Nationally Significant Infrastructure Project
Beacon Fen Energy Park
Lincolnshire County Council Local Impact Report – September 2025

Contents

1. Terms of Reference

Introduction

1.1 This report is the Local Impact Report (LIR) for Lincolnshire County Council (LCC). In preparing this LIR regard has been made to the purpose of LIRs as set out in s60(3) of the Planning Act 2008 (as amended), DCLG's Guidance for the examination of applications for development consent, the Planning Inspectorate's Advice Note One: Local Impact Reports, as well as the Planning Inspectorate's 'Example Documents'.

Scope

1.2 This LIR relates to impacts of the proposed development of Beacon Fen Energy Park as it affects the administrative area of LCC.

1.3 This is the Local Impact Report (LIR) of Lincolnshire County Council one of the host authorities for the Project. Section 104 of the Planning Act 2008 (the 'Act') requires the Secretary of State to have regard to LIR's in deciding applications. The Act defines an LIR as "a report in writing giving details of the likely impact of the proposed development on the authority's area (or any part of that area)" (section 60(3)).

1.4 Provided that the LIR fits within this definition, its structure and content is a matter for the Local Authority. However, guidance is provided in the Planning Inspectorate's Advice Note One: LIR's (version 2, April 2012), which states that the LIR should set out the local authority's view of likely positive, neutral and negative local impacts, and give its view on the relative importance of different social, environment or economic issues and the impact of the scheme upon them.

1.5 This LIR has, therefore, been prepared in accordance with section 60(3) of the Planning Act 2008 (as amended) and having regard to the guidance in the Planning Inspectorate's Advice Note. Accordingly, it seeks to assist the Examining Authority (ExA) by presenting the Council's assessment of the likely impacts of the Project. Based on local information, expert judgement, and evidence.

1.6 This LIR appraises the impacts likely to result from the Project and identifies whether the impacts are considered to be negative, positive or neutral, taking into account proposed mitigation measures. It also considers whether further work should be undertaken, including mitigation, to address negative issues identified, and raises any missed opportunities for enhancement measures.

1.7 This LIR appraises the DCO documents submitted by the Applicant at the submission stage. Any further submissions will be addressed through subsequent written evidence through the Examination process.

1.8 The topic areas covered in the LIR are set out in section 2 below. The topics covered do not reflect the full remit of those addressed in the Environmental Impact

Assessment (EIA) but highlight what are considered by the Council to be the key issues within their remit.

1.9 The Council is the upper-tier local authority for the county of Lincolnshire as a whole and has a range of statutory responsibilities to provide services and discharge regulatory functions, which together affect many aspects of the built, natural, and social environment. These functions include acting as Local Highway Authority, Local Transport Authority, Waste Planning Authority, Waste Disposal Authority, Minerals Planning Authority, County Planning Authority, Lead Local Flood Authority, Fire Authority, Public Health Authority, Local Education Authority, and Social Services Authority.

1.10 The Council also holds responsibility for maintaining the Definitive Map and the Historic Environment Record.

1.11 The LIR does not reflect the views of North Kesteven District Council (NKDC) or Boston Borough Council (BBC). In producing this LIR, the Council has not sought the views of the public or local interest groups as to any particular matters that should be reflected in the LIR.

1.12 The Council has experience of the Nationally Significant Infrastructure Project (NSIP) planning regime. The Council is a host authority for a number of projects that have been consented or at recommendation stage including Boston Alternative Energy Facility, Mallard Pass, Gate Burton, Cottam, West Burton, Heckington Fen solar schemes and the Viking Carbon Capture Storage scheme.

2. Purpose of the LIR

2.1 The LIR covers topics where the Council has a statutory function or holds expertise. The Council defers to NKDC and BBC on all other matters.

2.2 The LIR is structured by first identifying the relevant national and local policies, secondly identifying the local impacts, and lastly addresses the extent to which the development proposals accord with these policies. For each topic area, the key issues are identified on the extent the applicant addresses these issues by reference to the applications documentation, including the draft DCO articles, requirements and obligation, where relevant.

2.3 This LIR does not seek to duplicate material covered in the Statement of Common Ground (SoCG) which will be progressed through the Examination stage.

3. Overview of the proposed development

3.1 A full description of the proposed development and various ancillary structures themselves is not detailed within this report as this is set out in the DCO application documents.

3.2 The scheme would comprise of the construction, operation (and maintenance) and decommissioning of ground mounted solar PV panel arrays, battery storage facilities, on-site-substation and grid connection infrastructure with a generation capacity of 400 MW. The development would allow the generation and export of electricity to the existing Bicker Fen substation. The Bicker Fen substation will require an upgrade and extension, these works required are included in the DCO application but would be undertaken by National Grid Energy Transmission (NGET).

3.3 Beacon Fen Energy Park has a grid connection agreement with a connection period between June 2029 and October 2033. The DCO is seeking a time limited consent, if granted, the proposed development would be operational for a 40 year overall lifespan, encompassing construction and decommissioning which is expected to be approximately 45 years. The development would also include works to facilitate vehicular access to the site, landscaping, habitat creation, biodiversity enhancements and amenity improvements.

3.4 The Order Limits consist of approximately 758ha of predominantly agricultural land, located northeast of Sleaford, approximately 2.5km north of the village of Heckington and is predominantly agricultural land. Agricultural Land Classification (ALC) surveys have identified a mix of Grade 2, 3a and 3b, of which 2 and 3a are classified as Best and Most Versatile (BMV).

3.5 The site is made up of three key sections, the Solar Array Area including on-site substation and battery storage, the Cable Route Corridor and the Access Route Corridor:

- Solar Array Area – is approximately 529ha in size and located to the north of Heckington. The solar array area would consist of PV panels and modular ground-mounting structures. Panel height would range from 3.5 to 3.9m in height. An on-site substation and a 600MW Battery Energy Storage System (BESS) facility would also be located in this area.

- Cable Route Corridor – is approximately 183ha in size and extends south east from the Solar Array to Bicker Fen Substation. The cable route corridor would connect the development to the Bicker Fen substation and would be constructed using trenched methods and where required trenchless methods.

- Bespoke Access Route Corridor – A dedicated access route from the A17 to the solar array area would be constructed in advance of material construction commencing on site to facilitate construction. The site area is approximately 45.4ha in size and extends approximately 3km south west from the Solar Array Area to the A17.

4. Description of the Site and Surrounding Areas

4.1 The proposed development has three main sections, The Solar Array Area, The Cable Route Corridor and The Bespoke Access Route Corridor, as described above. These

are predominantly within the North Kesteven District Boundary with the Cable Route Corridor entering the Boston Borough Council boundary.

4.2 The proposed development Order Limits covers approximately 758ha, it is mostly made up of farmland with sparse tree cover. The area is predominantly made up of grade 1, grade 2, grade 3a and grade 3b agricultural land. The sparse tree cover is generally limited to small areas of woodland and scattered hedgerow trees.

4.3 The Solar Array Area is bounded to the south, west and north by roads and to the east by Car Dyke. A short length of Public Right of Way (PROW) is located in the north eastern corner of the solar array area but is not connected at either end to other PROW or highway. There are a number of PROW within the cable route corridor including one alongside South Forty Foot Drain which also crosses the cable route corridor.

4.4 There are several villages nearby to the Solar Array Area that include: Howell (immediately to the south west with Heckington c. 1.7km beyond), Ewerby Thorpe (immediately to the west with Ewerby c. 1.1km beyond), Anwick (c. 2.7km to the north west), North Kyme (c. 2.4km to the north), South Kyme (c. 1.5km to the east). There are also villages nearby to the Cable Route Corridor such as Great Hale, East Heckington, Swineshead, Bicker Bar and Donington.

4.5 The Cable Route Corridor is crossed by several local highways and the A17 crosses east to west within the northwest section. The railway linking Heckington west to Sleaford and east to Swineshead intersects the mid-section of the Corridor.

4.6 There are three internationally important sites designated for biodiversity within 20km of the proposed site and two nationally important sites designated for biodiversity within 10km of the Order limits. There are also 10 non-statutory sites designated for biodiversity importance either within or within 2km of the Order limits. There are a number of Local Wildlife Sites (LWS) within the local area including Great Hale Eau and South Forty Foot Drain which both cross the south-eastern section of the cable route corridor.

4.7 No part of the Order Limits or the land surrounding it falls within a designated landscape.

4.8 There are no Listed Buildings, Conservation Areas or Registered Parks and Gardens within the Order Limits. However there are a number of statutory historical designations, including Scheduled Monuments and Listed Buildings, within the nearby villages and hamlets. These include St Andrews Church, Asgarby, Asgarby Hall, Boughton House, Howell Hall and, further afield, Kyme Tower in South Kyme. There are also several Historic Farmsteads within the Order Limits and in the wider area.

4.9 The majority of the site lies within Flood Zone 1, however the north-east corner of the Solar Array Area and the mid and southern section of the Cable Route Corridor

are located within Flood Zones 2 and 3. A small reservoir is located in the south-west of the solar array area.

4.10 The northernmost corner of the Order Limits intersects with a Minerals Safeguarding Area (MSA) for Sand and Gravel.

5. Policy Context

5.1 The Secretary of State (SoS) is required to have regard to any relevant National Policy Statement (NPS), amongst other matters, when deciding whether to grant a DCO. Where there is a relevant NPS in place DCO applications are determined in line with Section 104 of the PA2008. However, where there are no relevant NPS in place then Section 105 of the PA2008 takes effect and provides the legal basis for determining DCO applications. In addition to any relevant NPS, Section 104 requires the SoS to also have regard to any LIR and any matters which the SoS thinks are both important and relevant to its decision.

5.2 The following NPS's (dated November 2023) that came into force 17 January 2024 are considered relevant to the determination of this DCO application:

EN-1 – Overarching National Policy Statement for Energy

5.3 EN-1 (Overarching National Policy Statement for Energy) confirms the Government's 2050 net zero ambitions and sets out that the government's objectives for the energy system to ensure energy supply remains secure, reliable, affordable, and is consistent with meeting the UK net zero target by 2050. It also identifies the need to ensure the UK is more energy independent, resilient and secure which requires the smooth transition to abundant, low carbon energy. The Government has therefore concluded that there is critical national priority (CNP) for the provision of nationally significant low carbon infrastructure. Renewable energy generation such as solar is considered to be CNP infrastructure.

5.4 EN-1 sets out the overarching needs case for different types of energy infrastructure and general assessment principles. Solar PV is identified as generation technology within the scope of this NPS.

5.5 Section 3.2 of EN-1 requires the SoS, in decision making, to assess all applications for development of the types of infrastructure covered by this NPS on the basis that the government has demonstrated that there is a need for those types of development which is urgent. The government has concluded that there is a critical national priority for the provision of nationally significant low carbon infrastructure for both energy security and net zero.

EN-3 – National Policy Statement for Renewable Energy Infrastructure

5.6 Solar is a key part of the government's strategy for low-cost decarbonisation of the energy sector and that the government expects a five-fold increase in solar

deployment by 2035 (up to 70GW). It is also stated that solar farms can be built quickly and coupled with consistent reductions in the cost of materials and improvements in the efficiency of panels, large scale solar is now viable in some cases to deploy subsidy free.

5.7 This NPS sets out key considerations and factors that will need to be taken into consideration when selecting sites and these include irradiance and site topography, proximity of site to dwellings, agricultural land classification and land type, accessibility, public rights of way, security and lighting and grid connectivity. The technical considerations are set out in and include capacity of the site, site layout design and appearance, project lifetimes and flexibility. Impacts that will need to be considered are set out and include biodiversity, ecology, geological conservation, water management, landscape, visual and residential amenity, glint and glare, cultural heritage, construction including traffic and transport noise and vibration.

EN-5 – National Policy Statement for Electricity Networks Infrastructure

5.8 EN-5 is also of relevance as it recognises electricity networks as "transmissions systems (the long-distance transfer of electricity through 400kV and 275kV lines), and distribution systems (lower voltage lines from 132 kV to 230V from transmission substations to the end-user) which can either be carried on towers/poles or undergrounded" and "associated infrastructure, e.g. substations (the essential link between generation, transmission, and the distribution systems that also allows circuits to be switched, or voltage transformed to a useable level for the consumer) and converter stations to convert DC power to AC power and vice versa". This is therefore relevant in so far as it relates to the cable route corridor and proposed grid connection.

5.9 On 24 April 2025 the Government published a consultation on revisions to EN-1, EN-3 and EN-5 with the aim of strengthening the process for delivering major infrastructure in England and Wales and reinforcing the government's ambition to deliver Clean Power by 2030 and net zero.

