Meridian Solar Farm

EN010169

Volume 6

Environmental Statement

6.1 ES Chapter 3: Alternatives and Design Evolution

APFP Regulation 5(2)(a)

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

March 2026

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3. Alternatives and Design Evolution

3.1. Introduction

Overview

3.1.1. This chapter of the Environmental Statement (ES) provides a summary of the need for the Scheme, alternatives for energy generation, site selection process, alternative scheme technologies, and design alternatives and evolution in relation to Meridian Solar Farm (hereafter referred to as 'the Scheme').

3.1.2. The following documents are cross-referenced within this chapter as they are relevant to the consideration of alternatives and the design evolution of the Scheme.

3.1.3. Full explanation of the need for the Scheme and the Site selection process is set out within Section 4.2 of the **Planning Statement** (Doc Ref. 7.1) and **Appendix D: Site Selection Report** of the **Planning Statement** (Doc Ref. 7.1) respectively. However, a summary is also included in Sections 3.2 and 3.4 of this chapter.

3.1.4. A **Design Approach Document** (Doc Ref. 7.3) has been submitted as part of the Development Consent Order (DCO) Application, which sets out the design principles that have been adopted to ensure that good design has been embedded within the Scheme from inception. The **Design Approach Document** (Doc Ref. 7.3) explains how the design has evolved having regard to local context, character, movement and nature. Section 3.6 of this chapter provides a summary of the key alternative design layouts and design evolution of the Scheme.

3.1.5. In addition, the **Environmental Mitigation and Commitments Register** (Doc Ref. 7.7) indicates where measures have been embedded within the design of the Scheme to avoid or minimise impacts on sensitive receptors, or to provide an enhancement. The **Consultation Report** (Doc Ref. 5.1) summarises how feedback received through various stages of consultation has informed the design development for the Scheme. Where relevant, Section 3.6 of this chapter explains how mitigation has embedded within the Scheme and how the outcomes of consultation have been taken into account as part of design evolution.

3.1.6. This chapter is supported by the following ES figures (Doc Ref. 6.2):

- **ES Figure 3-1: Grid Connection Routeing Initial Study Area;**
- **ES Figure 3-2: Grid Connection Routeing Study Initial Corridors;**

- **ES Figure 3-3: Grid Connection Route Options;**
- **ES Figure 3-4: Targeted Consultation Changes since Statutory Consultation;**
- **ES Figure 3-5: Inter-Array Connections Refinement; and**
- **ES Figure 3-6: Grid Connection Route Refinement.**

Legislative and Planning Policy Context

3.1.7. There is a legislative requirement to present alternatives where these have been considered by the Applicant. Regulation 14(2) of the Infrastructure Planning (Environmental Impact Assessment) (EIA) Regulations 2017 (hereafter referred to as the 'EIA Regulations')[1] sets out what the ES must include and refers to Schedule 4 of the EIA Regulations for additional information to be provided in the ES. Paragraph 2 of Schedule 4 of the EIA Regulations requires the ES to present:

"A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects."

3.1.8. The Planning Inspectorate's Advice Note 7: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements[2] at paragraph 9.3 also states that the Planning Inspectorate considers a good ES is one that "*…explains the reasonable alternatives considered and the reasons for the chosen option taking into account the effects of the Proposed Development on the environment*".

3.1.9. Whilst there is no general requirement in national planning policy to consider alternatives, the Overarching National Policy Statement for Energy EN-1 (NPS EN-1)[3] provides some useful context. Paragraph 4.3.9 of NPS EN-1 states that:

[1] The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. Available at: https://www.legislation.gov.uk/uksi/2017/572/data.pdf. [Accessed 06/10/2025]

[2] Planning Inspectorate (2025) Advice Note 7: EIA: Process, Preliminary Environmental Information and Environmental Statements https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-seven-environmental-impact-assessment-process-preliminary-environmental-information-an [Accessed 06/10/2025]

[3] DESNZ (2025). Overarching NPS for Energy (NPS EN-1). Available at: https://assets.publishing.service.gov.uk/media/695d1015f41883f4e50ed9ab/overarching-national-policy-statement-for-energy-en-1-web-accessible.pdf [Accessed 22/01/2026]

"*As in any planning case, the relevance or otherwise to the decision-making process of the existence (or alleged existence) of alternatives to the proposed development is, in the first instance, a matter of law. This NPS does not contain any general requirement to consider alternatives or to establish whether the proposed project represents the best option from a policy perspective.[…]*".

3.1.10. The same paragraph 4.3.9 of NPS EN-1 does however go on to highlight the specific requirements in respect of compulsory acquisition and habitats sites, and notes the NPS itself does not change those.

3.1.11. The **Statement of Reasons** (Doc Ref 4.1) outlines the relevant alternatives tests in respect of the use of compulsory acquisition powers, and that analysis is not repeated here. The Applicant has sought to enter into voluntary agreements with landowners, with a view to reducing the need to rely upon compulsory acquisition powers in the DCO. The **Statement of Reasons** (Doc Ref. 4.1) explains the compelling case in the public interest which would justify the Applicant's exercise of powers of compulsory acquisition in order to acquire land and rights permanently and to use land temporarily to enable it to construct, operate and maintain and decommission the Scheme.

3.1.12. Paragraph 4.3.16 of NPS EN-1 states that in some circumstances NPS EN-1 and technology-specific NPSs may impose a policy requirement to consider alternatives. Furthermore, paragraph 4.3.17 of NPS EN-1 states "*where there is a policy or legal requirement to consider alternatives the applicant should describe the alternatives considered in compliance with these requirements*."

3.1.13. Relevant policy requirements for the consideration of alternatives within NPS EN-1 are set out within Section 5.4 Biodiversity and Geological Conservation, Section 5.8 Flood Risk and Section 5.10 Landscape and Visual of the NPS. Section 5.4 of NPS EN-1 includes a requirement under the Habitats Directive, as transposed into UK law by the Conservation of Habitats and Species Regulations 2017[4] ('the Habitats Regulations'), the consideration of alternative solutions as part of Stage 3 of a Habitats Regulations Assessment (HRA) for schemes where the Habitats Regulations apply. Relevant policy tests are set out in paragraphs 5.4.4 to 5.4.6 and paragraph 5.4.26 to 5.4.32 of NPS EN-1. The HRA for the Scheme did not progress to Stage 3, as it was concluded at an earlier stage of the assessment that the Scheme would not result in adverse

[4] The Conservation of Habitats and Species Regulations 2017. The Conservation of Habitats and Species Regulations 2017 [Accessed September 2025]

effects on the integrity of any sites forming part of the National Site Network. Accordingly, a Stage 3 alternatives assessment was not required. Information relevant to the HRA process is provided within **ES Appendix 9-14: Habitats Regulations Assessment Report** (Doc Ref 6.3).

3.1.14. Section 5.8 Flood Risk of NPS EN-1 sets out the policy requirements to consider alternatives in relation to flood risk. In respect of siting developments within areas of flood risk, paragraphs 5.8.6 to 5.8.12 of NPS EN-1 set out the relevant policy tests. These confirm the need to steer new development to areas at the lowest risk of flooding. Where this cannot be avoided, and there are no reasonable available sites in areas of lower risk, the Sequential Test (as outlined in Planning Practice Guidance on Flood Risk and Coastal Change Guidance (Paragraphs 023 and 024)) must be applied to site selection. This test requires a detailed process for the consideration of alternative sites that pose lower flood risk than that selected. If this cannot deliver an acceptable site the Exception Test (as outlined in Planning Practice Guidance on Flood Risk and Coastal Change Guidance (Paragraph 31)) must then be applied to confirm that the development will provide wider sustainability benefits to the community that outweigh the flood risk adopted, and that the development will be safe for its lifetime, and where possible will reduce flood risk overall. Information on the Sequential and Exception Tests are presented within **ES Appendix 11-3: Flood Risk Assessment** (FRA) (Doc Ref. 6.3) and discussion is also included within Section 5.10 of the **Planning Statement** (Doc Ref. 7.1). Consideration of flood risk in Site selection and design evolution is also referenced in Sections 3.4 and 3.6 of this chapter.

3.1.15. Section 5.10 Landscape and Visual, paragraph 5.10.32 of NPS EN-1 sets out the policy requirements to consider alternatives in relation nationally designated landscapes. As explained within **ES Chapter 12: Landscape and Visual Impact Assessment** (Doc Ref. 6.1), the Scheme is not located within or near nationally designated landscapes, and as such, these requirements do not apply to the Scheme.

3.1.16. In NPS EN-3[5], in respect of identifying alternatives at the earliest stage, paragraph 2.8.187 states that "*At the earliest possible stage, alternative ways of working and use of technology should be employed to avoid environmental impacts.*"

[5] Department for Energy Security and Net Zero (2025) *National Policy Statement for Renewable Infrastructure (EN-3)* (E03028327). London: HMSO Available at: https://assets.publishing.service.gov.uk/media/695d1368b5c46330350ed9a2/national-policy-statement-for-renewable-energy-infrastructure-en-3-web-accessible.pdf [Accessed 22 January 2026]

Consideration of alternative technologies is considered further in Section 3.5 of this chapter.

3.1.17. NPS EN-5[6], paragraph 2.9.14 states that "*Where the nature or proposed route of an overhead line will likely result in particularly significant landscape and visual impacts, the applicant should demonstrate that they have given due consideration to the costs and benefits of feasible alternatives to the line. This could include – where appropriate – rerouting, underground or subsea cables and the feasibility e.g. in cost, engineering or environmental terms of these*". Detail of this consideration is set out in Section 3.4 of this chapter.

3.2. Need for the Scheme

3.2.1. In 2008, the UK committed to reducing greenhouse gas emissions by 80% (by 2050) in comparison to emissions at 1990 levels. The Climate Change Act 2008[7] was passed, carbon budgets established, and a Committee on Climate Change formed. In 2019, the Government strengthened this commitment by legislating to achieve 'net zero' carbon emissions by 2050[8]. In 2024, the Government outlined a target of achieving a zero-carbon electricity system by 2030, five years before the previous target[9]. In order to meet this goal, there is a target to increase the capacity of solar PV in the UK to 45-47 gigawatts (GW) by 2030. The Scheme has the potential to accelerate the UK's transition to net zero and make a substantial contribution towards achieving the Government's targets, while also reducing the reliance on fossil fuels, increasing national energy security at a time of both rising energy bills and the increasing urgency to tackle the climate emergency. For further information on the need for the Scheme, refer to the **Planning Statement** (Doc Ref. 7.1).

