substation (and associated overhead line and underground cable connections) are set out below.

9.2 New Weston Marsh Substation A

9.2.1 The Siting Study, from an environmental perspective, identified a number of constraints which are uniform across the Study Area (including the Weston Marsh A Siting Area), including the presence of large areas of FZ3 and Grade 1 BMV land.

9.2.2 A number of ecological constraints are present in the vicinity of the Weston Marsh A Siting Area which would require further consideration, including trees with bat roost suitability, badger setts and a potential otter holt. In addition, one ditch would require diverting around the Weston Marsh A Siting Area.

9.2.3 No designated heritage assets are present within 1 km of the Weston Marsh A Siting Area, however, six non-designated heritage assets are present.

9.2.4 Sensitive receptors in the form of a small number of scattered farms and agricultural holdings are present within 500 m – 1 km from the Weston Marsh A Siting Area, which could have implications from a Visual, Air Quality, Noise and Vibration and Socio-economic perspective. However, it is anticipated these impacts could be

mitigated in the form of mitigation planting, as well as control measures for construction contained within a CoCP.

9.2.5 The Horlock and Holford Rules have also been considered as part of this appraisal. In summation, it is considered no further constraints have been identified at this stage which would alter the original conclusions presented within the CPRSS (Ref 4). Therefore, the Weston Marsh A Siting Area is preferred as the location for the new Weston Marsh Substation A.

9.3 New Weston Marsh Substation B

9.3.1 Of the three potential Siting Areas presented for the new Weston Marsh Substation B, the Option 1 Siting Area emerged as the preferred Siting Area from an environmental, socio-economic and technical perspective.

9.3.2 From an environmental perspective, Grade 1 BMV land is present across the entire Study Area. As a result of this being common for all three options, this was not a differentiating factor during the selection of a preferred option.

9.3.3 The other major constraint identified in close proximity to the Siting Areas is the presence of a group of designated heritage assets at Wykeham Chapel. All options were appraised to have the potential for impacts upon the setting of these assets during construction and operation by virtue of the proximity of the receptor group to the Siting Areas, however the Option 2 Siting Area was less favourable in this regard as it was situated the closest to this group of receptors. The Option 1 and Option 3 Siting Areas are situated at very similar distances to the receptor group and could not be distinguished on this basis.

9.3.4 The Option 1 and Option 3 Siting Areas are similarly favourable from an environmental perspective, although the Option 3 Siting Area was appraised as more favourable from an air quality and noise perspective, due to being situated slightly further away from sensitive receptors when compared to the Option 1 Siting Area. Despite this, it is considered all potential impacts identified from an air quality and noise perspective would be adequately controlled through the implementation of best practice measures, secured and implemented within a CoCP submitted with the DCO Application.

9.3.5 While the Option 3 Siting Area is located within an area of FZ1, FZ2 and FZ3, which makes it marginally favourable from a flood risk perspective when compared to the Option 1 Siting Area (which is completely covered by FZ3), it is close to a high priority watercourse which would need to be diverted to facilitate construction works within the Option 3 Siting Area. Therefore, the Option 3 Siting Area is not favoured from a Water Environment perspective.

9.3.6 All three Siting Areas are located partially or wholly within FZ3 and modelling undertaken on the Outer Dowsing Offshore Wind project indicates all three locations are protected by existing defences during all events up to and including the 0.1% probability plus climate change event. While the Option 3 Siting Area is located within an area of FZ1, FZ2 and FZ3, FZ3 cannot be completely avoided when siting the substation and associated infrastructure within the Option 3 Siting Area. Therefore, any potential benefit the Option 3 Siting Area may offer in terms of flood risk reduction is likely to be minimal. Taking this into account, as well as the requirement to divert a high priority watercourse, the Option 3 Siting Area is not preferred from a water environment perspective.

9.3.7 The Sequential Test and the Exception Test will therefore be applied, to demonstrate the wider sustainability benefits the Project provides, and to demonstrate the Project will be safe in its operational lifetime without increasing flood risk elsewhere. This analysis and the assessment to support it will be set out in detail in the Flood Risk Assessment which accompanies the DCO Application for the Project.

9.3.8 From a landscape and visual perspective, all three Siting Areas are anticipated to result in effects during construction due to proximity of receptors. However, longer term impacts during operation are anticipated to be very localised and would likely not result in significant effects upon the wider landscape and visual receptors, based upon the implementation of mitigation planting for landscape integration. It is worth noting that when considering all elements together (the new Weston Marsh Substation A and new Weston Marsh Substation B, overhead line and underground cable connections and indirect effects from other Sections of the Project) there is potential for significant effects during operation, as reported in the June 2025 PEI Report (Ref 7). This has been considered further within the Supplementary PEI Report for Section 5.

9.3.9 The Option 1 Siting Area provides greater opportunities for mitigation planting than the Option 2 and 3 Siting Areas, as planting could integrate with the existing nursery planting to the north of the Siting Area, therefore making the Option 1 Siting Area marginally preferrable from a landscape and visual perspective.

9.3.10 From a socio-economic perspective, there is potential for impacts during construction for all three Siting Areas by virtue of the proximity of the substation to socio-economic receptors. A CoCP would be submitted with the DCO Application, which would include mitigation measures for noise, dust, working hours and measures to mitigate any identified temporary impacts to users of the nearby PRoWs. As a result, no preference was identified from a socio-economic perspective.

9.3.11 This appraisal has led to the Option 1 Siting Area being considered the preferred Siting Area from an environmental perspective. It is considered that the potential air quality and noise impacts, identified as a potential disbenefit of this option, could be managed through the application of appropriate control measures during the construction phase of the Project, implemented through a CoCP to be submitted with the DCO Application.

9.3.12 The Ecology and Biodiversity, Geology and Hydrogeology and Socio-economics disciplines found similar and/or non-material constraints when comparing all three options and these topics were not differentiating factors in the comparison of Siting Areas.

9.3.13 From a technical perspective, when considering overhead line entries, the Option 1 and 2 Siting Areas were similarly favourable as both options are largely unrestricted from the north and south in this regard. The Option 3 Siting Area was seen as less favourable when considering overhead line entries as it is more constrained due to the presence of a high-pressure gas main and properties situated to the north of the option and land related to the nearby Shepherds Farm. Both customer and National Grid Electricity Transmission's (NGET) connections would also have to cross a high pressure gas main to the north of the Option 3 Siting Area to connect into the New Weston Marsh Substation B (from the New Weston Marsh Substation A). When considering the underground cable connection required between New Weston Marsh Substation A and New Weston Marsh Substation B, all options provide the 1 km clearance required.

9.3.14 All options performed comparably from a technical perspective when considering the construction of the substation itself. The Option 1 Siting Area emerged as the preferred option due to the presence of less constraints when considering the potential for the provision of further facilities for the substation in the future, if required.

9.3.15 As a result, due to the Option 1 Siting Area being more favourable from an environmental and a technical perspective, this was selected as the preferred option for the New Weston Marsh Substation B.

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