5.10 Whilst the review is undertaken, the current suite of energy NPS's remain relevant and have effect for the purposes of the Planning Act 2008.

5.11 Where applicable, the Council further references the NPSs under the technical chapter sub-headings below insofar as they relate to matters which the Examining Authority should have regard to:

Clean Power Action Plan

5.12 The 'Clean Power 2030 Action Plan: A New Era of Clean Electricity' was published in December 2024 and is the UK government's roadmap to transform the nation's electricity system so that 100% of electricity demand is met by clean power by 2030, with at least 95% of generation coming from low-carbon sources and no more than 5% from unabated gas.

National Planning Policy Framework

5.13 The National Planning Policy Framework (NPPF) was first published in 2012 and updated in 2018, 2019, 2021, 2023 and 2024. Paragraph 5 of the NPPF states that the document does not contain specific policies for NSIPs. NSIPs are to be determined in accordance with the decision-making framework set out in the Planning Act 2008 and relevant NPSs which form part of the overall framework of national planning policy and may be a material consideration in preparing plans and making decisions on planning applications.

5.14 The Labour government elected in 2024 aims to re-instate mandatory housing targets and local authorities to have a 5-year land supply for housing. They have removed the idea of 'beauty', have updated the 'presumption in favour' of sustainable development and have redefined the classification of areas of Green Belts to include 'grey belt'.

5.15 The National Planning Policy Guidance (NPPG) outlines guidance on the specific planning considerations that relate to large scale ground-mounted solar PV farms. It encourages the effective use of previously developed land, and if a proposal does involve greenfield land, that it allows for continued agricultural use and/or encourages biodiversity improvements around arrays. It also states that local authorities should consider the effect of glint and glare on landscape, on neighbouring uses and aircraft safety in addition to taking great care to ensure heritage assets are conserved in a manner appropriate to their significance.

Written Ministerial Statements

5.16 The potential impacts of large-scale solar farms were also addressed through a speech by the then Minister for Energy and Climate Change to the solar PV industry on 25 April 2013 and subsequent Written Ministerial Statements (WMS). The speech highlighted the importance of considering the use of low grade agricultural land which works with farmers to allow grazing in parallel with generation, and the WMS (dated 25/3/15 - UIN HCWS488) stressed that meeting our energy goals should not be used to justify the unnecessary use of high quality agricultural land, noting that 'any proposal for a solar farm involving the BMV agricultural land would need to be justified by the most compelling evidence'.

5.17 On 15 May 2024, a WMS was published on solar infrastructure and protecting food security and BMV land. The Council notes that the 15 May 2024 WMS captures elements of the 2024 NPS's. In particular, the 2024 WMS emphasises that when considering whether planning consent should be granted for solar development the cumulative impacts where several proposals come forward in the same locality are an important consideration (particularly in places like Lincolnshire). This WMS has not been revoked or replaced.

5.18 Notwithstanding, the NPSs provide the predominant policy context.

Development Plan

5.19 For the purpose of Section 38(3) of the Planning and Compulsory Purchase Act 2004, the relevant documents that comprise the development plan in force in the area and of relevance to the DCO application are set out below. Other policy documents that should be considered as material considerations are also identified.

Central Lincolnshire Local Plan

5.20 The Central Lincolnshire Local Plan 2023-2043 (CLLP) was adopted April 2023, replacing the Central Lincolnshire Local Plan adopted in 2017.

The relevant policies are:

- **Policy S1: The Spatial Strategy and Settlement Hierarchy** – Reason: The development would be located in the countryside.

- **Policy S5: Development in the Countryside** – Specifically Part E: Non-Residential development in the country. The reason for this is because of the criterion to be considered that *"The development is of a size and scale commensurate with the proposed use and with the rural character of the location."*

- **Policy S12: Water Efficiency and Sustainable Water Management** – Reason: To encourage infiltration, as Central Lincolnshire is identified as being within an area of serious water stress and to reduce energy demand on the water recycling network.

- **Policy S14: Renewable Energy** – Reason: To consider if the impacts are acceptable having considered the scale, siting and design, and the consequent impacts on landscape character; visual amenity; biodiversity; geodiversity; flood risk; townscape; heritage assets, their settings, and the historic landscape; and highway safety and rail safety.

  Policy S14 states that proposals for renewable energy schemes, including ancillary development, will be supported where the direct, indirect, individual, and cumulative impacts of development on a number of considerations are, or will be made, acceptable**.**

- **Policy S16: Wider Energy Infrastructure** – recognises and supports, in principle, the need for significant investment in new and upgraded energy infrastructure for the transition to net zero taking subject to mitigation, appropriate locations and good design to minimise harm.

  Policy S16 states that the Joint Committee is committed to supporting the transition to a net zero carbon future and, in doing so, recognises and supports, in principle, the need for significant investment in new and upgraded energy

infrastructure. Support will be given to proposals which are necessary for, or form part of, the transition to a net zero carbon sub-region, which could include energy storage facilities and upgraded or new electricity facilities or other electricity infrastructure. This policy however caveats that any such proposals should take all reasonable opportunities to mitigate any harm arising from such proposals and take care to select not only appropriate locations for such facilities but also design solutions (reference to policy S53) which minimises harm arising.

- **Policy S21: Flood Risk and Water Resources** – Reason: some of the site is in high flood risk zones.

- **Policy S47: Accessibility and transport** – Reason: the development involves traffic on the highway network.

- **Policy S48: Walking and Cycling Infrastructure** – Reason: to protect, maintain and improve existing infrastructure, including closing gaps or deficiencies in the network and connecting communities and facilities; this being relevant to the PRoWs.

- **Policy S53: Design and Amenity** – Reason: all development, including extensions and alterations to existing buildings, must achieve high quality sustainable design that contributes positively to local character, landscape and townscape, and supports diversity, equality and access for all.

- **Policy S54: Health and Wellbeing** – Reason: This policy aims to ensure adequate access to nature, which might run counter to the development essentially "taking away" open green space.

- **Policy S57: The Historic Environment** – Reason: to protect heritage assets, above and below ground and on the site**.**

- **Policy S59: Green and Blue Infrastructure Network** – Reason: relevant because of the nature of the development itself or the development impacts on PRoWs.

- **Policy S60: Protecting Biodiversity and Geodiversity** – Reason: Due to the need to ensure that adverse impacts of development are adequately mitigated.

- **Policy S61: Biodiversity Opportunity and Delivering Measurable Net gains –** Reason: delivering at least a 10% biodiversity net gain is an ambition that all DCO projects are working towards, as it will become mandatory for projects of this size to comply with biodiversity net gain (BNG) targets in 2026**.**

- **Policy S62: Area of Outstanding Natural Beauty and Areas of great Landscape Value** – Reason: relevant because of the cumulative impacts on landscape and visual impacts.

- **Policy S66: Trees, Woodland and Hedgerows** – Reason: due to the trees and hedgerows within and around the site boundaries and the potential for a proportion of these to be removed to enable the development to progress**.**

- **Policy S67: Best and Most Versatile Agricultural Land** – Reason: there is BMV land present on all three parts of the site and in the cable route corridor.

Neighbourhood Plan

5.21 There are no adopted neighbourhood plans within the proposed development area.

South East Lincolnshire Local Plan 2011-2036 (adopted March 2019)

5.22 The policies that are relevant to the consideration of the proposal are as follows:

- **Policy 1: Spatial Strategy** – Reason: the development would be located within the countryside.

- **Policy 2: Development Management** – Reason: proposals requiring planning permission must achieve sustainable development considerations.

- **Policy 3: Design of New Development** – Reason: design should be appropriate and maximise opportunities for improving the character and quality of an area.

- **Policy 4: Approach to Flood Risk** – Reason: some of the site is located in high flood risk zones.

- **Policy 28: The Natural Environment** – Reason: the need to protect, enhance and manage natural assets.

- **Policy 29: The Historic Environment** – Reason: to protect heritage assets, above and below ground and on the site.

- **Policy 30: Pollution** – Reason: Development proposals will not be permitted where, taking account of any proposed mitigation measures, they would lead to unacceptable adverse impacts.

- **Policy 31: Climate Change and Renewable and Low Carbon Energy** – Reason: the development of renewable energy facilities, associated infrastructure and the integration of decentralised technologies on existing or proposed structures will be permitted providing, individually, or cumulatively, there would be no significant harm.

- **Policy 33: Delivering a More Sustainable Transport Network** – Reason: relevant because of the nature of the development itself or the development impacts on PROW.

Lincolnshire Minerals and Waste Local Plan Core Strategy and Development Management Policies (2016) (LMWLP):

5.23 The relevant policies are:

- **Policy DM1: Presumption in favour of sustainable development** – Reason: the County Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the NPPF.

- **Policy DM4: Historic Environment** – Reason: potential archaeological interest.

- **Policy DM12: Best and Most Versatile Agricultural Land** – Reason: development proposals that involve significant amounts of BMV agricultural land will only be permitted where the stated criteria are met.

- **Policy M11: Safeguarding of Mineral Resources** – Reason: part of the Beacon Fen site intersects a Sand and Gravel Minerals Safeguarding Area (MSA).

- **Policy W1: Future Requirements for New waste Facilities.**

Lincolnshire County Council Energy Infrastructure Position Statement (December 2023)

5.24 The Council's Energy Infrastructure Position Statement notes that NSIP's cover a range of potential developments including solar farms and cable routes.

5.25 All new energy sources need to be connected to the grid and this creates risk. The Council's position is that any cabling required should be underground unless connecting to an existing overhead line.

5.26 The statement notes the advice contained in the NPPF that local planning authorities should consider the economic and other benefits of BMV agricultural land. Where significant development of agricultural land is demonstrated to be necessary, local planning authorities should require the use of areas of poorer quality land in preference to that of higher quality. Based on this the Council will object to development on Grade 1, 2 and 3a land.

5.27 In considering NSIP proposals the protection of BMV agricultural land is the starting point for the Council for projects that involve significant land take. This principle will be cross referenced with other topics of consideration such as local environment, landscape, historic and community impacts to come to a view if there is any justification to override the loss of agricultural land.

5.28 Finally, consideration should be given to the cumulative impact from proposals in combination for significant impact of numerous developments clustered within the same locality in a similar time period.

North Kesteven Climate Emergency Strategy and Action Plan, 2020 (updated 2022)

5.29 This strategy outlines North Kesteven District Council's strategy to reach net zero emissions by 2030.

North Kesteven Strategic Flood Risk Assessment – 2009 Revision Report

5.30 The SFRA has assessed the flood risk issues at a strategic scale to inform the spatial planning process.

6. Assessment of Impacts and Adequacy of Response

6.1 The Beacon Fen Energy Park proposal aims to contribute to renewable energy generation, with a capacity of 400MW. This aligns with the objectives of the NPS's and key national government commitments. While the project has the potential to deliver positive outcomes through the production of clean, renewable energy, support for the scheme is contingent upon demonstrating that any significant adverse environmental impacts can be effectively managed or mitigated through the DCO process.

6.2 The sections below consider the potential impacts of the development on other factors/topics. The Examining Authority (ExA) will need to balance positive impacts against the negative impacts identified within this LIR and those raised by other host authorities and Interested Parties.

6.3 The following sections identify, for each topic heading listed below, key statements from national planning policy, the relevant local planning policies, the key issues and impacts raised by the proposed development and the extent to which the applicant has addressed these issues in the application documents:

- Landscape and Visual
- Ecology
- Cultural Heritage
- Access and Traffic
- Water Resources and Flood Risk
- Soils and Agricultural Land
- Socio-Economics (including Public Rights of Way)
- Human Health
- Minerals and Waste
- Fire Safety
- Cumulative Effects
- Other topics
- Draft Development Consent Order

7. Landscape and Visual

7.1 NPS EN-1 at paragraph 5.10.37 states that the SoS should consider whether the project has been designed carefully, taking account of environmental effects on the

landscape and siting, operational and other relevant constraints, to minimise harm to the landscape, including by appropriate mitigation.

7.2 Paragraph 5.10.35 of EN-1 states that the 'scale of energy projects means that they will often be visible across a very wide area'. It goes on to stress that the SoS 'should judge whether any adverse impact on the landscape would be so damaging that it is not offset by the benefits (including need) of the project'. Paragraph 5.10.36 then sets out that the SoS should 'consider whether any adverse impact is temporary, such as during construction, and/or whether any adverse impact on the landscape will be capable of being reversed in a timescale that the Secretary of State considers reasonable'.