3.2.2. Therefore, a 'no development' scenario is not considered to be a reasonable alternative given the urgent and critical need to deliver for the provision of nationally significant low carbon energy infrastructure, as affirmed within NPS EN-1[3], the NPS EN-3[5] and NPS EN-5[6].

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[6] Department for Energy Security and Net Zero (2025) *National Policy Statement for electricity networks infrastructure (EN-5)* (E03028327). London: HMSO Available at: https://assets.publishing.service.gov.uk/media/695d12e1b5c46330350ed9a1/national-policy-statement-for-electricity-networks-infrastructure-en-5-web-accessible.pdf [Accessed 22 January 2026]
[7] Climate Change Act 2008. Available at: https://www.legislation.gov.uk/ukpga/2008/27/data.pdf [Accessed 28 September 2025]
[8] The Climate Change Act 2008 (2050 Target Amendment) Order 2019. Available at: https://www.legislation.gov.uk/uksi/2019/1056/made/data.pdf [Accessed 28 September 2025]
[9] HM Government (2024). Clean Power 2030 Action Plan. Available at https://www.gov.uk/government/publications/clean-power-2030-action-plan [Accessed 28 September 2025]

3.3. Alternative Energy Generation Technologies

3.3.1. Other energy generation technologies such as wind power, nuclear, coal or gas fired power stations and hydrogen have not been considered due to several factors:

- Onshore Wind: At the time of the project inception, the consenting regime available at the time (Town & Country Planning Act 1990) was not optimal for consenting onshore wind generation of this scale. Furthermore, the Site is not best suited for onshore wind, as the height of the wind turbines to the blade tip can be over 100m above ground level, its strong horizontal character means that turbines would be visually dominant in this type of landscape.
- Nuclear Energy: The Site is unsuitable for nuclear energy, as siting a nuclear power station within Flood Zone 3 would lead to significant safety, policy, and regulatory concerns. Furthermore, the time required and complexity to deploy would delay contribution to the UK's urgent and critical need to decarbonise the energy sector.
- Fossil Fuel Energy Generation: As with nuclear energy, coal and gas fired power stations are unable to contribute to the UK's urgent and critical need to decarbonise the energy sector.
- Hydrogen: The project objectives were to deliver an NSIP scale solar project to export directly to the National Grid, not to generate electricity to deliver something different, for example, hydrogen (which is not a generation technology in its own right).

3.3.2. A smaller development as an alternative to the Scheme has also not been considered further. This is due to the urgent need to deploy large scale renewable energy projects in accordance with NPS EN-1[3] and having regard to paragraph 4.3.23 of NPS EN-1, which states that: "*The Secretary of State should be guided in considering alternative proposals by whether there is a realistic prospect of the alternative delivering the same infrastructure capacity (including energy security, climate change, and other environmental benefits) in the same timescale as the proposed development*."

3.3.3. A smaller solar generation development would not deliver the same level of benefits associated with the Scheme in terms of electricity generation, energy security or climate change benefits.

3.4. Site Selection

Solar Development Area

3.4.1. There is no standard methodology for the selection of land for solar PV generation. The methodology used has been informed by NPS EN-1[3] and EN-3[5], which outline the objectives and requirements for the assessment of DCO applications for energy NSIPs. It is also generally acknowledged that large scale solar development requires three fundamental attributes, amongst other considerations:

- Existence of sufficient land to deliver the Scheme and meet the scale of the Scheme's aims;
- Availability and capacity of a suitable point of connection to the National Grid Electricity Transmission Systems (NETS) network; and
- Solar irradiation levels to support the Scheme's potential to produce efficient and economic energy grid.

3.4.2. **Appendix D: Site Selection Report** of the **Planning Statement** (Doc Ref. 7.1), submitted as part of this DCO Application, sets out the process undertaken to identify a site suitable for the Scheme in line with the requirements of NPS EN-3[5]. The Site Selection Report explains the methodology used to identify the proposed location and demonstrates that reasonable alternatives have been considered. The report justifies why the chosen Site is the most appropriate for the Scheme, considering various planning, environmental, and operational factors.

3.4.3. The site selection process was based on a grid connection offer at a future Weston Marsh Substation to be developed by National Grid Electricity Transmission (NGET) as part of the Grimsby to Walpole NSIP; the siting area for which became the starting point of an area of search for the Scheme. In summary. the key factors which were considered by the Applicant when selecting land for the Solar Development Area included:

- Regional factors for Site selection:
  - Irradiance and site topography;
  - Location of available network connection;
  - Availability of land holdings;
  - Agricultural land classification and land type;
  - Flood risk;

- Planning and environmental designations;
- Localised factors for Site selection and the siting of infrastructure:
  - Proximity of the land to dwellings;
  - Agricultural land classification and land type;
  - Flood risk;
  - Accessibility;
  - Public rights of way; and
  - Security and Lighting.

Inter-Array Connections

3.4.4. The areas considered for the siting of Inter-Array Connections were determined by the identification of appropriate routes to connect the Solar Development Area parcels. The refinement of these areas, and options considered are further discussed in Sections 3.5 and 3.6 of this chapter.

Grid Connection Route

3.4.5. Following the identification of the Site for the Solar Development Area, work was undertaken to inform the siting of the Grid Connection Route for connecting to the future NGET Weston Marsh Substation. In accordance with the starting presumption for overhead lines set out in paragraph 2.9.21 of NPS EN-5[6], the routeing assessment was based on the assumption that the Grid Connection Route would comprise an overhead line supported by lattice-style pylons; this is further discussed in Section 3.5 of this chapter.

3.4.6. At the outset, two high level grid connection options were identified:

- A direct connection (tee-off) to the planned Grimsby to Walpole overhead line, or
- A connection to the future NGET Weston Marsh Substation.

3.4.7. Both options were explored with NGET to understand technical feasibility, operational requirements and deliverability.

Option Discounted: Connecting directly to the Grimsby to Walpole overhead line

3.4.8. The Applicant requested NGET consider approving a 'tee-in' connection to the planned Grimsby to Walpole scheme. This scheme comprises a new high voltage transmission line which passes close to Land Parcel D of the Solar Development Area. A tee-in would avoid the requirement for a connection directly into the

planned Weston Marsh substation, thus substantially reducing the length of the overhead line required. NGET advised that it would not provide for a tee-in connection and on this basis, only a connection into the future Weston Marsh Substation was considered deliverable for the grid connection.

Option Selected: Connecting to the Proposed NGET Weston Marsh Substation

3.4.9. NPS EN-5[6] recognises that applicants for new electricity network infrastructure have limited control over the location of development. In particular, paragraph 2.2.1 of NPS EN-5 states that "*the initiating and terminating points – or development zone – of new electricity networks infrastructure is not substantially within the control of the applicant*." As a result, the scope for identifying and assessing alternative locations is inherently constrained when compared with other forms of development.

3.4.10. Paragraph 2.2.2 of NPS EN-5 further explains that siting is determined by "*the location of new generating stations or other infrastructure requiring connection to the network, and/or system capacity and resilience requirements determined by the NESO*." These factors are fixed or strategically defined to meet national network requirements.

3.4.11. In this context, the siting of the Grid Connection has necessarily focused on options that are technically feasible, environmentally deliverable, and capable of meeting the required connection and network performance objectives. Options that do not connect the relevant infrastructure or that fail to satisfy NESO-determined capacity and resilience requirements are not reasonable alternatives and have therefore been excluded from further consideration.

3.4.12. The initial study area for the routeing is shown in **ES Figure 3-1: Grid Connection Routeing Initial Study Area** (Doc Ref. 6.2), which identifies the corridor of land in between the Solar Development Area and the NGET Weston Marsh Substation siting area.

3.4.13. Guidelines on overhead line routeing were first introduced by Lord William Holford in 1959. Since their introduction, these guidelines have been reviewed and are widely recognised as best practice regarding the routeing of overhead line infrastructure and are known as 'The Holford Rules'[10]. The Holford Rules seek to avoid adverse impacts through careful routeing of overhead lines. All other constraints being equal, the Holford Rules state to choose the most direct

[10] National Grid (1959). The Holford Rules. Available at: https://www.nationalgrid.com/sites/default/files/documents/13795-The%20Holford%20Rules.pdf [Accessed 23 January 2026]

line, with no sharp changes of direction, thus minimising the number of angle towers. Further discussion on how the Holford Rules were followed as part of the siting and design of the Grid Connection is included within Appendix 2 of the **Design Approach Document** (Doc Ref. 7.3), submitted as part of this DCO Application.

3.4.14. A broad range of environmental topics have been considered as part of the routeing exercise. For each environmental topic, a review was completed to identify the key constraints within the study area as outlined within Table 3-1 below. Only those environmental topics that could be considered a determining factor for routeing formed part of the environmental scope of the Grid Connection Route selection process.

3.4.15. The alternative routeing options for the Grid Connection identified as a result of applying the Holford Rules and environmental constraints listed within Table 3-1 are discussed in Section 3.6.

Table 3-1: Grid Connection Routeing Study Environmental Scope

Topic	Key Qualitative Indicators within Study Area
Cultural Heritage	• Listed buildings; • Conservation areas; • Scheduled monuments; and • Historic Environmental Records (HER) data.
Ecology and Biodiversity	• Priority Habitat; • Sites of Special Scientific Interest; • Natural woodland.
Water Environment	• Main rivers and other watercourses; • Flood zones; • Groundwater flood risk; • Surface water flood risk; • Aquifer designation and groundwater vulnerability; • Reservoir inundation mapping; and • Nitrate vulnerable zones.
Contaminated Land	• Surface water abstractions;

Topic	Key Qualitative Indicators within Study Area
	• Borehole records; • Historic landfill sites; • Recorded pollution incidents to controlled waters; and • Historical industry
Agriculture and Soils	• Provisional ALC 1:250,000 data; • Borehole records; • Soilscapes; • Superficial deposits; and • Peatland.
Landscape and Visual	• Residential properties and businesses; • Topography; and • Natural woodland.
Socio-economics, Human Health and Land Use	• Land subject to planning applications; • Land subject to site allocations; and • Crown land.
Traffic and Access	• Strategic road network; • Local road network; • National cycle routes; and • PRoW.