7.3 Paragraph 5.10.5 of EN-1 states that 'virtual all nationally significant energy infrastructure projects will have adverse effects on the landscape, but there may also be beneficial landscape character impacts arising from mitigation'.

7.4 Paragraph 5.10.6 then goes on to state that 'projects need to be designed carefully, taking account of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints the aim should be to minimise harm to the landscape, providing reasonable mitigation where possible and appropriate'.

7.5 The specific guidance relating to Solar Photovoltaic Generation in section 2.10 of EN-3 at paragraph 2.10.94 notes that 'Solar farms are likely to be in low lying areas of good exposure and as such may have a wider zone of visual influence than other types of onshore energy infrastructure'. Paragraph 2.10.95 states that '*whilst it may be the case that the development covers a significant surface area, in the case of ground-mounted solar panels it should be noted that with effective screening and appropriate land topography, the area of a zone of visual influence could be appropriately minimised.*'

7.6 Local Policies:

- CLLP Policy 1: The Spatial Strategy and Settlement Hierarchy
- CLLP Policy S5: Development in the Countryside
- CLLP Policy S14: Renewable Energy
- CLLP Policy S53: Design and Amenity
- CLLP Policy S62: Area of Outstanding Natural Beauty and Areas of Great Landscape Value
- CLLP Policy S66: Trees, Woodland and Hedgerows
- SELLP Policy 3: Design of New Development
- SELLP Policy 31: Climate Change and Renewable and Low Carbon Energy

7.7 CLLP Policy 1 (The Spatial Strategy and Settlement Hierarchy) focuses on delivering sustainable growth for Central Lincolnshire to meet the needs for homes and jobs, regenerates places and communities, and supports necessary improvements to facilities, services and infrastructure. Development regarded as being in the

countryside (unless supported by other policy) is restricted to agricultural, infrastructure renewable energy or minerals and waste.

7.8 CLLP Policy S5(Development in the Countryside) - Part E: Non-residential development in the countryside supports non-residential development providing that it does not result in conflict with neighbouring uses and is of a size and scale commensurate with the proposed use and with the rural character of the location. Part F: Agricultural Diversification – supports farm based diversification to non-agricultural activities or operations providing it supports the farm enterprise and is in an appropriate location and scale with regard to the location of business need.

7.9 CLLP Policy S14 (Renewable Energy) supports proposals for renewable energy schemes subject to the direct, indirect, individual and cumulative impacts of development on, amongst other things, landscape character and visual amenity being acceptable or capable of being made acceptable.

7.10 CLLP Policy S53 (Design and Amenity) expects all development to achieve high quality sustainable design which contributes positively to the local character and landscape. Development proposals should, amongst other things, be based on a sound understanding of the context, integrate into the surrounding, relate well to the site, protect any important local views into, out of or through the site, reflect the identity of area and contribute to the sense of place and maintain landscape quality and minimise adverse visual impacts through high quality building and landscape design.

7.11 CLLP Policy S62 (Area of Outstanding Natural Beauty and Areas of Great Landscape Value). Areas of Great Landscape Value (AGLV) are locally designated landscape areas recognised for their intrinsic character and beauty and their natural, historic and cultural importance. Development proposals within, or within the setting of, AGLV shall seek to conserve, protect and enhance (where possible) the quality and distinctiveness of locally important landscapes, wildlife and historic features.

7.12 CLLP Policy S66 (Trees, Woodland and Hedgerows) states that planning permission will only be granted if the proposal provides evidence that it has been subject to adequate consideration of the impact of the development on any existing trees and woodland found on-site. Proposals for new development will also be expected to retain existing hedgerows where appropriate and integrate them fully into the design, having regard to their management requirements.

7.13 SELLP Policy 3 (Design of New Development) states that development proposals will be required to demonstrate, where relevant, how the landscape character of the location will be secured. Design which is inappropriate to the local area, or which fails to maximise opportunities for improving the character and quality of the area, will not be acceptable.

7.14 SELLP Policy 31 (Climate Change and Renewable and Low Carbon Energy) states that development of renewable energy facilities and associated infrastructure will be permitted provided, individually, or cumulatively, there would be no significant harm

to visual amenity and landscape character or quality. Provision should be made for post-construction monitoring, and the removal of the facility and reinstatement of the site if the development ceases to be operational.

7.15 The Council commissioned AAH Landscape Consultants to assist in the consideration and review of the landscape and visual elements of the Beacon Fen proposal and have engaged and provided feedback and advice to the Applicant's design team on behalf of the Council throughout the pre-application stage. A full copy of the report prepared by AAH is attached as Appendix 1 which has reviewed the DCO application documentation, and the following summary and conclusions is based on those comments and should be read in conjunction with the full document.

7.16 The AAH consultant's report provides an overall summary and conclusion on the suitability of the Landscape and Visual elements of the DCO Application and whether they are sufficient to support an informed decision. This includes the adequacy of the LVIA, which has been reviewed in accordance with the Landscape Institute Technical Guidance Note 1/20 (10 Jan 2020): Reviewing Landscape and Visual Impact Assessments (LVIAs) and Landscape and Visual Appraisals (LVAs). Finally, there are recommendations for further information that should be provided to assist in the examination of the DCO Application.

7.17 The LVIA and associated figures, appendices and documents provide a generally comprehensive assessment of the Development, with an appropriate level of detail for a scheme of this scale and context. The assessment process is relatively well presented, with baseline conditions and predicted effects set out in a structured way. Significant effects on both landscape character and visual amenity are identified; however, there are several areas where further clarity or additional work is considered necessary.

7.18 By virtue of its scale and massing, the Development would result in Significant adverse effects on local landscape character and visual amenity during all key phases (construction, early operation, and at year 15). The proposals would fundamentally alter the character of the site and its surroundings, replacing open, agricultural fields with extensive solar infrastructure. This represents a substantial and long-term change to the openness, tranquillity, and rural character of the area. Whilst the LVIA categorises residual effects as partially reversible, we consider that, given the likely operational lifespan and scale, the change should be regarded as effectively permanent in landscape and visual terms.

7.19 Significant adverse visual effects are also predicted for a range of receptors, due to the transformation from rural agricultural views to those containing large-scale solar arrays. We have highlighted some issues with the visual assessment within the LVIA and compliance with the recent Landscape Institute Technical Guidance Note LITGN-2024-01, and we also have concerns that the mitigation planting itself could generate adverse visual effects though blocking or foreshortening views and appearing out of context.

7.20 Cumulative landscape and visual effects with other renewable energy and infrastructure projects across the county present a further concern. Whilst the immediate cumulative schemes within the ES are relatively modest, the scale of other NSIP's and large-scale energy projects proposed in the wider area raises the potential for extensive alteration of the regional landscape character. The combined effect of these developments could be a marked an enduring change, both directly through a change in land use and introduction of solar as a key element, and also in the perception and experience of the landscape, particularly for visual receptors travelling through the landscape and experiencing sequential effects. This is a clear and marked change to landscape character.

7.21 Tree and vegetation removal associated with the Development, including wider highways improvements and access for construction, must be clarified through the examination process, and subsequently any works (such as lopping or pruning), or removal of trees and hedgerows must be agreed prior to any works commencing. Prior to any construction activities, all tree and hedgerow protection methods associated with that phase of construction should also be clarified and subsequently agreed with the appropriate authority (in this case the local planning authority). This would be to BS:5837 Trees in Relation to Construction and any subsequent arboriculture method statements, again this should be approved by the appropriate authority. In particular this should ensure existing trees, and associated root protection areas, are suitably protected throughout the entire construction period. This would also likely include areas within the order limits, but away from construction activity, such as storage areas for materials which may suffer from tracking by plant that would damage tree root protection zones.

7.22 While the submission includes landscape proposals (as shown on Figure 6.31: Landscape Strategy Plan, secured via Work Order 9 on the Works Plans and DCO) [APP- 010], these are of a high level and it would be expected that if the project proceeds much more detailed plans would need to be submitted and subsequently agreed with the appropriate authority prior to the commencement of any works and secured through Requirements of the DCO. This would include clear detail of the areas of landscape mitigation, location and types of planting (species), as well as number, density and specification. The mitigation illustrated on the layout plans has been utilised to assess the landscape and visual effects of the scheme; therefore, we would expect any detailed landscape proposals to consist of the area and extent shown on these plans as a minimum.

7.23 Therefore, the Council concludes that the proposed development would have **negative** landscape and visual impacts.

8. Ecology

8.1 Section 5.4 of NPS EN-1 covers biodiversity and geological conservation. The government's policy for biodiversity in England is set out in the Environmental Improvement Plan 2023, the National Pollinator Strategy and the UK Marine Strategy.

The aim is to halt overall biodiversity loss in England by 2030 and then reverse loss by 2042, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people. Healthy, naturally functioning ecosystems and coherent ecological networks will be more resilient and adaptable to climate change effects. Failure to address this challenge will result in significant adverse impacts on biodiversity and the ecosystem services it provides (paragraph 5.4.2).

8.2 Paragraph 5.4.39 states that the SoS 'should have regard to the aims and goals of the government's Environmental Improvement Plan 2023 and any relevant measures and targets, including statutory targets set under the Environment Act or elsewhere'. Paragraph 5.4.41 goes on to state that 'the benefits of nationally significant low carbon energy infrastructure development may include benefits for biodiversity and geological conservation interests and these benefits may outweigh harm to these interests. The SoS may take account of any such net benefit in cases where it can be demonstrated'. Paragraph 5.4.43 states 'If significant harm to biodiversity resulting from a development cannot be avoided (for example through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then the SoS will give significant weight to any residual harm'.

8.3 Paragraph 5.4.46 advises that development proposals provide many opportunities for building-in beneficial biodiversity or geological features as part of good design and the SoS should give appropriate weight to environmental and biodiversity enhancements, but any weight given to gains provided to meet a legal requirement (for example under the Environment Act 2021) is likely to be limited.

8.4 Local Policies:

- CLLP Policy S14: Renewable Energy
- CLLP Policy S59: Green and Blue Infrastructure Network
- CLLP Policy S60: Protecting Biodiversity and Geodiversity
- CLLP Policy S61: Biodiversity Opportunity and Delivering Measurable Net Gains
- CLLP Policy S66: Trees, Woodland and Hedgerows
- SELLP Policy 3: Design of New Development
- SELLP Policy 28: The Natural Environment

8.5 CLLP Policy S14 (Renewable Energy) states that the proposals for renewable energy schemes, including ancillary development, will be supported where the direct, indirect, individual and cumulative impacts are, or will be made, acceptable, including in relation to biodiversity and geodiversity considerations.

8.6 CLLP Policy S59 (Green and Blue Infrastructure Network) states that the Central Lincolnshire Authorities will safeguard green and blue infrastructure from inappropriate development and work actively with partners to maintain and improve the quantity, quality, accessibility and management of the green infrastructure network. This policy also notes that proposals that cause loss or harm to the green and blue infrastructure will not be supported unless the need for and benefits of the development demonstrably outweigh any adverse impacts. Where adverse impacts

on green infrastructure are unavoidable, development will only be supported if suitable mitigation measures for the network are provided.

8.7 Policy S60 (Protecting Biodiversity and Geodiversity) states that development proposals will be considered in the context of the relevant Local Authority's duty to promote the protection and recovery of priority species and habitats. Where adverse impacts are likely, development will only be supported where the need for and benefits of the development clearly outweigh these impacts. In such cases, appropriate mitigation or compensatory measures will be required.

8.8 Development will only be supported where the proposed measures for mitigation and/or compensation, along with details of net gain, are acceptable. All development should:

- Protect, manage, enhance and extend the ecological network of habitats, species and sites of international, national and local importance (statutory and non-statutory);
- Minimise impacts on biodiversity and features of geodiversity value;
- Deliver measurable and proportionate net gains in biodiversity in accordance with policy S61; and
- Protect and enhance the aquatic environment within or adjoining the site, including water quality and habitat.

8.9 CLLP Policy S61 (Biodiversity Opportunity and Delivering Measurable Net Gains) states that all qualifying development proposals must deliver at least a 10% measurable biodiversity net gain (BNG) attributable to the development. The net gain should be calculated using Natural England's Biodiversity Metric and be provided on-site where possible. Unless specifically exempted by Government, a biodiversity gain plan should be submitted providing clear and robust evidence for biodiversity net gains and losses. This plan should also include details of the pre-development biodiversity value of the onsite habitat, the post-development biodiversity value of the onsite habitat following implementation of the proposed ecological enhancements/interventions, and an ongoing management strategy for any BNG proposals.

8.10 CLLP Policy S66 (Trees, Woodland and Hedgerows) states that planning permission will only be granted if the proposal provides evidence that it has been subject to adequate consideration of the impact of the development on any existing trees and woodland found on-site. Proposals for new development will also be expected to retain existing hedgerows where appropriate and integrate them fully into the design, having regard to their management requirements.

8.11 SELLP Policy 3 (Design of New Development) states that development will be required to demonstrate, where relevant, how the incorporation of existing hedgerows and trees, and the provision of appropriate new landscaping to enhance biodiversity and green infrastructure, will be secured.

8.12 SELLP Policy 28 (The Natural Environment) states that gaps in the ecological network will be addressed by ensuring that all development proposals provide an overall net gain in biodiversity. This can be achieved by:

- Protecting the biodiversity value of land, buildings and trees (including veteran trees) minimising the fragmentation of habitats;
- Maximising the opportunities for restoration, enhancement and connection of natural habitats and species of principal importance;
- Incorporating beneficial biodiversity conservation features on buildings, where appropriate, and maximising opportunities to enhance green infrastructure and ecological corridors, including water space; and
- Conserving and enhancing biodiversity or geodiversity conservation features that will provide new habitat and help wildlife to adapt to climate change**.**

8.13 The Council has reviewed the submitted information concerning the assessment of potential ecological effects of the proposed development. 6.2.7 Chapter 7 Ecology [APP-058] sets out the biodiversity and ecological elements of the Applicant's Environmental Statement (ES).

8.14 The Council notes that ES Chapter 1 Introduction paragraph 1.2.9 [APP-052] states that "The EIA process has considered potential impacts resulting from the construction, operation (and maintenance), and decommissioning of the Proposed Development in order to identify likely significant effects, and measures to avoid, reduce or mitigate any significant adverse effects on the environment and enhancing it where possible". The Council welcomes this approach.

8.15 The Council considers that additional information / clarification is required to accurately identify the ecological interest features present and to determine the likely significant effects, mitigation requirements and any residual effects of the proposed development.

Statutory Designated Sites

8.16 There are three internationally important sites designated for biodiversity within 20km of the proposal and two nationally important sites designated for biodiversity within 10km of the Order limits. The location of these sites is shown in 6.4.44 Figure 7.1 International Sites within 20km of the Site [APP-239] and 6.4.45 Figure 7.2 SSSI within 10km of Site [APP-240] respectively.

8.17 No direct impacts within these sites are predicted, however impacts on qualifying features of The Wash SPA and Ramsar site (gadwall) and The Wash and North Norfolk Coast SAC (otter) may occur and are discussed below.

Non-Statutory Designated Sites

8.18 There are 10 non-statutory sites designated for biodiversity importance either within or within 2km of the Order limits. The locations of these non-statutory sites are set out in APP-241.

8.19 No significant effects on these sites are predicted during construction however, a significant effect is predicted during decommissioning (APP-058, 7.6.79) due to the potential effects of waterborne and airborne contaminants. It is not clear why there is a difference in the level of significance of effect between construction and decommissioning and this should be clarified.

Habitats Regulations

8.20 A Shadow Habitats Regulations Assessment report [APP-050] has been prepared which assesses potential pathways for Likely Significant Effects on the Wash SPA/Ramsar and The Wash and North Norfolk Coast SAC which lie approximately 15km to the east of the solar array area.

8.21 Whilst there are no direct effects predicted within the sites, sensitive ecological receptors that may be associated with the sites may be affected by the proposed development. APP-058 identifies the potential for significant effects on the conservation status of both gadwall and otter. Details of the proposed mitigation for impacts, principally from disturbance, and otter where impacts relate to both potential habitat loss and direct injury or mortality during construction. APP-050 includes details of proposed mitigation for effects on both gadwall and otter and concludes that with mitigation in place there will be no adverse effects on The Wash SPA / Ramsar or The Wash and North Norfolk Coast SAC.

8.22 The Examining Authority will need to satisfy itself that sufficient information has been submitted by the Applicant in relation to impacts on these species and measures that will be implemented to mitigate these in order to determine that there will be no adverse effect on the conservation status of these species and the sites they are associated with.

Existing biodiversity value

8.23 A range of both desk-based studies and field surveys has been undertaken to establish the suite of habitats present within the DCO site boundary. These are described in APP-058 and associated appendices.

8.24 The Council is of the opinion that additional information/clarification is required to accurately determine the site's existing baseline value.

- Botanical survey timing: 6.3.30 Appendix 7.11 Botanical Survey Report Solar Array Area [APP-100] states that botanical field surveys within the solar array area were undertaken in July 2023. This is outside of the window which would allow the presence of any late flowering scarce arable flora to be identified and also outside of the optimal window for woodland botanical surveys.

- Woodland habitats: Mapping available on the MAGIC website indicates that there are areas of Priority Woodland Habitat within the solar array area. These correspond with Woodlands 3, 4 and 5 identified in APP-100. Paragraph 4.1.16 acknowledges that W3, 4 and 5 meet the criteria for priority habitat, however this does not seem to have been correctly reflected in the BNG assessment or the submitted statutory biodiversity metric.

8.25 Subject to clarification of the above, APP-058 identifies a range of ecological impacts. These potential impacts include both permanent and temporary or damage to habitats, including the potential for the spread of invasive non-native species (INNS). The Applicant has prepared an outline Construction Environmental Management Plan (oCEMP) [APP-077], an outline Landscape and Ecological Management Plan (oLEMP) [APP-089], and an outline Decommissioning Environmental Management Plan (oDEMP) [APP-078] which include measures aimed at mitigating these impacts. The Council agrees with the Applicant's approach and considers that the proposed impact avoidance and mitigation measures for construction, operational and decommissioning phases of the development will need to be secured in the DCO.

Protected and priority species

8.26 A suite of both desk-based studies and field surveys has been undertaken to identify protected and priority species likely to occur within the DCO Site Boundary. These are described in (APP-058) and associated appendices. LCC has reviewed the application in accordance with Natural England's standing advice for protected species. Having considered (APP-058) LCC is of the opinion that additional information/clarification is required to accurately determine the presence/absence of protected and priority species and the likely effects of the proposed development.

- **Badgers:** It is unclear whether badger surveys have been undertaken in the cable route and access road. This should be clarified. APP-058 paragraph 7.11.5 states that buffers will be used around main badger setts. The Council is of the opinion that all badger setts should be buffered.
- **Bats:** A recent study (Tinsley *et al.*, 2023[1]) has shown a decrease in levels of bat activity associated with the presence of solar developments, though reasons for this are not yet clearly understood. The Council recommends that monitoring of post-construction bat activity is undertaken to compare activity levels prior to construction and to assess mitigation efficacy in order to increase understanding of the impacts of solar developments on local bat populations.
- **Riparian mammals:** APP-058, paragraph 7.7.11 states that sections of potential water vole habitat of up to 30-50m on each bank may need to be removed. The Council queries the need for such wide maximum clearance areas.
- **Breeding birds**: The proposed development has the potential to result in negative effects on the populations of a number of species / species groups including Schedule 1 breeding birds and a farmland bird assemblage that is considered to be of County Level Importance.

[redacted]

- **Fish:** Given the record of spined loach occurring in the South Forty Foot Drain, specific measures to avoid impacts on the species should be set out in the CEMP.

8.27 Details of specific mitigation measures in relation to Schedule 1 breeding birds should be included in the CEMP.

8.28 APP-058, 7.6.53 states that there will be a "permanent very low adverse impact" on skylark due to the loss of nesting impact. This is likely to mean that other species with similar requirements are also negatively impacted. Given the number of other solar developments in the county, the Council is of the opinion that the development should seek to ensure that adequate provision is made for loss of ground nesting birds to avoid a negative impact.

8.29 Where protected species will be affected by the proposed development, a licence from Natural England will be sought and mitigation will be secured as part of the licensing process. The Council agrees with this approach.

8.30 Once details of appropriate mitigation are confirmed for construction, operational and decommissioning phases of the development, these will need to be secured in the DCO.

Biodiversity Net Gain

8.31 The delivery of at least 10% BNG is not currently mandatory for NSIPs however it is considered best practice. Given the scale and nature of the proposed development the Council will expect the project to deliver significantly more than 10% BNG.

8.32 The Applicant has set out their approach to BNG in Section 7.3 Biodiversity Net Gain Strategy [APP-280]. This document sets out the likely level of BNG that the scheme is expected to deliver. Based on current plans, the Scheme is predicted to result in a net gain of 36.43% for area-based habitat units, 10.79% for hedgerow units and 15.95% for watercourse units. This level of BNG if achievable would be acceptable, however, certain elements of the BNG assessment require additional information and clarification.

- Biodiversity opportunity mapping and strategic significance - The Greater Lincolnshire Local Nature Recovery Strategy (LNRS) is still in preparation. In the absence of an LNRS, Biodiversity Opportunity Areas identified in the Central Lincolnshire Local Plan should be used to assign strategic significance in the Statutory Biodiversity Metric. Areas within the draft DCO boundary are identified in the biodiversity opportunity mapping. The metric should therefore be updated to reflect this which will affect the baseline biodiversity value calculations.
- Priority woodland habitat: As stated above, the priority woodland habitat identified in APP-100 is not included in the metric calculations. This will affect the baseline biodiversity value calculations.
- Tree removal: The Applicant's OLEMP [APP-089] paragraph 2.4,4 refers to areas of vegetation removal within the solar array area including six individual trees, one

tree group and parts of another two trees groups. It is unclear whether removal of these trees has been captured in the metric calculation.

- Bicker Fen substation: The Applicant's BNG strategy [APP-280] does not currently seem to include details of proposals for BNG at the Bicker Fen substation site.
- Proposed lowland meadow habitat creation: Successfully establishing good condition lowland meadow habitat which requires nutrient poor soils on currently arable land is likely to be very challenging and will require significant management input. Additional reasoning and justification is required in order to give confidence that this habitat type can realistically be delivered in the targeted good condition.

8.33 The Council welcomes the Applicant's commitment to delivering BNG and agrees that these commitments will need to be secured in the DCO. The Applicant will also need to demonstrate that the commitments made to delivering BNG are achievable.

8.34 The Council encourages the Applicant to work with other developers and stakeholders in the area to identify opportunities to deliver BNG strategically and welcomes ongoing engagement with the Applicant in relation to BNG.

Cumulative Effects

8.35 There are a number of development proposals of varying scales in the vicinity of this proposal. These range from small scale housing developments to other NSIP scale energy developments. Details of the approach to cumulative effects are presented in ES Chapter 18 Cumulative Effects [APP-069] and APP-058.

8.36 The Applicant's assessment concludes that there will be no significant adverse effects on ecology arising from cumulative impacts, however, as stated above the Council considers that there remains a potential for cumulative impacts with other solar developments on ground nesting birds. Details of additional measures to be taken to avoid negative impacts on ground nesting birds should be provided.

Ecological Steering Group

8.37 The Council suggests that consideration is given to the establishment of an Ecological Steering Group or similar for the proposed development. This group should consist of key ecological stakeholders (both statutory and non-statutory). The remit of the group would be to receive updates on project progress and to advise on issues encountered during construction as well as to refine delivery of required mitigation and enhancement measures. Meetings should be held at an appropriate frequency to ensure good communication between both the developer and stakeholders.

8.38 Establishing such a group is also likely to yield benefits by assisting with the identification of opportunities for strategic working with other solar NSIP developers in the vicinity. This is particularly the case in relation to the delivery of BNG where strategic delivery could result in significant benefits for species groups such as ground nesting birds.

Overall impact of the development on ecology and biodiversity

8.39 The Applicant's ES identifies a series of potential impacts on ecology arising from the development. These range from minor adverse impacts to significant adverse impacts depending on the species, habitat or site concerned. The Council has identified several areas within the Applicant's ES where additional information / clarification is required so a precise assessment of the potential impacts is not possible at this stage. However, based on the information provided, the Council considers that the development would have a minor permanent **negative** impact on ecology.

8.40 With regard to BNG, the Applicant has signalled an intention to deliver BNG. As stated above, clarification of the BNG calculations is required and it is recognised that this will be subject to confirmation of final scheme designs. However, if the levels currently anticipated are delivered, the Council considers that overall, the development could have a positive impact in terms of BNG. Commitments to deliver a minimum of 10% BNG should be secured with a specific requirement in the DCO if BNG is to be given **positive** weight in the planning balance.