3.5. Alternative Scheme Technologies

3.5.1. As described in **ES Chapter 2: The Scheme** (Doc Ref. 6.1), the parameters fixed by the **Draft DCO** (Doc Ref. 3.1) will maintain a degree of design flexibility to allow the latest technology to be utilised at the time of Scheme construction. Notwithstanding this, several design options in relation to the technology of the Solar Development Area, Inter-Array Connections and Grid Connection have been considered and the proposed technology selected for each of these three components has been defined taking into account potential environmental effects, the Scheme requirements, and need for optimal functionality.

Solar Development Area Technology

Solar PV Panel Technology

3.5.2. At the early stage of design development three types of solar PV panels and their electricity production were considered:

- Option 1: Fixed south facing solar panels – these panel arrays remain static and it is the most common technology used at solar PV facilities in the UK.
- Option 2: East-west single axis tracker solar panels – these solar panels track the sun's position throughout the day. The tracking system tilts the solar panels around a horizontal north-south axis thus tracking the sun's movement from east to west. The panels are at their maximum height during early morning and late evening and lie horizontal during the peak of the day. The panels are also stored in a horizontal position over night.
- Option 3: Fixed east-west panels – these solar panels split an array to capture morning (east) and afternoon (west) sun, creating a flatter energy curve for better self-consumption.

3.5.3. Fixed south-facing panels were selected in preference to tracker panels and east–west fixed panels following consideration of environmental and operational factors. Tracker panels were assessed in detail, including the benefit that they are horizontal at midday and stored horizontally overnight, resulting in a lower height for much of the day compared to fixed south-facing panels and a potential reduction in landscape and visual effects. However, tracker panels require significantly greater land take per solar PV array to minimise inter-row shadowing and achieve optimal efficiency. Given the constraints of the Order Limits, this would limit the number of panels that could be installed. Overall, the increased land requirement and associated environmental effects, meant that trackers were discounted in favour of a consistent fixed-panel layout.

3.5.4. East–west fixed panels were also discounted. Although they offer an alternative energy generation profile with increased output during morning and evening periods, this advantage is not required due to the inclusion of a Battery Energy Storage System (BESS), which provides flexibility in storing and distributing energy throughout the day and during peak demand. Furthermore, east–west panels require reduced spacing between rows, which would limit light penetration and restrict opportunities for biodiversity net gain.

3.5.5. Fixed south-facing panels were therefore selected as the proposed option as they provide the most appropriate balance between energy efficiency, land use, and environmental effects. They maximise exposure to direct sunlight

throughout the day, deliver a reliable and high-energy yield without the additional cost and maintenance associated with tracker systems, and allow sufficient spacing to support biodiversity enhancements, while minimising overall environmental effects.

Alternating Current (AC)-Coupled and Direct Current (DC)-Coupled BESS

3.5.6. There are two options available for the way in which PV panels can connect/couple with the BESS:

- Option 1 – AC-coupled which results in batteries being located within a centralised part of the Site located away from the solar PV panels, or
- Option 2 – DC-coupled which results in batteries being dispersed across the Site adjoining the proposed solar stations and associated fields of PV panels.

3.5.7. The majority of UK solar developments to date, where solar schemes include BESS as associated development, are AC-coupled. This means that the BESS is sited within a single and centralised location within the site. Solar panels generate DC electricity that has to be transformed via an inverter into AC electricity before being stored in a battery invertor. AC coupling systems result in efficiency losses through inverting electricity from AC to DC or from DC to AC. DC-coupled schemes result in BESS being dispersed across the Scheme sitting alongside the solar stations rather than being in a centralised location like the AC-coupled system.

3.5.8. However, AC coupling systems work with a wider variety and type of solar inverters (e.g. microinverters), allowing for a broader choice. Separate inverters also mean a battery fault does not stop solar generation.

3.5.9. The adoption of an AC-coupled BESS also simplifies the approach to emergency access and response. By consolidating all infrastructure within a single location within the Site, the scale and complexity of emergency access and response infrastructure is minimised. In contrast, a more dispersed arrangement for DC-coupled BESS would distribute infrastructure across a wider area, increasing the extent of land take and introducing multiple sites requiring at least two separate points of emergency access. This would necessitate the provision of emergency vehicle–standard access roads, turning heads, rendezvous points and dedicated fire-fighting infrastructure, including water storage and hydrants, at each location.

3.5.10. Furthermore, BESS infrastructure generates operational noise, and the DC-coupled requirement to locate this infrastructure in close proximity to solar

stations increases the potential for noise-sensitive receptors to be exposed to elevated noise levels. This is because the constrained siting associated with DC-coupled configurations reduces opportunities to apply separation distances through layout design (as the BESS must be spread around the Site as opposed to being sited in a location selected for being distant from receptors), thereby increasing the likelihood of noise effects of greater magnitude and the potential for significant adverse operational effects at nearby residential receptors.

3.5.11. Lastly, the dispersal of BESS compounds across the Site reduces the flexibility to avoid areas at risk of flooding. This constrained siting increases the likelihood that BESS infrastructure would be located within flood-prone areas, necessitating flood mitigation, such as bunding, which may subsequently increase the amount of floodplain volume loss. This is particularly important in the context of the Site, which sits largely within Flood Zone 3. As such, DC-coupled BESS would increase both the scale of mitigation required and the potential for residual effects in flood risk terms when compared with the AC-coupled alternative.

3.5.12. On this basis, the AC-coupled BESS has been identified as the preferred option, for the Scheme, as it represents a proportionate design response that avoids or reduces potentially significant effects within the context of the Site.

Inter Array Connections

Type of Connection between Solar Development Area Parcels

3.5.13. A 132kV single circuit connection would be required to connect the On-Site 132kV substations to the On-Site 400kV Substation. This could take the form of an underground cable or an overhead line.

3.5.14. The total length of the Inter-Array Connection between Land Parcels A and B is approximately 1.1km. Both options, an underground cable and an overhead line were considered for this connection and an environmental assessment of both of these options was presented within the Preliminary Environmental Information Report (PEIR) published with statutory consultation (Design Stage 2) (see Section 3.6 of this chapter). In summary, neither of the options were considered to result in significant residual environmental effects with the application of mitigation, however, an overhead line option raised concerns with regards to safety impacts on the operation of Crowland Airfield. As such, an underground cable was selected for the Inter-Array Connection between Land Parcels A and B.

3.5.15. NPS EN-5[6] provides relevant policy direction in the respect of electricity networks infrastructure.

3.5.16. Paragraph 2.9.21 of NPS EN-5[6] states that "*Although it is the government's position that overhead lines should be the strong starting presumption for electricity networks developments in general, this presumption is reversed when proposed developments will cross part of a nationally designated landscape (i.e. National Park, The Broads, or Area of Outstanding Natural Beauty)*". The Inter-Array Connection between Land Parcels C and D would neither directly or indirectly impact one of these sites and therefore the presumption of an overhead line for the connection is considered wholly appropriate.

3.5.17. In addition, paragraph 2.9.24 of NPS EN-5 states that "*Additionally, cases will arise where, though no part of the proposed development crosses a designated landscape, a high potential for widespread and significant adverse landscape and/or visual impacts along certain sections of its route may result in recommendations to use undergrounding for relevant segments of the line.*" Given the maximum height of 15m above ground of the 132kV overhead line and the context of existing overhead electrical lines in the surrounding area, the landscape and visual effects of the Inter-Array Connection were not considered likely to have a high potential to be significant adverse over a large study area. As such, an overhead line remained as the starting presumption for the Inter-Array Connection between Land Parcels C and D.

3.5.18. Regardless both options, an underground cable and an overhead line were considered for the Inter-Array Connection between Land Parcels C and D and an environmental assessment of both of these options was presented within the PEIR published with statutory consultation (Design Stage 2) (see Section 3.6 of this chapter). In summary, neither of the options were considered to result in significant residual environmental effects with the application of mitigation. Moreover, the effects of an overhead line were considered to be less than that of an underground cable, as a result of the reduced extent of ground disturbance required during construction. As such, an overhead line was selected for the Inter-Array Connection between Land Parcels C and D.

Wood Pole Design

3.5.19. Two wood pole design options were considered for the single circuit 132kV overhead line to be used for the Overhead Inter-Array Connection:

- Option 1 – Single wooden poles (also referred to as 'trident wood poles'); and
- Option 2 – H frame poles.

3.5.20. Single wooden poles generally require a smaller physical footprint at each pole location. As a result, they can slightly reduce land take and ground disturbance compared to an H frame pole. Their more slender form can also result in reduced visual prominence when viewed in isolation, particularly within rural landscapes. However, the difference in effects between the options is minimal, due to the limited land-take of either option.

3.5.21. The feasibility of using single trident wood poles to accommodate power via High Temperature, Low Sag (HTLS) conductors is unknown, as there are no established UK precedents for 132kV HTLS circuits using single wood poles. As such, due to engineering feasibility, the Scheme therefore adopts double wood poles (H frame) for the Overhead Inter-Array Connection, which have greater mechanical strength and load capacity.

Grid Connection Route

Type of Connection to the Proposed NGET Weston Marsh Substation

3.5.22. The grid connection agreement for the Scheme stipulated that a 400kV connection into the proposed NGET Weston Marsh Substation was required, meaning that the Applicant had to provide a high voltage transmission connection to the PoC. Please refer to the **Grid Connection Statement** (Doc Ref. 7.5) for further information.

3.5.23. Two options were considered for the Grid Connection in to the proposed NGET Weston Marsh Substation:

- 400kV overhead line connection from the Solar Development Area to the proposed NGET Weston Marsh Substation; and
- 400kV underground connection from the Solar Development Area to the proposed NGET Weston Marsh Substation.

3.5.24. NPS EN-5[6] provides relevant policy direction in the respect of electricity networks infrastructure.

3.5.25. As for the Inter-Array Connection, the Grid Connection Route is not within or adjacent to nationally designated landscapes, and as such, paragraph 2.9.21 of NPS EN-5[6] is not applicable. However further assessment with regards to the requirements of paragraph 2.9.24 of the NPS EN-5 was considered to be required. As set out in paragraph 2.9.25 of the NPS EN-5, the Secretary of State must weigh the feasibility, cost, and any harm of the undergrounding option against the adverse implications of the overhead line proposal, the cost and feasibility of re-routing overhead lines or mitigation proposals for the relevant section and the cost and feasibility of the reconfiguration, rationalisation,

and/or use of underground cabling. As such the section below provides relevant information on the comparison of environmental effects, engineering feasibility and cost considerations.

3.5.26. A comparison of the potential environmental effects of a 400kV underground cable and a 400kV overhead line is presented within Table 3-2 below. A comparison of the engineering and constructability considerations is presented within Table 3-3.

3.5.27. Lastly, a cost comparison exercise undertaken by the Applicant showed that an underground cable solution would be three to five times more costly than the proposed design for the 400kV overhead line. The cost comparison between overhead lines and underground cables has been estimated using the Institute for Engineering and Technology (IET) Electricity Transmission Costs and Characteristics Report[11] as a baseline, using the current DCO design parameters for the Grid Connection Route. This report presents a review and comparison of technologies that could credibly be deployed in the next decade to extend and enhance the capacity of the electrical transmission network of Great Britain. Th cost comparison is based on the consideration of construction, operational and decommissioning costs to give an overall lifetime cost comparison.

Table 3-2: Comparison of potential environmental effects from the construction of an underground cable and an overhead line for the Grid Connection

Environmental Topic	Comparison of potential environmental effects
Air Quality	The proposed Grid Connection Route study area (see **ES Figure 3-1** (Doc Ref. 6.2)) does not intersect any Air Quality Management Areas. According to the South Holland District Council's 2024 Annual Status Report[12], all monitored nitrogen NO_2 concentrations were below the annual mean Air Quality Objective of 40 µg/m^3. Given the consistently good air quality in the area, the scope of works likely to be required, and the low number of air quality sensitive receptors along the Grid Connection Route, it is unlikely to result in any significant direct or indirect effects on local air quality.

[11] Institute for Engineering and Technology (2025). Electricity Transmission Costs and Characteristics Report. Available at: 100110238_001-rev-j-electricity-transmission-costs-and-characteristics_final-full.pdf. [Accessed 18/02/2026].
[12] South Holland District Council (2024). *Annual Progress Report*. Available at *https://shollandair.rcdo.co.uk/air-quality-in-south-holland/Reports/South_Holland_District_Council_ASR_2024.pdf* [Accessed 05/11/2025]

Environmental Topic	Comparison of potential environmental effects
	The potential air quality impacts from the construction of an underground cable and an overhead line would be similar, and not likely to be significant with the adoption of appropriate dust management measures.
Agriculture and Soils	Natural England's provisional ALC mapping indicates that the entirety of the Grid Connection study area is located within Grade 1 and Grade 2 Agricultural Land Classification (ALC). Both underground cabling and an overhead line would likely require the disturbance of Best and Most Versatile (BMV) agricultural land, albeit the extent of ground disturbance for an overhead line would be smaller. An underground cable would have a lesser impact on existing farm holdings, with no above ground structures left on-site following construction, albeit the impact on farm holdings is not likely to be significant in either scenario.
Ecology and Nature Conservation	An overhead line would likely require less ground disturbance and potential habitat loss compared to an underground cable. Temporary disturbance and habitat loss during construction of an underground cable would be greater and therefore present a higher risk to protected species, such as great crested newt, reptiles, bats, badgers and otter and water vole, than from an overhead line. Subsequent ecological surveys and desk study have not identified presence of great crested newts, however, habitats suitable for water vole, otter, bats, badger and reptiles have been identified. Approximately 50 watercourses would need to be crossed should the Grid Connection be undergrounded, potentially leading to greater impacts as a result of displacement of water voles and otter, if open cut crossings were used. However, an overhead line would introduce a collision risk for birds. Several sites forming part of the National Site Network are located within 20km of the Grid Connection route study area, including The Wash Ramsar site, The

Environmental Topic	Comparison of potential environmental effects
	Wash and North Norfolk Coast SAC, The Wash SPA, Baston Fen SAC, and the Nene Washes. Without mitigation, an overhead line could have a permanent impact on the integrity of the sites forming part of the National Site Network due to potentially significant effects on birds associated with these sites, as a result of collision risk. Underground cables could have a temporary impact on birds associated with the National Site Network through temporary habitat loss and disturbance during installation. However, it was acknowledged that these effects of either option can generally be mitigated through appropriate design and construction environmental management measures.
Historic Environment	The Grid Connection study area is known for a high potential for archaeology, associated with roddons and palaeochannels characteristic to the local landscape. There are numerous Scheduled Monuments and listed buildings in the study area. Specifically, 'Wykeham Chapel: a moated monastic grange and retreat house' (1019096) Scheduled Monument is located adjacent to the Weston Marsh Substation Siting Area. The monument includes a medieval monastic grange, together with the remains of a retreat house and chapel. Within the Scheduled Monument are three Listed Buildings: • The Wykeham Chapel of St Nicholas (1064471) – Grade I Listed; • Chapel Farmhouse (1147513) – Grade II Listed; • Gate Piers to Chapel Farmhouse (1064472) – Grade II Listed. There are further Listed Buildings grouped within Weston, Moulton and the east of Spalding. In addition, there are three Conservation Areas within the study area – Moulton

Environmental Topic	Comparison of potential environmental effects
	Conservation Area, Spalding Conservation Area and Pinchbeck Conservation Area. An overhead line would involve permanent effects to designated assets through change to their settings. The linear nature of an overhead line and the scale of the proposed pylons, also means that there would be limited scope for mitigation of visual impacts affecting setting. However, the potential physical effect on buried archaeological deposits would be limited to the footprints of the pylons and intrusive construction compounds/access. Micro-siting could be used to avoid impacting key assets. If a cable is to be laid underground, the potential effect on buried archaeological deposits may be extensive depending on the location of the trenching and there would be less scope for mitigation.
Land contamination	Neither option is likely to result in significant effects with regards to land contamination with the adoption of good practice construction environmental management measures.
Landscape and Visual	The Grid Connection study area is located within The Wash Historic Landscape Character Area (HLCA) and the Settled Fens Landscape Character Type (LCT), which are characterized by wide, open views with some existing vertical structures and some trees and hedgerows associated with settlements. An overhead line would introduce new above-ground infrastructure into the local landscape and given the open and largely unscreened character of the existing landscape, it has the potential to result in significant changes to landscape character and amenity. The Grid Connection study area passes several residential properties, PRoWs and local roads. Weston, Moulton and Spalding are located within the Grid Connection study area. Due to the predominantly flat and low-lying topography of the area and the lack of potential screening vegetation, it is likely that an overhead line will be visible from the existing

Environmental Topic	Comparison of potential environmental effects
	settlements and numerous properties and therefore will have significant visual effects. There would be increased visual sensitivity in this area in particular due to the higher density of visual receptors in the town of Spalding and the villages of Weston and Moulton, and there would be very little, if any, potential mitigation available due to the scale of the pylons. For both landscape and visual receptors. an underground cable would largely avoid the presence of permanent above ground infrastructure and is therefore expected to give rise primarily to effects associated with construction, and these would be temporary and localised in nature.
Noise and Vibration	The potential for significant noise and vibration effects at residential properties was considered. As construction noise effects would be temporary, reversible and can largely be mitigated through best practicable means for managing construction works, the effects are likely to be similar for both options. Operational noise effects would only occur for the overhead line option, however, with appropriate buffers maintained from residential properties and applying mitigation at detailed design, for example in the form of design specification for conductors and hydrophilic coatings, significant effects can be avoided.
Traffic and Transport	Considering the location of the Weston Marsh Substation Siting Area, the Grid Connection Route would likely be accessed via the A16 Crowland Bypass, the A151 High Road and B1165 Austendike Road. The potential for significant traffic and transport effects as a result of the Grid Connection Route would arise from the need for Heavy Goods Vehicles (HGVs) to travel along rural lanes. The potential for effects therefore increases where greater lengths of rural roads need to be used, the geometry of those roads makes it harder for HGVs and cars to pass each other, and where sensitive receptors such as residential properties and primary schools are passed by HGV routes. There will also be construction staff trips, which could have an impact in terms of the percentage increase in traffic,

Environmental Topic	Comparison of potential environmental effects
	although in absolute terms these trips tend to be relatively low and limited to off-peak periods. Notwithstanding, the potential for significant effects to occur as a result of the Grid Connection Route is relatively limited as HGV movements tend to be fairly low and temporary, with peak movements occurring over a number of weeks/months, rather than years. There is likely to be little difference in conclusions between overhead line or underground cable, as it is assumed that access and number of HGVs will be comparable. Access constraints for the construction of an underground cable and overhead line would likely be similar and can be mitigated through appropriate management measures and highways design.
Water Environment	The Grid Connection study area is located within Flood Zones 2 and 3 areas and there are a large number of drains which would need to be crossed. The study area is not located within a Nitrate Vulnerability Zone (NVZ), Drinking Water Protected Area/Safeguard Zone or a Source Protection Zone (SPZ). Online data from the Environment Agency provisionally indicates that there are no designated groundwater dependent terrestrial ecosystems (GWDTE). The aquifer is designated as Unproductive Strata. Lord's Drain and tributaries lay adjacent to the Weston Marsh Substation Siting Area and would need to be crossed. Lord's Drain is a designated water body under the Water Framework Directive (WFD) as part of the Moulton River Water Body. The study area also crosses the South Holland Main Drain and Wheat Mere Drain. For the construction of an overhead line, infrastructure can be appropriately micro-sited to avoid impacts on existing drains and watercourses, where possible. Impacts would likely be associated with watercourse crossings, which can be appropriately designed to avoid significant effects. For an underground cable, localised adverse impacts may occur

Environmental Topic	Comparison of potential environmental effects
	if open-cut cable crossings are required across the large number of existing drains and ditches, which is avoided by implementing an overhead line. However, impacts to these could also be mitigated through reinstatement of trenched channels with the aim to provide an improved channel form.

Table 3-3: Comparison of engineering and construction feasibility considerations of an underground cable and an overhead line for the Grid Connection

Underground Cable	Overhead Line
Civil Engineering and Construction Complexity	
Installation of underground cables involves significant civil engineering works, including continuous trenching and, where necessary, trenchless techniques such as horizontal directional drilling (HDD) to cross highways, watercourses, and other obstacles. HDD reduces surface disruption but introduces high upfront cost, specialist equipment needs, skilled labour requirements, and risks such as bore collapse in poor ground conditions. This is amplified by the complexity of the Site. Depending on the alignment of the Grid Connection, it would need to cross approximately 50 watercourses and 14 roads should it be undergrounded. Traffic management and temporary road closures would be required for open-trench crossings, introducing further construction complexity. Most of the Grid Connection study area sits within Flood Zones 2 and 3. In terms of undergrounding, water can enter joint bays and link boxes, possibly	The volume of earthworks would be less than that of the underground cable solution. However, traffic management and temporary road closures would still be required to string the overhead line across the roads, introducing some construction complexity.