9. Cultural Heritage

9.1 Paragraphs 5.9.22 to 5.9.36 of NPS EN-1 set out the key considerations for determining applications where there is potential for adverse impacts on the historic environment above, at and below the surface of the ground. It requires the SoS to identify and assess the particular significance of any heritage asset that might be affected by the development, including setting.

9.2 The NPPF Chapter 16 (Conserving and enhancing the historic environment) places a requirement on applicants to describe the significance of any heritage assets affected, including any contribution made by their setting. Similar to EN-1 it requires Local Planning Authorities to identify and assess the particular significance of any heritage asset that may be affected by a proposal. Paragraphs 212 to 216 of the NPPF align with EN-1 and require great weight to be given to conserving heritage assets and any harm or loss to a heritage asset requires clear and convincing justification. In cases where the proposal would lead to substantial harm or total loss of a heritage would result consent should be refused unless certain criteria are met, this includes where the harm or loss is necessary for sustainable public benefit. Where less than substantial harm to the significance of the heritage asset would occur it should be weighed against the public benefits. For non-designated heritage assets a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.

9.3 Local Policies:

- CLLP Policy S57: The Historic Environment
- SELLP Policy 2: Development Management

- SELLP Policy 3: Design of New Development
- SELLP Policy 29: The Historic Environment
- LMWLP Policy DM4: Historic Environment

9.4 CLLP Policy S57 (The Historic Environment) states that development proposals are required to protect, conserve, and seek opportunities to enhance the historic environment of Central Lincolnshire. Proposals will be supported where they protect the significance of heritage assets (including where relevant their setting) and take into account the desirability of sustaining and enhancing non-designated heritage assets and their setting. In instances where a development proposal would affect the significance of a heritage asset (where designated or non-designated), the Applicant will be required to undertake and provide information on the significance of the asset; the impact of the proposed development on the significance and special character of the asset; and a clear justification for the works so that the harm can be weighed against public benefits.

9.5 This policy also states that where development proposals would result in less than substantial harm to a designated heritage asset, permission will only be granted where the public benefits, including, where appropriate, securing its optimum viable use, outweigh the harm. In addition to this, development affecting archaeological remains, whether known or potential, designated or undesignated, should take every practical and reasonable step to protect and, where possible, enhance their significance.

9.6 Planning applications for such development should be accompanied by an appropriate and proportionate assessment to understand the potential for and significance of remains, and the impact of development upon them. If initial assessment does not provide sufficient information, developers will be required to undertake field evaluation in advance of determination of the application. This may include a range of techniques for both intrusive and non-intrusive evaluation, as appropriate to the site.

9.7 Wherever possible and appropriate, mitigation strategies should ensure the preservation of archaeological remains in-situ. Where this is either not possible or not desirable, provisions must be made for preservation by record according to an agreed written scheme of investigation submitted by the developer and approved by the planning authority.

9.8 SELLP Policy 2 (Development Management) states that proposals requiring planning permission for development will be permitted provided that sustainable development considerations are met, specifically in relation to any impact upon or enhancement of historical buildings and heritage assets. Similarly, SELLP Policy 3 (Design of New Development) states that development proposals will be required to demonstrate, where relevant, how a sense of place will be created by complementing and enhancing designated and non-designated heritage assets.

9.9 SELLP Policy 29 (The Historic Environment) states that distinctive elements of the South East Lincolnshire historic environment will be conserved and, where appropriate, enhanced. Opportunities to identify a heritage asset's contribution to the economy, tourism, education, and the local community will be utilised, including the historic archaeological and drainage landscape of the Fens. As such, development proposals will be required to conserve and enhance the character and appearance of designated and non-designated heritage assets.

9.10 Policy DM4 (Historic Environment) reiterates CLLP Policy S57, and states that proposals with the potential to affect heritage assets including features of historic or archaeological importance (whether known or unknown) should be accompanied by an assessment of the significance of the assets and the potential impact of the development proposal on those assets and their settings. Where any impact on heritage assets is identified, the assessment should provide details of the proposed mitigation measures that would be implemented. These should include details of any conservation of assets to be lost and provision for the results to be made publicly available.

9.11 NPS EN-1 paragraph 5.9.21 states that where there is high probability (based on an adequate assessment) that a development site may include yet undiscovered heritage assets with archaeological interests then requirements should be considered to ensure that appropriate procedures are in place for the identification and treatment of such assets discovered during construction. This is largely carried through in NPS EN-3.

Built Heritage

9.12 Subject to the detailed comments below, the Council is broadly satisfied that the methodology represents an appropriate approach. The ES Chapter 8 – Cultural Heritage Vol 1 [APP-059] identifies key sensitive designated receptors at paragraph 8.6.5 and non-designated receptors at paragraph 8.6.6. Embedded mitigation is also acknowledged, including buffers to increase the distance between development and nearby heritage assets. However, while the methodology is acceptable in principle, insufficient weight has been applied to certain assets, and a group-value approach should be adopted in relation to historic farmsteads, consistent with approaches taken in other NSIPs in the region.

Changes to Setting and Potential Harm to Receptors

9.13 The ES identifies a Moderate Adverse (significant) effect on the Grade I listed Church of St Andrew, Asgarby (APP-059 paragraph 8.7.7, Table 8.8). The Council agree with this conclusion but consider that equivalent weight should also be given to the nearby Grade II listed Asgarby Hall (NHLE 1168367), whose principal elevations overlook the historic parkland where the new infrastructure would be visible. This asset is not fully assessed in the ES despite being listed as a sensitive receptor at paragraph 8.6.5. The Grade II listed Boughton House (NHLE 1061835) is also insufficiently assessed: the ES records only a slight adverse effect during operation

(Table 8.9) and omits construction-phase impacts, despite its proximity and inter-visibility with the access infrastructure. Both assets require more robust assessment and, where necessary, bespoke mitigation.

9.14 Additional assets also warrant consideration. Austhorpe Farm (Grade II, NHLE 1306847), situated only a few hundred metres from the order limits, has potential for altered views from the north-east, affecting its historic setting. Thorpe House (Grade II, NHLE 1360566), in juxtaposition to Austhorpe Farm, may also experience harm as approaches and views are altered. These assets require further assessment and, where appropriate, screening to reduce harm.

9.15 The cluster of designated assets at Howell, comprising the Old Rectory (Grade II, NHLE 1061834), the Church of St Oswald (Grade II*, NHLE 1061833), and Howell Hall (Grade II, NHLE 1168460), also raise concerns. Although inter-visibility with the proposed development is limited, they are located close to the order limits and derive significance from their shared rural setting. Solar arrays along the eastern approach to Howell, including Howell Fen Drove (which is bisected by the order limits), will alter the character and experience of the landscape setting of these receptors, including approaches to and from the village.

9.16 The ES also underplays cumulative impacts on Kyme Tower (Grade I, NHLE 1204786 and Scheduled Monument). The SoS's decision on Heckington Fen Solar Farm found that development within its setting would cause less than substantial harm, with cumulative effects given moderate negative weight. Beacon Fen now represents the cumulative change identified but not quantified in that decision. Kyme Tower's wider agrarian setting is integral to its significance, and large-scale solar infrastructure would diminish how the monument is experienced, shifting its context towards semi-industrial characteristics. As a Scheduled Monument, national policy (NPS EN-1 paragraph 5.9.30; NPPF paragraph 213 (b)) makes clear that harm to assets of the highest significance should be wholly exceptional and must be clearly and convincingly justified. The ES understates this impact, which could amount to substantial harm, or at minimum less than substantial harm at the higher end of the scale. This harm must be afforded the greatest weight in decision-making.

Historic Farmsteads

9.17 Historic farmsteads within the order limits and wider study area are an integral part of Lincolnshire's agricultural heritage, reflecting traditional rural practices and contributing to the region's distinct historic character. The Historic Farmsteads in Greater Lincolnshire Assessment Framework and Greater Lincolnshire Farmstead Character Statement[2] highlights their importance. The ES, however, treats each farmstead individually and fails to assess their collective value as a historic farming

[2] The Greater Lincolnshire Farmstead Assessment Framework

landscape. This risks overlooking how these farmsteads, when understood together, contribute to the area's rural distinctiveness. The introduction of large-scale infrastructure risks severing these connections, eroding both their physical setting and the intangible heritage that links them to Lincolnshire's agricultural past.

9.18 The Council consider that the assessment should adopt a group-value methodology, recognising harm to the character and coherence of the historic farmstead network. Specific non-designated receptors include but are not limited to:

- Westmorelands/Asgarby Fen Farm (MLI121926) – views to the north and west will be compromised, altering setting
- Gashes Barn (MLI121916)
- Villa Farm, Bicker (MLI116632) – located within the order limits and therefore particularly vulnerable, with no clear bespoke mitigation identified in the ES
- Poplar Tree Farm (MLI116633) – outside the order limits but with altered views from the north and south-east affecting setting
- Unnamed Farmstead, Ewerby and Evedon (MLI121913)

9.19 Other farmsteads within the ES mapping (Figures 8.1.2 [APP-244] and 8.2 [APP-245]) may also warrant inclusion where their setting, visibility and shared associations contribute to the historic agricultural landscape.

Overall Assessment

9.20 The development will result in adverse impacts on the setting of designated and non-designated heritage assets. While this is broadly recognised in the ES, insufficient weight has been given to the impacts on Asgarby Hall, Boughton House, Austhorpe Farm, Thorpe House, the Howell cluster, Kyme Tower and the identified farmsteads. The significance and special interest of these assets will be eroded by the change in landscape character arising from the solar farm and associated infrastructure. Greater weight should be given to these impacts in decision-making. In line with NPPF paragraphs 212–216, any harm to heritage assets requires clear and convincing justification. Less than substantial harm must still be weighed against the public benefits, but that balance must give considerable importance and weight to the desirability of preservation. Reliance on the current embedded mitigation is not adequate; a bespoke strategy is needed for the above-named assets, informed by further assessment and consultation with stakeholders.

9.21 This position follows national policy. The NPPF requires that great weight be given to the conservation of heritage assets, that harm (whether substantial or less than substantial) be clearly and convincingly justified, and that non-designated assets are afforded appropriate weight (NPPF paragraph 216). NPS EN-1, paragraphs 5.9.1–5.9.36 emphasises that the significance of heritage assets derives not only from their physical presence but also from their setting (para.,5.9.3), and that any harm should or loss of significance should require clear and convincing justification (para.,5.9.28). NPS EN-3 requires applicants to give careful consideration to siting and design (para., 2.10.118), including the cumulative impacts of solar development and to minimise

harm to landscape character and any sensitive visual receptors (para., 2.10.157). The Council concludes that the ES underestimates the scale of harm to several designated and non-designated receptors, particularly where the contribution of setting and group value has been overlooked. Further assessment and bespoke mitigation are required if the proposal is to be considered compliant with national policy.

9.22 Based on the information submitted at this stage the Council are of the opinion that the proposal would result in harm to built heritage assets. This harm has not been convincingly justified and further assessment and mitigation will be required to demonstrate compliance with planning policies for the historic environment.

Archaeology

9.23 As stated in our Relevant Representation response, the Council acknowledges the Applicant's assessment work to date and confirm that it is satisfied that the work has been completed to the required standards and has provided an understanding of the archaeological potential, significance and likely impact arising from the proposed Beacon Fen Energy Park. It has allowed the early identification of any issues and opportunities to allow easy incorporation of solutions into the programme and production of a fit for purpose archaeological mitigation strategy.

9.24 Consultation and communication between the Applicant and the Council has been effective and timely, with feedback and comments incorporated into the documents throughout the process. This has benefitted the archaeological assessment, improved the methodology employed and enhanced the final output.

9.25 There has been an effective programme of desk-based and non-intrusive surveys completed for the site prior to submission of the Application. The Applicant has completed the desk-based assessment [Chapter 8: Cultural Heritage APP-059 and Appendix 8.1 Archaeological Desk Based Assessment APP-117 . These have been completed to the required level, utilising the appropriate sources and to the appropriate standards set out by the Chartered Institute for Archaeologists, Historic England and guidance within the Lincolnshire Archaeological Handbook[3] (Lincolnshire County Council 2024).

9.26 The desk-based assessment has been accompanied by aerial investigation and mapping survey [Aerial and LiDAR Assessment – Solar Array Document APP-119 and Aerial and LiDAR Assessment – Access and Cable Routes Document APP-120] and geophysical survey [Appendix 8.6 Geophysical Survey Summary Report - Solar Array Part 1 Document Reference: 6.3 ES Volume 2, 6.3.50-71e], which have been completed to the appropriate standards.