Underground Cable	Overhead Line
causing damage to the cable or its components over time. Working in waterlogged areas can make installation more difficult and may require special methods like dewatering techniques.	
Route Alignment Constraints	
The Grid Connection Route would run in proximity to residential areas, such as Weston and Moulton, private properties, and critical third-party infrastructure (such as gas mains, water pipes, and telecom ducts), limiting the available working corridor. As a result, an underground cable route may require extensive coordination with third-party asset owners, particularly where it intersects with high-pressure gas pipelines and existing high voltage cable networks. In such cases, additional time and effort are needed to obtain the necessary consents and develop detailed crossing methodologies. This may lead to alignment deviations, which could increase the total route length and add complexity to the construction programme.	Overhead lines offer greater alignment flexibility, as spans can cross underground obstacles without requiring direct contact or continuous corridor occupation. Engineers can optimise structure spacing and orientation to minimise interactions with landowners, buildings, and third-party infrastructure, making the alignment more adaptable to engineering and operational requirements. However, the overhead line needs to consider existing overhead third party assets.
Thermal and Electrical Considerations	
Underground cables are sensitive to soil thermal resistivity, which affects current-carrying capacity. In areas of high resistivity, engineered backfill or other thermal mitigation is required, adding to design complexity and	Overhead lines dissipate heat naturally into the air and are not constrained by ground conditions, resulting in simpler thermal and electrical design. Reactive power management is easier and often requires fewer additional components,

Underground Cable	Overhead Line
installation requirements. Long AC cable runs generate reactive power and may require shunt reactors or compensation equipment to maintain voltage stability. Bonding, sheathing, and earthing arrangements must also be carefully engineered to control induced voltages, prevent circulating currents, and minimise losses, increasing the scope of associated infrastructure.	reducing infrastructure requirements. Engineering is therefore more straightforward for long circuits, with predictable operational performance and lower complexity in electrical design.
Coordination with Existing utilities and Services	
Underground installation demands intensive coordination with statutory undertakers and utility owners, particularly where the route intersects existing buried services. There are a significant number of underground water pipelines just to the north of A151 High Road. Underground utilities are also present along A151 High Road, Broad Gate, Delgate Bank, B1165 Austendike Road, and Moulton Chapel Road. Each crossing must be carefully designed to meet safety and separation standards, and unexpected clashes can result in redesign, protection works, or delays. Detailed ground investigation, trial trenches, and surveys are essential to manage interface risks, adding time and cost to the engineering programme.	Overhead line design largely avoids conflicts with buried utilities, minimising the need for extensive third-party coordination. However, consideration must be given to existing overhead utilities, including existing electricity lines, telecommunications lines, and other aerial infrastructure. Approximately twelve 11kV and 33kV overhead lines would be crossed depending on routing. In addition, there is a crossing of an existing 132kV overhead line. Spans must be designed to maintain safe clearances, avoid mechanical conflicts, and ensure compliance with statutory regulations. While these considerations are generally less complex than for buried services, they require careful planning of structure placement and conductor routing. Overall, overhead lines offer a more predictable construction programme and reduced interface risk, with engineering effort focused primarily on safe integration with existing

Underground Cable	Overhead Line
	overhead assets rather than extensive ground-level coordination.

3.5.28. With due regard to the environmental effects, the receptors that may experience likely residual significant effects from an overhead line are landscape and visual receptors, and designated heritage assets due to changes to their setting. In relation to an underground cable solution, potential effects on buried archaeological deposits may be extensive depending on the location of the trenching. When reviewed in combination with engineering feasibility, constructability and cost considerations, a 400kV overhead line was taken forward as the preferred option over an underground cable.

Pylon type

3.5.29. Consideration was given to the various pylon types available for a 400kV connection, including:

- Option 1 - lattice pylons;
- Option 2 - folded steel;
- Option 3 - composite monopoles; and
- Option 4 - alternative designs such as the 'T Pylon'.

3.5.30. Steel lattice pylons have been adopted as the starting point for the design as they offer the greatest degree of flexibility in terms of span length, height, and alignment. This flexibility allows the route to be optimised to respond to site-specific constraints. Other pylon types were also considered; however, within the context of the Site, these alternatives would be likely to give rise to broadly similar environmental effects and would not deliver any substantive environmental benefits over the steel lattice option. Folded Steel Pylons, T-Pylons and Monopoles also typically have shorter span ranges than lattice steel pylons. As such, they were not selected.

3.5.31. Due to the availability, constructability and proven deliverability of the lattice pylon design, this was the preference for the Scheme to take forward.

3.6. Alternative Designs and Design Evolution

3.6.1. The design of the Scheme has been an iterative process responding to technical engineering challenges, environmental surveys, and consultation feedback.

Good design requires a holistic approach with input from all disciplines to result in an integrated solution for the application.

3.6.2. The decision-making process that was adopted involved input from multiple teams and stakeholders. This section summarises the design principles for the Scheme and explains how the Scheme has evolved through each iteration of the design and the alternatives considered. Further information is provided within the **Design Approach Document** (Doc Ref. 7.3).

Design Approach

3.6.3. The **Design Approach Document** (Doc Ref. 7.3) sets out the design vision and principles for the Scheme which reflect the key considerations that have guided the design decisions made through development of the Scheme. The design vision for the Scheme is as follows:

3.6.4. 'Meridian Solar Farm will generate and deliver 750MW of renewable energy to the National Grid whilst being sensitive to its surroundings. The project will conduct meaningful engagement with communities and stakeholders to ensure it would be sited to take account of the local environment and the amenity of people and communities. The project will identify and incorporate opportunities to embed resilience and sustainability into the design whilst respecting cultural heritage, enhancing biodiversity and exploring the potential to enhance recreational access across the site.'

3.6.5. These design principles are summarised within Table 3-4 below, alongside their corresponding design objectives / actions which have been adopted to implement the principles. Furthermore, the Holford Rules provide guidelines to seek to avoid adverse impacts through careful routeing of overhead lines. They formed part of the underlying design principles for the Grid Connection Route and the Overhead Inter-Array Connection. Further discussion on how the Holford Rules were followed as part of the siting and design of the Scheme is included within the **Design Approach Document** (Doc Ref. 7.3), submitted as part of this DCO Application.

3.6.6. The Horlock Rules[13] are guidelines for the design and siting of substations. These were established by National Grid in 2009 in pursuance of its duties under Schedule 9 of the Electricity Act 1989. These rules are enshrined in national policy in NPS EN-5[6] and formed the underlying design principles for

[13] National Grid (2026). The Horlock Rules. Available at: https://www.nationalgrid.com/sites/default/files/documents/13796-The%20Horlock%20Rules.pdf [Accessed 26 January 2026).

the design and siting of the substations. Appendix 3 of the **Design Approach Document** (Doc Ref. 7.3) provides the narrative on how the proposed design of the siting of substations complies with the Horlock Rules.

Table 3-4: Scheme Design Principles

Design Principles	Design Objectives/ Actions*
DP1: Deliver a technically compliant Scheme that is safe, secure, efficient and maximises the ambition to deliver clean, green energy to the National Grid.	Maximise the renewable energy generation potential from the land available; Preference for the use of land within the same ownership.
DP2: Seek to integrate the Scheme sensitively within the landscape to reduce the potential landscape and visual effects where practical.	Identification of key visual receptors and key views, including bordering PRoW, to influence location of screening and location of tall infrastructure; Filter and screen more prominent components of the Scheme in views from visual receptors.
DP3: Seek to incorporate opportunities to enhance local recreation and access.	Seek to incorporate permissive paths where practicable.
DP4: Ensure responsible construction, ongoing maintenance and decommissioning	Preference for the use of existing access points, where practicable; Preference for the use of internal haul roads within the Site instead of the local highway network, where practicable; Consideration of accessibility by vehicles to all land parcels for construction and maintenance during the operational phase; Siting of On-Site Substation and BESS Compounds, solar stations and other supporting infrastructure away from sensitive receptors, including residential properties; Identification of key recreational receptors and incorporation of suitable offsets;

Design Principles	Design Objectives/ Actions*
	Consideration of buffers and new screening where high or medium impact of glint and glare is identified; Offset the BESS Compound away from residential receptors; and Ensure there are two accesses to the BESS Compound accessible by emergency vehicles and sufficient space for fire safety infrastructure.
DP5: Respect the history of the site and seek to protect cultural heritage features.	Avoidance of infrastructure within Scheduled Monuments and the provision of a 20m buffer around the Scheduled Monuments within the Solar Development Area; and Avoidance of infrastructure within areas identified with high potential for archaeology, where practicable.
DP6: Support ongoing agricultural productivity	Aim to avoid infrastructure within best and most versatile land, where practicable, while still maximising the renewable energy generation from the Site; and Preference for lowest grade available for areas likely to host hard standing infrastructure, where practicable.
DP7: Manage water, improve quality, reduce pollution	Offset of infrastructure 20m from main rivers; Offset of infrastructure 10m from drains and agricultural drainage ditches, including beneath and above, where practicable; Take into account the results of the Flood Risk Assessment in determining the location and flood protection requirements for the Scheme infrastructure.
DP8: Design the Scheme to align with existing field boundaries and	Integrate the Scheme into the existing landscape pattern by utilising and following

Design Principles	Design Objectives/ Actions*
existing landscape features and vegetation.	existing features, including vegetation, where practicable.
DP9: Seek to avoid potential impacts on biodiversity and provide enhancement through the provision of habitat mitigation and enhancement areas to achieve a minimum of 10% Biodiversity Net Gain.	Replace habitat lost because of construction of the Scheme and introduce new habitats through areas of new planting; Offset of infrastructure 20m from non-designated sites, where practicable; Offset of infrastructure 30m from badger setts, where practicable; Offset of infrastructure 50m from ponds, including where great crested newts have been identified; Offset of infrastructure 20m from main rivers; Offset of infrastructure 10m from drains and agricultural drainage ditches, where practicable; and Offsets of infrastructure 8m, 12m and 20m from trees with low, medium or high bat roost potential, where practicable.
DP10: Design the Scheme sensitively to ensure compatibility with other proposed developments in the area	Avoidance of land subject to pending planning applications and/or site allocations; and Consideration of NGET indicative designs for the Grimsby to Walpole project.

* The above design objectives / actions indicate a starting point for design development. Where the above objectives could not be met by the Scheme design due to engineering feasibility, the need for further environmental mitigation was assessed as part of the ES.

Design Stage 1 – Non-Statutory Consultation

3.6.7. The first design iteration was presented at the Stage 1 (non-statutory) Consultation in 2024. The Stage 1 design also formed the basis for EIA Scoping, as presented in **ES Appendix 1-1: EIA Scoping Report** (Doc Ref. 6.3). The below sections provide a summary description of the information that was presented

at this stage to enable stakeholders and the community to provide feedback and input into the design process.

Solar Development Area

3.6.8. This stage of the design identified the initial extent of the Solar Development Area that would be available to the Scheme to deliver the following elements of the eventual design:

- Solar panels and related infrastructure;
- Space to incorporate appropriate buffers around sensitive features of the landscape;
- Environmental mitigation and enhancement areas; and
- Recreational opportunities.

3.6.9. In order for the project to effectively seek feedback to inform design research, the project did not present a proposed design for the Solar Development Area at this stage. This reflected that the project team were consulting at a formative stage of the development of the Scheme, with design to be led in the first instance by stakeholders and the communities, rather than having been already established before the Stage 1 Consultation.

3.6.10. As such, the EIA Scoping process (Design Stage 1) was conducted on a worst-case assumption that solar PV modules would be located on all land parcels of the Solar Development Area with the exception of B-3, B-5, and areas within Parcel C, where Scheduled Monuments are located within the Site. This was similarly the case with the siting of solar PV supporting infrastructure, and the On-Site Substation and BESS Compounds.

Inter-Array Connections

3.6.11. During the Stage 1 Consultation, the Inter-Array area extents were identified to enable stakeholders and members of the community to provide feedback. A decision on whether the Inter-Array Connections would be overground or underground was not made at this stage.

3.6.12. Due to the requirement for the Solar Development Area parcels to be connected, there is limited geographic scope to consider alternative locations for the Inter-Array Connections. Furthermore, the Holford Rules[10] provide design criteria guidelines to seek to avoid adverse impact through careful routeing of any overhead lines as part of the selection and assessment of potential route options.

3.6.13. At Stage 1 Consultation, the Inter-Array Connections were identified within an indicative corridor between Land Parcels A and B, two indicative routes were identified between Land Parcels C and D and potential Inter-Array Connections were identified between the fields of Land Parcel D (see **ES Figure 3-5: Inter-Array Connections Refinement** (Doc Ref. 6.2)).

Grid Connection Route

3.6.14. The study area for the identification of the Grid Connection Route, as presented in **ES Figure 3-1: Grid Connection Routeing Initial Study Area** (Doc Ref. 6.2), was established from the easternmost and westernmost corners of the Solar Development Area, meeting to form a triangular shape with the provisional location of the NGET Weston Marsh Substation. This was established using straight lines to form the most direct route, requiring the minimum amount of new development that could give rise to environmental effects.

3.6.15. Land through which it would be unfeasible, for technical reasons, to route the Grid Connection was removed. This largely correlated with the land considered to be of the highest amenity value around built-up areas including Moulton Chapel, Cowbit, Moulton and Weston.

3.6.16. The remaining area was then divided into the seven corridor options presented in **ES Figure 3-2: Grid Connection Routeing Study Initial Corridors** (Doc Ref. 6.2). Two corridor options were considered within the northern section and five corridor options were considered within the southern section of the study area:

- Northern section:
  - A-1; and
  - A-2.
- Southern section:
  - B-1;
  - B-2;
  - B-3;
  - B-4; and
  - B-5.

3.6.17. Each corridor option was then reviewed within an options appraisal matrix. For each corridor option, an appraisal process was undertaken against a list of key environmental constraints and corresponding qualitative indicators as outlined in Table 3-1:. The following section provides a summary of the key results of

the options appraisal matrix per corridor option presented in **ES Figure 3-2: Grid Connection Routeing Study Initial Corridors** (Doc Ref. 6.2), where environmental constraints identified were a determining factor.

3.6.18. The two northern corridor options achieved the same appraisal rating in all categories, apart from the number of listed buildings identified within them. This is because both corridors share many of the same constraints. Both options were therefore taken forward for a more detailed round of consideration. This round included further refinement of the corridor, reducing its width to bring them further still from residential areas.

3.6.19. Of the five southern corridor options:

- B-2 and B-3 were excluded from further consideration, having been determined to be unsuitable on the basis of cultural heritage constraints, because of the presence of Scheduled Monuments within their boundaries;
- On the completion of reconnaissance-scale ALC surveys and a desk-based aerial photography and a LiDAR study within the Solar Development Area, it was established that the on-Site substation that would form the start of the Grid Connection would either need to be located in land parcel B or land parcel D due to the potential impact of locating a substation in land parcel C on cultural heritage. This led to the exclusion of corridor option B-5; and
- Corridor options B-1 and B-4 were progressed to the next stage.

3.6.20. **ES Figure 3-3: Grid Connection Route Options** (Doc Ref. 6.2) shows the resulting Grid Connection Route options presented at Design Stage 1 as part of non-statutory consultation and EIA Scoping.

Design Stage 2 – Statutory Consultation

3.6.21. Following the conclusion of the non-statutory consultation, the feedback received was reviewed and considered alongside technical work and the ongoing survey work being undertaken to inform the design process. The second design iteration was presented at the Stage 2 (Statutory) Consultation held between 24 April to 8 June 2025. The Design Stage 2 also formed the basis for the PEIR. The below sections provide a summary of the key design changes and decisions made to finalise the Design Stage 2 iteration of design.

Solar Development Area

3.6.22. For Design Stage 2, the following design decisions were implemented for the Solar Development Area:

- No infrastructure in Parcel A to the west of the Peterborough and Spalding Gliding club in order to reduce the potential for effects on their ongoing operations.
- No infrastructure in the northern section of Parcel B, south of Queen's Bank to reduce potential effects on properties alongside the road.
- No infrastructure on, and incorporating suitable buffers from the Scheduled Monuments in Parcel C, to ensure no direct impacts on these important historical sites.
- No infrastructure in Parcel C to the north and south of properties at Martins Road to reduce potential effects on these residences.
- Identification of the potential locations for the 132kV On-Site Substations with two options identified in Parcel D.
- Confirmation of the location for the 400kV On-Site Substation at the northernmost extent of Parcel B to facilitate the Grid Connection Route to the NGET Weston Marsh Substation (see Grid Connection Route section below).
- Considering the initial results of ALC surveys, infrastructure was not proposed in the central section of Parcel B and the eastern section of Parcel C, as these areas were identified as potentially being Grade 1 agricultural land.
- Proposing a maximum potential height of solar infrastructure of 5.7m in Parcel A and 5.2m in Parcels B, C and D and to ensure resilience to flood risk at times of the most significant flooding event.
- Inclusion of an indicative planting design to reduce the potential for landscape and visual effects and facilitate biodiversity improvements and net gain across the Solar Development Area.

Inter-Array Connections

3.6.23. For Design Stage 2, the Inter-Array Connections were refined to ensure residential properties and associated curtilage were excluded from the indicative area from which the Inter-Array Connection would be selected. Flexibility was maintained to account for the potential design of the Inter-Array Connection being an overhead line solution (up to 132kV), underground cables, or a combination of both. The Inter-Array Connection between Parcels C and D included two potential route options. The southern route was only considered suitable as an underground cable, as it followed Farrow Road, Parsons Lane and

Barr's Lane to the B1168 Holbeach Drove Gate through Whaplode Drove and was constrained by residential properties.

Grid Connection Route

3.6.24. Following the feedback received through the EIA Scoping Opinion and non-statutory Stage 1 consultation, the Grid Connection Route options were refined and a preferred option was identified for statutory consultation at Design Stage 2.

3.6.25. For the identification of the preferred option, north-east, north-west, south-east, and south-west corridor options were appraised, as shown in **ES Figure 3-3: Grid Connection Route Options** (Doc Ref. 6.2), resulting in the following four possible configurations:

- North-east corridor and south-east corridor;
- North-east corridor and south-west corridor;
- North-west corridor and south-east corridor; and
- North-west corridor and south-west corridor.

3.6.26. For the south-west corridor, an On-Site 400kV Substation would need to be constructed within Parcel B-5. For the south-east corridor, an On-Site 400kV Substation would need to be constructed within Parcel D-1. These were considered to be the only two potential options for siting the On-Site 400kV Substation without resulting in direct impacts on the Scheduled Monuments within the Solar Development Area.

3.6.27. A further appraisal was undertaken of the corridor options to consider the relative environmental and technical constraints of the corridors themselves and the proposed 400kV On-Site Substation in the Solar Development Area that the Grid Connection Route would connect into. A summary of this assessment is presented in Table 3-5 for the northern corridor options and Table 3-6 for the southern corridor and 400kV On-Site Substation options.

3.6.28. As a result of the options appraisal, the north-west corridor and south-west corridor were combined to form a single preferred corridor, with the On-Site 400kV Substation placed in Parcel B-5. The preferred design was presented as part of Design Stage 2.