9.27 These desk-based and non-intrusive surveys, particularly the aerial investigation and mapping and the geophysical survey, have facilitated a comprehensive understanding

[3] Lincolnshire Archaeological Handbook (2024) https://www.lincolnshire.gov.uk/historic-environment/archaeological-handbook

of the landscape within which the Beacon Fen Energy Park and associated connection infrastructure is proposed. This has allowed the proposed scheme to identify and design out potential impacts at an early stage and inform the intrusive trenching evaluation strategy. This benefits archaeology through removal of the source of harm and reduces the financial costs to the Applicant

9.28 The programme of trenching for the main solar array area has been completed [Appendix 8.10 Trial Trenching Report - Solar Array APP-150 and APP-151] and substantial parts of the access route trenching has been done [Appendix 8.10b Trial Trenching Report - Targeted Area on the Access Route APP-152].

9.29 The trenching to date has recorded a number of areas of archaeological interest dating from the later prehistoric period through to the post-medieval period and has successfully characterised and dated many of the features identified from the desk-based, aerial and geophysical assessments.

9.30 This has meant that the design has been informed directly through archaeological data and has taken into account areas of dense, complex and significant archaeology within the embedded mitigation.

9.31 The archaeological assessment therefore fulfils the requirements set out within the NPS EN1 (Section 5.8), the NPPF and the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 which states that *"The EIA must identify, describe and assess in an appropriate manner…the direct and indirect significant impacts of the proposed development on…material assets, cultural heritage and the landscape."* (Regulation 5 (2d)).

9.32 The methodological approach employed for Beacon Fen Energy Park utilises the Rochdale Envelope [Chapter 4 – Scope & Methodology Document APP-055 Section 4.3]. Where the developer proposes the Rochdale Envelope in dealing with their application, it is essential that an understanding of the archaeological resource is achieved to allow for informed and proportionate mitigation. The Beacon Fen Energy Park project has completed this to the satisfaction of LCC through appropriate and adequate trenching evaluation of the full impact zone and the timely provision of the results to inform the baseline evidence which has been used to create a fit for purpose mitigation strategy in advance of the DCO submission.

9.33 The draft archaeological mitigation strategy has been provided to the Council for comment, in advance of the submission of DCO [Appendix 8.11 Archaeological Mitigation Strategy Document APP-153.

9.34 The archaeological mitigation strategy included targeted trial trenching of the cable route corridor, targeted excavation, likely either strip, map and record or strip, map and sample and areas where it is likely that archaeological monitoring will be undertaken during construction. The mitigation requirements have been set out by field, including the prior survey works, assessment of significance and type of mitigation required.

9.35 The archaeological mitigation strategy sets out the requirements and scope of works for further archaeological intervention, with site and task-specific Written Schemes of Investigation being produced by the Applicant and approved by the Council.

9.36 The updated archaeological mitigation strategy has been submitted to the Council, which has addressed the comments we had raised on the earlier draft. This includes a section specifically covering public engagement and outreach; public benefit is a key component of archaeological work and had been omitted from the initial draft.

9.37 Where further trenching is proposed within areas where access was not possible previously, this will occur post-DCO. The Council is content for this to occur at that stage. The archaeological mitigation strategy contains the required mechanisms for updating the scope of mitigation to incorporate new areas of archaeological interest, should they be encountered during the next phase of trenching.

9.38 The draft DCO wording for Requirement 11 is appropriate and acceptable to the Council.

9.39 Notwithstanding the substantial level of assessment undertaken to date, both non-intrusive and intrusive, alongside the proposed mitigation that the Applicant has committed to, the Applicant considers the magnitude of impact following said mitigation will be slight adverse, a conclusion that the Council agrees with. Although the ability to preserve archaeological remains *in-situ* is proposed for a number of locations where significant remains have been found, there are other areas where the mitigation is preservation by record, meaning the archaeology would be lost, albeit that a record would be created prior to this loss. There would be some elements of enhancement of the archaeological record within the site, namely via the research value of the excavated material, public archaeology and community engagement programme and dissemination of results. This would not fully offset the loss of archaeology but would certainly contribute to furthering the understanding of the historic environment within this part of Lincolnshire and increase the public benefit derived from scheme. Therefore, the Council agrees with the conclusion within ES Volume 1, 6.2.8 Chapter 8 Cultural Heritage that the residual impact following mitigation would be slight adverse. As such the development would have a **negative** impact on archaeology.

10. Access and Traffic

10.1 Paragraph 5.14.18 of EN-1 sets out that the SoS should consider the substantial impacts of traffic and therefore should ensure 'that the applicant has sought to mitigate these impacts, including during the construction phase of the development'. Where the proposed mitigation measures are insufficient to reduce the impact on the transport infrastructure to acceptable levels, the SoS should consider requirements to mitigate adverse impacts on the transport networks arising from the development. Development consent should not be withheld where applicants are

willing to enter planning obligations for funding infrastructure or where requirements can be imposed mitigating adverse impacts (paragraph 5.14.20).

10.2 Paragraph 5.14.14 of EN-1 states that the SoS may attach requirements to a consent where there is likely to be substantial HGV traffic that control numbers of HGV movements to and from the site in a specified period during its construction and possibly on the routing of such movements, make sufficient provision for HGV parking including to avoid prolonged queuing on approach roads and ensuring satisfactory arrangements for reasonably foreseeable abnormal disruption.

10.3 The NPPF at paragraph 116 states that "Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios."

10.4 Local Policies:

- CLLP Policy S47: Accessibility and Transport
- SELLP Policy 3: Climate Change and Renewable and Low Carbon Energy
- SELLP Policy 33: Delivering a More Sustainable Transport Network

10.5 CLLP Policy S47 (Accessibility and Transport) states that development proposals are required to contribute towards an efficient and safe transport network. All developments should demonstrate, where appropriate, that they have regard to the need to minimise additional travel demand through the use of travel planning, safe and convenient public transport, walking and cycling links, and integration with existing infrastructure. This policy also states that any development that has severe transport implications will not be granted planning permission unless deliverable mitigation measures have been identified, and arrangements secured for their implementation, which will make the development acceptable in transport terms.

10.6 SELLP Policy 31 (Climate Change and Renewable and Low Carbon Energy) states that development of renewable energy facilities and associated infrastructure will be permitted provided, individually, or cumulatively, there would be no significant harm to highway safety (including public rights of way).

10.7 SELLP Policy 33 (Delivering a More Sustainable Transport Network) states that Local Planning Authorities will work with developers to make the best use of, and seek improvements to, existing transport infrastructure and services within, and connecting to South East Lincolnshire. Development proposals are required to have regard to the need for better promotion and management of the existing transport network and the provision of sustainable forms of transport. In addition, this policy states that existing footpaths, cycle routes, and particularly public rights of way, will be protected from development.

10.8 The Applicant's assessment of the likely effect of the proposed development on access and traffic are set out in ES Volume 1, Chapter 9 (Access and Traffic) [APP-060]

and Appendix 9.1 Transport Assessment (TA) [APP-155 -157]. These documents consider the potential for likely significant effects of severance to communities, effects of increased traffic, amenity and safety of motorised and non-motorised road users. The assessment considers how the development could cause changes in traffic numbers and vehicle types on local and the strategic road network as well as the impact on road users including pedestrians. The greatest impacts are likely to occur during the construction phase. The A17 has been identified as the principal and busiest road in the vicinity of the site. Construction access to the site would predominately be from the A17 via a dedicated bespoke access road, with a left in left out arrangement. During construction the development would be anticipated to generate an additional 168 vehicles (including 38 HGV's) per day on the A17, amounting to a 0.9% increase. On minor local roads (Carterplot Road and Great Hale Drove) there would be an anticipated additional 7 vehicles (including 5 HGV's) per day on average.

10.9 The Applicant has proposed monitoring and incorporated mitigation measures into the design of the scheme, and these would be set out in the detailed Construction Traffic Management Plan (CTMP) that would be secured through a requirement and subject to approval by the County Council; an outline CTMP [APP-159] has been submitted with the DCO application. The applicant's assessment concludes that the access and traffic effects of the proposed development during construction would be negligible, and not significant. Operational phase impacts are considered not likely to be significant due to negligible traffic flows. Decommissioning phase impacts the potential effects and mitigation would be similar to construction but likely at a lower level of intensity.

10.10 The Applicant has also provided an assessment of the potential cumulative effects of traffic and transport with other projects and concludes that no significant Inter-Cumulative effects would arise.

10.11 The Council in its capacity as Local Highway Authority has reviewed the application documents and has been involved in meetings with the Applicant pre-submission of the DCO application. The Council's position on highway matters remains as stated in our relevant representation [RR-002].

10.12 In summary, the methodology for the Transport Assessment was agreed with the Council, it provides a reasonable estimate of construction traffic that would be associated with the development. The Local Highway Authority do not expect capacity issues on the highway network as result of this development.

10.13 The main access to the development site would be via a new haul road from the A17, thereby avoiding minor roads. Some traffic to Compounds 3 & 4 would use Carterplot Road and Great Hale Drove, which are narrow roads requiring mitigation through passing places. A similar approach to that proposed in the solar farm application on land south of Little Hale Drove (NKDC Ref: 23/1021/FUL), which was granted consent on appeal on 13 August 2025 (APP/R2520/W/25/3363027), would be expected by the Highway Authority. The applicant has since provided Transport

Technical Note dated August 2025 detailing construction traffic volumes on these, and due to the very low numbers the Highway Authority accepts that passing places are not needed on Great Hale Drove and the existing passing places on Carterplot Road would be adequate.

10.14 Access layouts and visibility splays are provided in Appendix E of the TA. Section 184 applications under the Highways Act will be needed if the DCO is granted.

10.15 The outline CTMP [APP-159] outlines operational hours, routing, inspections, parking, wheel washing, and AIL delivery. All measures will be required and need to be monitored and must be enforceable to uphold the TA assumptions. Access works and mitigation included in the CTMP must be approved by the Council's Section 184 team and Section 278 minor works team. CTMP should reference the need for future technical approvals. This would be controlled through requirement 13 in the draft DCO [APP-039] which requires the CTMP to be approved by the Council.

10.16 The draft DCO [APP-039] lacks reference to the Council's Permitting Scheme. The Council would expect similar provisions as in other DCOs (e.g. Viking CCS[4]). Subject to the necessary mitigations being secured and implemented, the Council concludes that access and traffic impacts of this development during all phases of the development would be **neutral**.

10.17 In terms of the cumulative effects, the Highway Authority consider from a traffic capacity aspect, there is currently adequate capacity in the A17 and A15. Key junctions at Holdingham Roundabout and Rugby Club junction A153/A17 have recently been upgraded by LCC and there are no critical pinch points which are likely to be impacted by this scheme and other developments in this area and therefore no significant cumulative access and traffic effects are anticipated as a result of this development. However, table 5.2 (Cumulative Schemes Summary) of Appendix 9.1 [APP-157] requires updating in line with our comments in section 17 (Cumulative effects) of this LIR.

11. Water Resources and Flood Risk

11.1 Section 5.16 of NPS EN-1 focuses on water quality and resources. In the decision-making process, the SoS should note that activities that discharge to the water environment are subject to pollution control. Moreover, the SoS will '*need to give impacts on the water environment more weight where a project would have an adverse effect on the achievement of the environmental objectives established under the Water Framework (Water Framework Directive) (England and Wales) Regulations 2017*' (paragraph 5.16.12).

[4] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN070008/EN070008-001535-Viking%20-%20DCO.pdf

11.2 EN-1 also states that the SoS should consider '*whether appropriate requirements should be attached to any development consent and/or planning obligations are necessary*' to mitigate adverse effects on the water environment (paragraph 5.16.16).

11.3 Paragraph 5.8.7 of EN-1 notes that new energy infrastructure should only be permitted by exception in flood risk areas (for example where there are no reasonably available sites in areas at lower risk), and that it should be safe for its lifetime without increasing flood risk elsewhere and, where possible, should reduce flood risk overall. It should also be designed and constructed to remain operational in times of flood. Paragraphs 5.8.9 and 5.8.10 confirm the requirement for the flood risk sequential and exception tests to be applied.

11.4 NPS EN-3 paragraph 2.10.154 advises that "water management is a critical component of site design for ground mount solar plants. Where previous management of the site has involved intensive agricultural practice, solar sites can deliver significant ecosystem services value in the form of drainage, flood attenuation, natural wetland habitat, and water quality management."

11.5 Local Policies:

- CLLP Policy S12: Water Efficiency and Sustainable Water Management
- CLLP Policy S14 - Renewable Energy
- CLLP Policy S21: Flood Risk and Water Resources
- CLLP Policy S59: Green and blue infrastructure network
- SELLP Policy 2: Development Management
- SELLP Policy 3: Design of New Development
- SELLP Policy 4: Approach to Flood Risk
- North Kesteven Flood Risk Assessment (2009 Revision Report**)**

11.6 CLLP Policy S12 (Water Efficiency and Sustainable Water Management) states that in addition to the wider flood and water related policy requirements of policy S21, all residential or other development comprising new buildings with outside hard surfacing, must ensure such surfacing is permeable (unless there are technical and unavoidable reasons for not doing so).

11.7 CLLP Policy S14 (Renewable Energy) states that proposals for renewable schemes, including ancillary development, will be supported where the direct, indirect, individual, and cumulative impacts of development on flood risk are, or can be made, acceptable. There are no further references to flood risk under the 'additional matters for solar based energy proposals' subheading of this policy.

11.8 CLLP Policy S21 (Flood Risk and Water Resources) states that all development proposals will be considered against the NPPF, including application of the sequential and, if necessary, the exception test. Proposals should demonstrate that they are informed by and take account of the best available information from all sources of flood risk and by site specific flood risk assessment where appropriate; that the development will be safe during its lifetime taking into account the impacts of

climate change; how the wider scope for flood risk reduction has been positively considered; and that they have incorporated Sustainable Drainage Systems (SuDS)/Integrated Water Management into the proposals, unless they can be shown to be inappropriate.

11.9 CLLP Policy S59 (Green and Blue Infrastructure Network) states that proposals that cause loss or harm to the green and blue infrastructure network will not be supported unless the need for and benefits of the development demonstrably outweigh any adverse impacts.

11.10 SELLP Policy 2 (Development Management) states that proposals requiring planning permission for development will be permitted provided that sustainable development considerations are met, specifically in relation to any impact upon sustainable drainage and flood risk. Similarly, SELLP Policy 3 (Design of New Development) states that development proposals will be required to demonstrate, where relevant, how the mitigation of flood risk through flood-resilient design and SuDS will be secured.

11.11 SELLP Policy 4 (Approach to Flood Risk) states that development proposals within an area at risk of flooding (Flood Zones 2 and 3) will be permitted where the application is supported with a site-specific flood risk assessment, covering risk from all sources including the impacts of climate change, and which:

- Demonstrates that the vulnerability of the proposed use is compatible with the flood zone;
- Identifies the relevant predicted flood risk level, and mitigation measures that demonstrates how the development will be made safe;
- Incorporates the use of SuDS (unless it is demonstrated that this is not technically feasible) and confirms how these will be maintained/managed for the lifetime of development;
- Demonstrates that the proposal will not increase risk elsewhere and that opportunities through layout, form of development and green infrastructure have been considered as a way of providing flood betterment and reducing flood risk overall; and
- Ensures suitable access is safeguarded for the maintenance of water resources, drainage, and flood risk management infrastructure

11.12 ES Volume 1, Chapter 11 (Water Resources and Flood Risk)[APP-062], Appendix 11.1 Flood Risk Assessment (FRA) [APP-0162) and ES Volume 2, Appendix 11.6 Water Framework Directive Assessment [APP-167], considers the likely effects generated by the proposed development during construction, operation (including maintenance), and decommissioning in relation to the impact of the development on water resources and flood risk, in particular the potential for likely significant effects of changes to water quality and the hydrological regime.

11.13 The site is located within the South Forty Foot Drain surface water catchment and falls within the Black Sluice Internal Drainage Board (IDB) area. It contains several

water features, including Main Rivers, Ordinary Watercourses, and IDB-managed drains. The underlying bedrock geology is not considered a groundwater resource. There are 22 licensed surface water abstraction points downstream of the site. At approximately 100 metres below ground level, the Lincolnshire Limestone Formation (a Principal Aquifer) is present.

11.14 A FRA has been prepared for this development as it is partly located within flood zones 2 and 3, flood zone 3 areas are primarily concentrated in the eastern and central parts of the Solar Array Area and parts of the Cable Route Corridor. The FRA assesses the development against the risk of flooding, from multiple sources and concludes that the risk of flooding to the Proposed Development from fluvial, surface water, groundwater and artificial sources varies across the Site. Eastern areas of the Solar Array Area and southern portions of the Cable Route Corridor are located within fluvial Flood Zone 3 (i.e., High risk). These areas are also at risk of reservoir flooding.

11.15 The Council in its capacity as Lead Local Flood Authority (LLFA) has reviewed the application documents for this proposal. In terms of surface water flood risk, the LLFA agrees with the applicant's conclusion that the flood risk from this development would be low. The bespoke haul road would require mitigation, however, subject to the development being carried out as proposed within the DCO application documents and the outlined mitigation measures being designed, implemented and secured in the DCO, the Council as LLFA for Lincolnshire, consider the surface water flood risk from the development would be acceptable and that impact would be **neutral.**

Sequential Test

11.16 Paragraph 5.8.21 of EN-1 requires a Sequential Test to be followed to ensure that a sequential, risk-based approach is followed to steer new development to areas with the lowest risk of flooding, taking all sources of flood risk and climate change into account. Even where a flood risk assessment shows the development can be made safe throughout its lifetime without increasing risk elsewhere, the Sequential Test still needs to be satisfied. Where it is not possible to locate development in low-risk areas, the Sequential Test should go on to compare reasonably available sites: within medium risk areas; and then, only where there are no reasonably available sites in low and medium risk areas, within high-risk areas.

11.17 Planning Practice Guidance (024 Reference ID: 7-024-20220825) states that 'If, following application of the Sequential Test, it is not possible, (taking into account wider sustainable development objectives), for the project to be located in areas of lower flood risk the Exception Test can be applied'. Planning Practice Guidance Paragraph: 027 Reference ID: 7-027-20220825 also states that 'For nationally or regionally important infrastructure the area of search to which the Sequential Test could be applied will be wider than the local planning authority boundary.' and that 'Such lower-risk sites do not need to be owned by the applicant to be considered 'reasonably available''.

11.18 The applicant concludes that the Sequential Test has been passed, as set out in the FRA (paragraphs 2.1.8 and 2.2.8) and the Site Selection Report (SSR) [Appendix 2 APP-277] (paragraph 5.1.7). The principles of site selection adopted by the applicant are set out in Chapter 2 of the SSR.

11.19 The current methodology appears to exclude land where there is no willing landowner—specifically, sites not available through voluntary commercial agreements, as opposed to those that might be acquired via compulsory purchase (SSR paragraphs 2.1.3 and 2.2.5). A wider search area above the 10km radius from the Bicker Fen substation also does not appear to have been considered, which the applicant states is based on viability and therefore sites where the closest point does not fall within the 10km were not considered (SSR section 4.1)

11.20 The applicant's methodology also excludes sites that are not considered to be continuous as increased cost would be likely and would impact viability (SSR paragraph 3.4.7). However, there are several other NSIP scale solar projects in Lincolnshire, some of which have had a DCO granted or are currently in examination that are non-continuous, such as Cottam, West Burton, One Earth and Springwell. The Council therefore questions the applicant's assertion that the site must be continuous for viability.

11.21 As such there is considered to be insufficient information/evidence provided in the Beacon Fen DCO application to properly interrogate the assertion that the sequential test has been passed with regard to site selection. Further evidence is therefore required to ensure the sequential and exception tests have been appropriately applied.

12. Soils and Agricultural Land

12.1 Local Policies

- CLLP Policy S14: Renewable Energy
- CLLP Policy S21: Flood Risk and Water Resources
- CLLP Policy S67: Best and Most Versatile Agricultural Land
- SELLP Policy 31: Climate Change and Renewable and Low Carbon Energy
- LMWLP Policy DM12: Best and Most Versatile Agricultural Land.

12.2 Under the subheading 'additional matters for solar based energy proposals', CLLP Policy S14 (Renewable Energy) states that proposals for ground-based photovoltaics and associated infrastructure, including commercial large scale proposals, will be under a presumption in favour unless, amongst other things, the proposal is (following a site specific soil assessment) to take place on BMV agricultural land and does not meet the requirements of Policy S67.

12.3 CLLP Policy S67 (Best and Most Versatile Agricultural Land) states that proposals should protect BMV agricultural land so as to protect opportunities for food production and the continuance of the agricultural economy. Significant development resulting in the loss of BMV agricultural land will only be supported if:

- The need for the proposed development has been clearly established and there is insufficient lower grade land available;
- The benefits and/or sustainability considerations outweigh the need to protect such land, when taking into account the economic and other benefits of the BMV agricultural land;
- The impacts of the proposal upon ongoing agricultural operations have been minimised through the use of appropriate design solutions; and
- Where feasible, once any development which is supported has ceased its useful life, the land will be restored to its former use.

12.4 SELLP Policy 31 (Climate Change and Renewable and Low Carbon Energy) states that the development of renewable energy facilities and associated infrastructure will be permitted provided, individually, or cumulatively, there would be no significant harm to agricultural land. Provision should be made for post-construction monitoring, and removal of the facility and reinstatement of the site if the development ceases to be operational.

12.5 NPS EN-1 at paragraph 5.11.12 provides similar advice that applicants should seek to minimise impacts on the BMV agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification (ALC)) and preferably use land in areas of poorer quality (grades 3b, 4 and 5). Paragraph 5.11.34 of EN-1 states that the SoS "should ensure that applicants do not site their scheme on the BMV agricultural land without justification." Where it is sited on BMV, it should "take into account the economic and other benefits of that land" and where it is demonstrated necessary, areas of poorer quality should be preferred to higher quality land.

12.6 Under the heading of 'Solar Photovoltaic Generation', paragraph 2.10.29 of the NPS EN-3 states that "'While land type should not be a predominating factor in determining the suitability of the site location applicants should, where possible, utilise suitable previously developed land, brownfield land, contaminated land and industrial land. Where the proposed use of any agricultural land has been shown to be necessary, poorer quality land should be preferred to higher quality land avoiding the use of "Best and Most Versatile" agricultural land where possible."

12.7 Paragraph 2.10.30 notes that 'Whilst the development of ground mounted solar arrays is not prohibited on agricultural land classified 1, 2 and 3a, or sites designated for their natural beauty, or recognised for ecological or archaeological importance, the impacts of such are expected to be considered and are discussed under paragraphs 2.10.73 - 2.10.92 and 2.10.107 - 2.10.126.'

12.8 Paragraph 2.10.31 acknowledges that it is likely that applicants' developments may use some agricultural land, however that 'Applicants should explain their choice of

site, noting the preference for development to be on brownfield and non-agricultural land.'

12.9 Paragraph 2.10.145 reiterates that the SoS should take into account 'the economic and other benefits of the best and most versatile agricultural land' and that 'The Secretary of State should ensure that the applicant has put forward appropriate mitigation measures to minimise impacts on soils or soil resources.'

12.10 On 15 May 2024, a Written Ministerial Statement ("WMS") was published on solar infrastructure and protecting food security and BMV land. The Council notes that the 15 May 2024 WMS emphasises elements of the 2024 NPSs. In particular the 2024 WMS emphasises that when considering whether planning consent should be granted for solar development the cumulative impacts where several proposals come forward in the same locality should be considered, with the WMS specifically referencing these issues in Lincolnshire *'we are increasingly seeing geographical clustering of proposed solar developments in some rural areas, such as in Lincolnshire'.*

12.11 The potential impacts on BMV agricultural land in respect of the Beacon Fen proposal and cumulatively with other projects (both NSIP and Town and Country Planning Applications (TCPA)) that are emerging/known about in Lincolnshire are of significant concern to the Council. The Council will seek to protect high quality agricultural land in Lincolnshire (Grades 1, 2 and 3a) from development in accordance with its Energy Infrastructure Position Statement adopted 5 December 2023. This statement acknowledges that Lincolnshire has a high proportion of best and most versatile agricultural land, which is the basis for its prosperous agricultural industry. The Council will object to proposals on Grade 1, 2 and 3a agricultural land.

12.12 Lincolnshire has the largest combinable crop output of any UK county, with about 12% of England's arable crop area. The county's combination of climate, soil type and topography make the county ideal for a variety of crops with 437,591ha of land given over to agriculture and horticulture, and producing by value circa 10% percent of England's cereal, 25% of vegetables and 14% of industrial crops (sugar beet, oil seed rape and protein crops). This has led to the area having the UK's leading concentration of fresh produce processors, traders and technology suppliers. This high level of production is vital to the county's economy, which in 2023 amounted to a total crop output of over £1,564 million and a total livestock output of £555 million.