Table 3-5: Grid Connection Northern Corridor Selection

North-West Corridor	North-East Corridor
Air Quality - No determining factors, neither route would go through an Air Quality Management Area (AQMA).	
Agriculture and Soils - No determining factors in relation to agricultural land as both routes are within Grade 1 ALC according to the provisional mapping.	
Ecology and Nature Conservation	
A series of priority habitat areas were identified within the north-west corridor. Careful micro-siting would enable these habitats to be avoided, where practicable. Whilst there are no ponds within the corridor and no Great Crested Newt records, there are two ponds within 300m of the route. Desk study showed relatively few bird records within the immediate route corridor area. There are no material differences between the two corridors in terms of reptile, roosting and foraging bats, and badger.	A series of priority habitat areas were identified within the north-east corridor. Careful micro-siting would enable these habitats to be avoided, where practicable. Whilst there are no ponds within the corridor and no Great Crested Newt records, there are five ponds close to the boundary. Desk study identified aggregations of bird records within and adjacent to the route. There are no material differences between the two corridors in terms of reptile, roosting and foraging bats, and badger.
Historic Environment	
Numerous listed buildings identified where corridor passes Weston. Borders a Scheduled Monument.	Numerous listed buildings identified where corridor passes Weston. Closer to Moulton Conservation Area.
Land Contamination - Neither option is likely to result in significant effects with regards to land contamination with the adoption of good practice construction environmental management measures.	
Landscape and Visual Amenity	

North-West Corridor	North-East Corridor
Shorter route length and greater separation from residential receptors at Moulton reduce potential visual impacts. Alignment with the proposed Grimsby–Walpole overhead line also helps to minimise additional visual intrusion in line with the Holford Rules, making this option preferable on landscape and visual grounds.	Longer route length and closer proximity to residential receptors at Moulton increase the potential for landscape and visual impacts, making this option less favourable on visual amenity grounds.
Noise and Vibration	
Shorter route length and greater separation distance from residential properties make this option preferable from noise and vibration perspective.	Longer route length and closer proximity to residential properties at Moulton increase the potential for noise and vibration effects.
Traffic and Transport - No determining factors in relation to access due to close proximity to the strategic road network and availability of two-way roads.	
Water Environment - No determining factors in relation to water as both routes are within Flood Zone 3 and would require crossing a large number of drains and ditches.	

Table 3-6: Grid Connection Southern Corridor Selection

Parcel B-5 and South-West Corridor	Parcel D-1 and South-East Corridor
Air Quality - No determining factors, neither route would go through an Air Quality Management Area (AQMA).	
Agriculture and Soils	
Parcel B-5 was identified to comprise ALC Grade 2 and 3a land on the basis of a reconnaissance survey. Following detailed ALC survey, the ALC classification was revised to ALC Grade 1 and 3a. On the basis of the provisional ALC mapping, the rest of the south-west corridor comprises ALC Grade 2 land.	Parcel D-1 was identified to comprise ALC Grade 3a and 3b land on the basis of a reconnaissance survey and subsequent detailed ALC survey. On the basis of the provisional ALC mapping, the rest of the south-east corridor comprises ALC Grade 2 land.
Ecology and Nature Conservation - No clear preference in relation to ecology for neither of the options.	
Historic Environment	
Parcel B-5 was identified to have a high potential for below ground archaeology. No clear preference in relation to the rest of the Grid Connection corridor.	Parcel D-1 has known and medium potential for archaeology. No clear preference in relation to the rest of the Grid Connection corridor.
Land contamination	
No likely significant effects with regards to land contamination with the adoption of good practice construction environmental management measures.	No likely significant effects with regards to land contamination with the adoption of good practice construction environmental management measures. However, a medium to high risk of unexploded ordnance was identified, due to anecdotal evidence of World War II German bombers jettisoning their loads upon departure from the UK over this area of land.
Landscape and Visual Amenity	

Parcel B-5 and South-West Corridor	Parcel D-1 and South-East Corridor
Parcel B-5 and the south-west corridor were preferred in relation to the relative impact on landscape and visual amenity due to a smaller number of residential properties having been identified within or near to the corridor.	Parcel D-1 and the south-east corridor performed relatively poorly in this respect coming in close proximity to the villages of Holbeach St Johns and Whaplode St Catherine. As a result, a preference for the south-west corridor was identified.
Noise and Vibration	
Parcel B-5 and south-west corridor are located further from residential receptors, and as such, this option was considered to reduce potential for noise and vibration effects.	Parcel D-1 and the south-east corridor are located closer to residential receptors, and as such, this option was considered to result in greater potential for noise and vibration effects.
Traffic and Transport	
Parcel B-5 and south-west corridor would allow access from the local highway network primarily via the A16 but also via Queen's Bank, which are sufficient to accommodate the delivery of Abnormal Indivisible Loads (AILs), including transformer components for a 400kV Substation, on the basis of vehicle tracking.	Parcel D-1 and south-east corridor face significant constraints with regards to accessibility. Access to Parcel D is limited by the existing local highway network, which consists of narrow roads. Substantial highway upgrades would likely be required to accommodate the delivery of AILs for the transformer components of a 400kV Substation.
Water Environment	
Parcel B-5 and the south-west corridor fall within the extent of Flood Zones 2 and 3 for fluvial flood risk in an undefended scenario, in accordance with the Environment Agency's flood map for planning. However, the area benefits from flood defences up to the 1 in 1,000 year event plus climate change with a low residual risk from a breach	Parcel D-1 and the south-east corridor fall within the extent of Flood Zones 2 and 3 for fluvial flood risk in an undefended scenario, in accordance with the Environment Agency's flood map for planning. In addition, detailed flood modelling has demonstrated that the entire Parcel D-1 falls

Parcel B-5 and South-West Corridor	Parcel D-1 and South-East Corridor
of the River Welland. In addition, detailed flood modelling has demonstrated that Parcel B-5 does not fall within the extents of Flood Zones 3a or 3b associated with the South Holland Main Drain.	within Flood Zone 3b associated with the South Holland Main Drain. In line with the sequential approach, all critical infrastructure should remain operational during extreme weather and be located outside of Flood Zone 3.

Design Stage 3 – Application Design

3.6.29. Following statutory consultation, a review of the Scheme design was undertaken to consider

- Statutory consultation feedback received;
- Further environmental survey and assessment results;
- Engineering feasibility of the Scheme; and
- Access strategy for the Scheme.

3.6.30. As a result of the above review, a number of changes to the Scheme were identified that required further targeted consultation, which ran from 24 September 2025 to 22 October 2025. Furthermore, following the NGET consultation on the location of the Weston Marsh Substation, a second targeted consultation was held from 8 January to 5 February 2026.

3.6.31. The following sections summarise the key changes made to the design and the access strategy of the Scheme as part of Design Stage 3.

Solar Development Area

3.6.32. Table 3-7 summarises the key design changes made to the Solar Development Area since statutory consultation. **ES Figure 3-4: Targeted Consultation Changes since Statutory Consultation** (Doc Ref. 6.2) shows the locations of changes consulted on as part of the first and second targeted consultations.

Table 3-7: Summary of Design Changes to the Solar Development Area since Statutory Consultation

Targeted Consultation Change No.	Change	Reason / Justification
25	Relocation of all the BESS to the On-Site 400kV Substation Compound.	Centralising the BESS in one location provides the most technically suitable solution for this Scheme. It reduces construction costs, energy losses and the amount of cabling required, while also increasing the distance between BESS infrastructure and nearby residential properties compared with having the BESS infrastructure at each of the On-Site 132 kV Substation Compounds associated with the Scheme. This change is expected to

Targeted Consultation Change No.	Change	Reason / Justification
		reduce potential noise effects for residential properties across the Site by moving all BESS into a single location.
26, 27, 28, 32, 37	Additions to Order Limits	Extensions to the Order Limits were introduced along Queens Bank, Martins Road, Langary Gate Road and the B1166 Hull's Drove to facilitate works required to provide construction, operational and decommissioning access to the Scheme. In addition, minor adjustments were made to the Order Limits of Parcel A to align with field boundaries.
30	Internal reconfiguration of the Scheme layout within Parcel B to avoid areas at higher risk of flooding.	The Sequential Test requires infrastructure to be located in areas of lowest flood risk where practical. PV modules were therefore moved out of areas of Flood Zone 3b, determined through further hydraulic modelling, into the area within Parcel B that was no longer classified as ALC Grade 1 following detailed ALC surveys and laboratory testing of soils. Land within Flood Zone 3b is proposed to be used for habitat management instead.
31	Relocation of the On-Site 132kV Substation Compound from Parcel B to Parcel C.	The On-Site 132kV substation has been moved from Parcel B further east into Parcel C to place it outside the flood extents that could occur in the event of a breach of the River Welland flood defences. The proposed location of the substation within Parcel C is within an area of potentially high importance archaeology deposits, reflecting the slightly elevated roddon landforms present across the Site. The need to avoid flood-risk constraints led to the selection of Parcel C as the

Targeted Consultation Change No.	Change	Reason / Justification
		preferred location for the substation. This was considered acceptable from a heritage perspective as significant effects can be mitigated through the implementation of an Outline Archaeological Mitigation and Management Strategy (OAMMS).
38	Changes to the Order Limits and reconfiguration of the panelled areas within Parcel D.	Four additional fields in Parcel D were brought forward for development with solar PV panels, following comments received from landowners during Statutory Consultation. This included the addition of 33.3 ha. Field D4 (18.4 ha) was however removed from consideration for solar PV, owing to its historic sensitivity, with the option to use this land for habitat enhancement retained instead. Overall, this resulted in a net increase of 14.9 ha of solar PV panels across Parcel D. Additional buffers were also included around properties along Langary Gate Road, where no solar PV panels would be located, in order to avoid impacting on the residential visual amenity of these properties and to avoid significant glint and glare effects. Crown Estate land previously indicated as inter-array within Parcel D has been removed from the Order Limits.
n/a	Permissive path	A permissive path has been included within the Scheme, linking up PRoWs between Queens Bank and Shepeau Stow and following the boundary of the Settlement W of Cate's Cove Corner Scheduled Monument. The permissive path will be suitable for pedestrians, cyclists and horse riders and provide information boards on

Targeted Consultation Change No.	Change	Reason / Justification
		the historic and natural environment. It has been incorporated within the Scheme to provide a benefit to the local community.
n/a	Flood risk design mitigation	The height of the solar infrastructure has been reduced since Statutory Consultation, following the completion of hydraulic modelling and flood risk assessment. For instance, the PEIR identified maximum solar PV module heights of 5.7m in Parcel A; and 5.2m in Parcels B, C and D. This has been reduced to a maximum of 4.3m above ground across all land parcels, as this has been deemed to be sufficient to mitigate flood risk effects to not significant. The height of solar stations has also been reduced from 5.4m in Parcel A and 4.9m in Parcels B, C and D to 4.3m above ground across those land parcels, with the exception of Parcel D-1, where the height has been reduced to 4.85m. The key aim for reducing the height of the solar infrastructure has been to reduce landscape and visual impacts, whilst still providing sufficient mitigation for flood risk.
n/a	Changes to the landscape and ecological design	The landscape and ecological mitigation design proposals have been reviewed and adjusted following feedback received from landowners and local planning authorities' landscape officers. An area previously identified for ecological mitigation has been excluded from the Order Limits following further engagement with the landowner. The landscape design has also been adjusted to provide corridors through the Site to ensure permeability for wildlife,

Targeted Consultation Change No.	Change	Reason / Justification
		and to provide shrubs and trees along Site boundaries rather than uncharacteristic hedgerow planting. Mitigation areas for ground nesting birds, such as skylarks, have been clearly defined. Further information is provided within the **Outline Landscape and Ecological Management Plan** (OLEMP) (Doc Ref. 7.16).
n/a	Solar infrastructure offsets from residential properties	Incorporating offsets from solar infrastructure from adjacent residential properties, such as Cloot House, Martins Farm, properties off Hull's Drove and the B1166 north-west of Shepeau Stow and Langary Gate Road.
n/a	Internal reconfiguration of the Scheme layout within Parcel C to avoid areas at higher risk of flooding.	Updated hydraulic modelling confirmed that parts of Parcel C fall within Flood Zone 3b (functional floodplain). These areas were excluded from the developable footprint to minimise the amount of development within FZ3b.
n/a	Trenchless crossing of South Holland Main Drain	Inclusion of a commitment to trenchless techniques for crossing the South Holland Main Drain for cabling between land parcels north and south of Langary Gate Road where it runs parallel to the Drain
T2-2	Changes to Order Limits	Pasture land associated with Martin's Farm has been removed from the Order Limits as it is not required for the development of the Scheme.
T2-3	Changes to Order Limits	Area of Common Land has been excluded from the Order Limits as it is not required for the development of the Scheme.

Solar Development Area Alternative Access Strategies

3.6.33. Following feedback received through the statutory consultation, in particular the concern of Heavy Good Vehicles (HGVs) using Cloot Drove and Queen's Bank and driving past South View Primary School in Crowland, alternative options were considered for these accesses. The updated access strategy is summarised below; further detail can be found in **ES Chapter 2: The Scheme** (Doc Ref. 6.1):

- Construction access to Land Parcel A will be provided via a temporary construction haul route which heads west from Barrier Bank road. Whilst a weight restriction exists on Barrier Bank / Spalding Road, Lincolnshire County Council (the local highway authority) has confirmed that this is for environmental reasons rather than for any weak structures. As such, the route can be utilised for construction traffic for the Scheme. Providing a construction access via Barrier Bank and an internal haul route will avoid any HGVs needing to route through Crowland, in order to access the Site via Cloot Drove.
- Land Parcel B will be accessed via a temporary construction haul route going west from Martin's Road via the B1166. The HGV routeing has been revised, so that no HGV access will be allowed via Queen's Bank, where significant construction traffic noise effects were identified within the PEIR. The access via Queen's Bank will be for AILs and operational use only. In addition, within the PEIR, the access point from Martin's Road was identified directly to the north of Martin's Farm, with construction vehicles routeing past the residential properties. A new access point has now been identified to the south of Martin's Farm, so that construction vehicles would turn off the Martin's Road before passing the residential properties.
- Land Parcel C will be accessed via a new access route going east from Martin's Road via the B1166. Similarly to the Parcel B access, the new access point has been located south of the residential properties at Martin's Farm.
- Land Parcel D (Langary Gate Road) will be accessed from the A16 via B1166, and Langary Gate Road. To reduce the number of new watercourse crossings required, 14 existing field accesses will be upgraded to provide access to each of the individual fields that make up Parcel D.

Inter-Array Connections

3.6.34. Table 3-8 summarises the key design changes made to the Inter-Array Connections since statutory consultation. **ES Figure 3-4: Targeted Consultation**

Changes Since Statutory Consultation (Doc Ref. 6.2) shows the locations of changes consulted on as part of targeted consultation. A comparison of the Inter-Array Connections identified at Design Stage 2 and presented as part of the DCO Application is also provided within **ES Figure 3-5: Inter-Array Connections Refinement** (Doc Ref. 6.2).

Table 3-8: Summary of Design Changes to the Inter-Array Connections since Statutory Consultation

Targeted Consultation Change No.	Change	Reason / Justification
n/a	Undergrounding of Inter-Array between Parcel A and B	Following feedback received from the Peterborough and Spalding Gliding Club regarding the proximity of the inter-array to the Crowland Airfield, the option to underground the Inter-Array between Parcels A and B was adopted.
n/a	Overhead line Inter-Array between Parcel C and D	The southern undergrounded option for the Inter-Array Area between Parcels C and D was discounted due to the likely disturbance to residential properties at Whaplode Drove. An overhead line option for the northern route was selected instead, due to its relative ease of construction and it being unlikely for it to result in significant residual environmental effects on its own. The selection of an overhead line as the preferred technology for the Overhead Inter-Array Connection is guided by national policy contained in the NPS EN-5[6]. This is discussed further in Section 3.5.
n/a	Trenchless crossing of A16	Inclusion of a commitment to cross the A16 using trenchless techniques for the Inter-Array Connection between Parcels B and C. This commitment minimises potential impacts on the highway network during construction.

Inter-Array Area Alternative Access Strategies

3.6.35. Following feedback received through the statutory consultation, in particular the concern of HGVs using Cloot Drove and driving past South View Primary School in Crowland, alternative options were considered for these accesses. Following a review of the access strategy, alternative accesses were selected and are summarised below; further detail can be found in **ES Chapter 2: The Scheme** (Doc Ref. 6.1):

- Similarly to Parcel A, the Inter-Array Connection between Parcels A and B will be accessed via a temporary construction haul route which heads west from Barrier Bank. This will avoid construction vehicles using Cloot Drove and passing through Crowland which was a concern raised during statutory consultation.
- The Inter-Array Connection between Parcels C and D will be accessed from B1166 via Back Bank and B1168 Holbeach Drove Gate. This will reduce the number of new watercourse crossings required and make use of existing field accesses.

Grid Connection Route

3.6.36. Table 3-9 summarises the key design changes made to the Grid Connection Route since statutory consultation. **ES Figure 3-4: Targeted Consultation Changes since Statutory Consultation** (Doc Ref. 6.2) show the locations of changes consulted on as part of targeted consultation. A comparison of the Grid Connection Route options identified at Design Stage 2 and presented as part of the DCO Application is also provided within **ES Figure 3-6: Grid Connection Route Refinement** (Doc Ref. 6.2).

Table 3-9: Summary of Design Changes to the Grid Connection Route since Statutory Consultation

Targeted Consultation Change No.	Change	Reason / Justification
1, 2, 4	Extension of Order Limits to accommodate flexibility for connection to the assumed Weston Marsh B	The additional land provides greater flexibility for the siting of Scheme infrastructure during the detailed design stage for connection into the NGET Weston Marsh B Substation.

Targeted Consultation Change No.	Change	Reason / Justification
	substation location, delivered by NGET.	
3, 6, 7, 9, 10, 12, 13, 18, 20, 22	Extension of Order Limits for the Scheme's access and temporary crossing points with the internal haul route	Order Limits were extended to provide sufficient space for crossing points and construction, maintenance and third party accesses off the A151, Broad Gate, B1165 Austendyke Road, West Gate, Delgate Bank, Moulton Chapel Road/Roman Road, Broadgate Drove, and the A16.
5, 11, 14, 16, 17, 19, 21, 23, 24	Extension of the Order Limits to accommodate updated design	Order Limits were extended following further design work to accommodate revised pylon alignment and stringing positions for the overhead line, limits of deviation, temporary construction compounds, internal construction and maintenance access tracks, drainage, potential works to third-party assets, environmental mitigation and to ensure sufficient separation distances for the safe construction and operation of both the Meridian Solar Farm overhead line and the Grimsby to Walpole overhead line within the Scheme's Order Limits.
15	Undergrounding of a section of the Grid Connection Route and the provision of Cable Sealing End Compounds (CSECs)	To avoid an existing 132kV overhead line, a section of the Grid Connection Route will go underground. Two CSECs, both with maintenance access from Delgate Bank, will connect the underground cable to the overhead line and will remain in place for the 40-year lifetime of the Scheme. Each CSEC will appear as a fenced compound containing electrical equipment. The underground cable in this location will need to cross a drain and a sewage

Targeted Consultation Change No.	Change	Reason / Justification
		treatment works access track. This could be done either by digging a trench or by installing the cable beneath the drain without surface excavation. Habitat will be reinstated and enhanced 15 m upstream and downstream, subject to agreement with the Internal Drainage Board. Access from Delgate Bank would only be needed occasionally for operation and maintenance. There is potential for archaeological impacts, but these would be addressed through the OAMMS.
n/a	Reductions to Order Limits	Reductions to Order Limits have been made across the Grid Connection Route since Statutory Consultation, in areas where land to construct the overhead line is no longer deemed to be required.
n/a	Bird Diverters	Bird diverters would be installed on the proposed 400kV overhead line in areas identified as having increased risk of collision, as shown on Figure 4 of **ES Appendix 9-14: Habitat Regulations Assessment** (Doc Ref. 6.3).
n/a	Grid Connection Route alignment	Realignment of the Grid Connection Route to increase the distance from a property at Delgate Bank, following statutory consultation feedback
T2-1	Changes to Order Limits and extension of the Grid Connection Route	Following the issue of the Grimsby to Walpole Targeted Consultation in November 2025, the Grid Connection Route has been extended north by approximately 1.5km to the confirmed Weston Marsh B substation location.

Grid Connection Route Access Strategy

3.6.37. Following statutory consultation, alternative options were considered to determine whether it would be possible to minimise adverse construction traffic impacts on residential receptors. Following a review of the access strategy, the changes introduced are summarised below, further detail can be found in **ES Chapter 2: The Scheme** (Doc Ref. 6.1):

- The accesses to the north and central areas of the Grid Connection Route have been maintained via A151 High Road and B1165 Austendike Road, with the latter only proposed as a secondary access to reduce the amount of traffic travelling through Weston Hills.
- Instead of an access off Moulton Chapel Road, a new access directly off the A16 has been proposed, which will avoid traffic impacts on residential properties on Moulton Chapel Road. An alternative access route would also be provided via the Queens Bank crossing point from Parcel B.

3.7. Summary

3.7.1. A range of design alternatives relating to the Scheme have been considered through stages of non-statutory, statutory and targeted consultations. The design approach has been iterative, whereby design options and the results of technical analysis have been interpreted and proposed design solutions, and refinements have been made. The outcome of these activities has culminated in the Scheme, which is being taken forward as described in **ES Chapter 2: The Scheme** (Doc Ref. 6.1).