12.13 To preserve fresh produce and minimise supply chain distance, highly productive food hubs have built up in the south of the county. The importance of this sector for the local economy is reflected in the number of jobs it generates with an agricultural workforce of 12,000. If this food supply chain is included alongside food retail and catering in the county, the number of employees exceeds 100,000.

12.14 Landscope Consultants have been commissioned for the benefit of both NKDC and the Council to assist in the consideration and review the Agricultural land and Soils aspects of the Beacon Fen proposal. A full copy of the report prepared by Landscope

is attached as an Appendix 2. Landscope has reviewed the DCO application documentation and the following summary and conclusions incorporates their comments, and should be read in conjunction with the full document.

12.15 The ALC land surveyed represents a total area of 529 hectares and 45 hectares of the Bespoke Access Road Corridor.

12.16 The results contained within the ALC reports are considered to be reliable, and have been undertaken by qualified professionals and in consultation with Natural England.

12.17 The survey has informed the design of the outline Soil Management Plan (oSMP) [APP- 176] and considers construction, operation and decommissioning phases, as would be expected. The Council considers the oSMP to be broadly in line with national guidance.

12.18 The cable route corridor has not been surveyed, the ES is based on higher grades of agricultural land and it would be unlikely that the impact would be worse after survey, unless all the land is Grade 1 classification.

12.19 Chapter 14 (Soils and Agricultural Land) [APP-065] of the ES assesses the predicted impact on agricultural land for each area of the development, a Land Use breakdown for each area is provided in table 14.13. Solar Array Area - The total area involved is 529 ha of agricultural land, of this 395 ha is proposed for solar arrays during the 40-year lifespan of the development. 11.69 ha is Grade 2, 180.02ha is subgrade 3a and 209.92 is Subgrade 3b. Land classified as BMV therefore amounts to 191 ha. This is considered to be a temporary loss due to the development's fixed duration. However table 14.13 indicates that 14.25 ha of BMV land would be permanently lost due to built infrastructure (e.g. access roads, compounds, BESS, substations).

12.20 Bespoke Access Corridor – The total area involved amounts to 45ha of agricultural land. The provisional ALC data shows that this land is comprised entirely of Grade 3 agricultural land with a moderate likelihood of BMV; a small area has a high likelihood of being BMV in the southwest of the Bespoke Access Corridor Area. Table 14.13 indicates that 3.42 ha of BMV land in this area would permanently lost.

12.21 Cable Route Corridor – The total area involved is 183ha, predominantly Grade 2 (145.73 ha) agricultural land, with portions of Grade 1 (28.18 ha) and Grade 3 (9.24 ha). The Cable Route Corridor shows a high and moderate BMV likelihood. Table 14.13 indicates that 2.7ha of BMV land (all grade 2) would be permanently lost.

12.22 Over the whole development site, using the breakdown in table 14.13 the applicant's assessment indicates that overall, the proposed development would lead to the loss of 493.27 ha of agricultural land of which 277.3 ha would be BMV land (56%). This can be broken down to 20.37ha permanent loss and 256.93 ha temporary loss of BMV land (47%).

12.23 The difference between Grade 3a and 3b agricultural land is however quite small and there is a degree of subjectivity about the difference, although the ALC findings are not disputed.

12.24 According to the Institute of Environmental Management & Assessment (IEMA) Guide 'A New Perspective on Land and Soil in Environmental Impact Assessment' (February 2022) *'the permanent loss, or reduction in quality, of more than 20ha of agricultural land due to development is of very high magnitude'* which is acknowledged as 'major' in paragraph 14.7.3 of ES Chapter 14.

12.25 The Council is concerned that Table 14.13 does not quantify the loss of agricultural land, particularly BMV land, resulting from new green infrastructure and BNG measures within the solar array area and access corridor, both temporary and permanent.

12.26 Other NSIP projects, notably the Springwell Solar Farm, have assessed that certain elements of green infrastructure (temporary and permanent) and BNG provision should be classed as a permanent loss on the basis that not all of those green infrastructure elements (especially woodland planting) would revert to agriculture at the end of the operational period.

12.27 In addition to the permanent loss of BMV agricultural land, which is considered a major impact, the Council is also concerned about the 'temporary' loss of approximately 257 hectares of BMV land for a period of 40 years. Given the duration, this represents a significant long-term reduction in productive BMV land and warrants serious consideration in the overall assessment of impacts, particularly cumulatively with other solar developments.

12.28 The 2024 UK Food Security Report[5] identifies that 'Water and land, important agricultural inputs, are under increasing human and geopolitical competition and are being used at an unsustainable rate. The food system's essential natural resources continue to be depleted without being recovered for future use.' By reducing the amount of BMV land available by incrementally removing land for large infrastructure projects puts additional pressure on the remaining land to keep agricultural production supply stable, or alternatively more food will have to be imported with the sustainability implications of food miles and associated carbon emissions.

12.29 Furthermore, the whole area is productive farmland, which would be removed from mainly arable farming for 40 years, replaced with at best, a lower intensity grass based system. The loss of arable production is considered locally significant and in view of other projects in the wider District and County and potentially cumulatively significant. For context, the total cropped and uncropped arable land in Lincolnshire is 385,930ha according to figures published by DEFRA[6], the total land proposed to be covered by solar farms, NSIP (order limits) and TCPA applications, is approximately

[5] https://www.gov.uk/government/news/uk-food-security-report-2024-published

[6] County/Unitary Authority https:/www.gov.uk/government/statistical-data-sets/structure-of-the-agricultural-industry-in-england-and-the-uk-at-june

13,620 ha. On the assumption that the majority of land proposed for solar farms is arable land (of which solar would cover circa 3.23% of the cropped and uncropped arable total) and based on the total crop output figure of £1,564 million for 2023[7], the potential loss of crop output could be in the region of £50 million.

12.30 Section 14.12 of ES Chapter 14 assesses the potential for inter-project cumulative effects. Table 14.15 sets out the baseline conditions relevant to projects within LCC's administrative boundary that have been considered for the assessment. The Council welcomes the inclusion of NSIP scale developments across the County in the assessment as well as other non-NSIP developments.

12.31 Paragraph 14.12.13 states that "Table 14.11 shows that the total amount of agricultural land within the LCC Boundary is 599,272.2 ha. Of this, 410,507.98 ha is BMV land". The Council broadly agree with these figures, however it must be highlighted that this figure is calculated using a GIS layer which overwashes other elements of the landscape such as settlements, woodland and ponds. As such the amount of BMV land actually available for agriculture would be less than the 410,507 ha stated.

12.32 Paragraph 14.12.5 states that "For solar developments it is assumed that the impact on land is temporary and reversible as the majority of the land can be returned to agriculture in line with IEMA (2022) guidance". The Council do not agree with this statement, as described above for Beacon Fen and other solar schemes such as Springwell there is permanent loss of BMV land that is considered to be 'major'.

12.33 Paragraph 14.12.7 states that "If all the NSIP solar developments proceed, this would occupy an estimated 1.62% of agricultural land within the LCC boundary and 0.51% of BMV land within the LCC boundary". Paragraph 14.12.13 states "If all the non-NSIP proposed solar developments proceed, this would occupy an estimated 0.22% of agricultural land within the LCC boundary and 0.09% of the BMV land within the LCC boundary". The Council are of the view that the applicant's assessment underestimates the amount of BMV land affected by solar development in Lincolnshire and as such do not agree with these figures. The Council has recently undertaken a review of BMV land impacted by solar development within Lincolnshire and considers highlighting the extent of solar developments within the county to be relevant.

12.34 Using data from the Renewable Energy Planning Database: quarterly extract[8] for Lincolnshire, which has been updated to include information up to 23 June 2025, TCPA ground mounted solar farms of 1MW or above which are operational, under construction, granted planning permission and/or approved at appeal, cover 1584ha of BMV land in Lincolnshire, in addition to the 3555.87ha of BMV land covered by NSIP solar developments. Where there is no quantification of BMV, the provisional ALC maps have been used to make an informed estimate and where Grade 3 is

[7] Total Income from Farming in the Regions - GOV.UK
[8] Renewable Energy Planning Database: quarterly extract - GOV.UK

shown, an assumption has been made that 50% will be subgrade 3a and 50% subgrade 3b.

12.35 Based on a review undertaken by the Council and based on publicly available figures, the amount of BMV land occupied by solar NSIP and TCPA development in Lincolnshire is currently circa 3.23% of all cropped and uncropped land (385,930 ha). Comparing the amount of BMV land covered by NSIP and TCPA solar against the amount of BMV land in Lincolnshire this provides a figure of 1.25% , however as noted earlier, the BMV figure for Lincolnshire is based on an overwash GIS layer which also includes the areas covered by other landscape elements such as settlements and woodlands and therefore a proportion of this BMV land is not available for agriculture.

12.36 The Council notes that Table 14.15 lacks complete data for several NSIP schemes, with some entries relying on early-stage scoping information. The Council considers that assessments for Outer Dowsing, One Earth, Meridian, Grimsby to Walpole, EGL3, and EGL4 require updating. Additionally, emerging schemes currently in the pre-application stage, such as Ossian, EGL5, and Weston Marsh to East Leicestershire, should also be reviewed as part of the assessment.

Soil Management

12.36 Soil structure can be significantly damaged during construction, especially if work is carried out in wet conditions due to heavy vehicle traffic. While some damage can be remedied post-construction, long-term drainage issues may persist. The oSMP includes the cable route to help minimise impacts on soil structure, drainage, and quality. However, contractors often face pressure to meet deadlines, which may lead to work being done in unsuitable conditions. Although soil management clauses can help restore land quality, the layout of solar panels and buried cables often prevents effective remediation during the operational phase. This can reduce carbon sequestration and water infiltration, leading to standing water and degraded soil. A decommissioning and reinstatement programme is proposed, potentially enforceable through DCO requirements or obligations. However, its effectiveness in restoring land to productive agricultural use remains uncertain. Further comments on soil management and the potential for damage are provided in the Landscope Report in Appendix 2 to this report.

12.37 Should development go ahead, there would be a significant loss of the best classifications of agricultural land, with a significant loss of economic and other benefits. In light of other projects in the wider District and County, it is also potentially cumulatively significant. This loss of BMV land is contrary to national policy in the NPS EN1 and EN3 and Policy S67 of the CLLP.

12.38 As such the Council concludes that the proposals would have a **negative** impact on agricultural land.

13. Socio-Economics

13.1 Local Policies:

- CLLP Policy S48: Walking and Cycling Infrastructure
- CLLP Policy S54: Health and Wellbeing
- CLLP Policy S59: Green and Blue Infrastructure Network

13.2 NPS EN-1 section 5.13 deals with the socio-economic effects of major energy infrastructure and requires applications to include an assessment of relevant impacts including:

- The creation of jobs and training opportunities.
- The provision of additional local services and improvements to local infrastructure, including the provision of educational and visitor facilities;
- Indirect beneficial impacts for the region hosting the infrastructure, in particular in relation to use of local support services and supply chains
- Effects on tourism.
- The impact of a changing influx of workers during the different construction, operation, and decommissioning phases of the energy infrastructure.
- Cumulative effects.

13.3 NPS EN-1 makes reference to a list of potential impacts to consider which mirror those set out above, with an additional reference to the contribution to low carbon industries. It also refers to the SoS potentially including a requirement which specifies the approval of an employment and skills plan by the local authority.

Background

13.4 ES Chapter 15 Socio-economics [APP-066] provides an assessment of the likely significant effects of the proposed development on socio-economics throughout the scheme's lifetime. It considers the potential for likely significant effects during the construction, operation and decommissioning phases of the Proposed Development on residential properties within the immediate area of the Proposed Development and settlements in the wider surrounding area in terms of employment, local procurement, increased exposure to noise, air pollution and traffic, tourism, livelihoods, recreation, influx of workers, physical resettlement and wellbeing.

Education, skills and supply chain

13.5 The bullet pointed measures in paragraph 15.7.2 (such as prioritising local employment) are welcome and must be delivered throughout the construction, operation and decommissioning phases. The Council welcomes the inclusion of a DCO requirement to secure the Skills, Supply Chain and Employment Plan (SSCEP). In addition the Council would recommend that an annual funding contribution of £50,000 is provided for the lifetime of the development to assist the implementation of the SSCEP and support the initiatives identified. In Lincolnshire a similar

contribution has been provided by way of a s106 agreement in relation to the Heckington Fen solar farm and has been agreed, in principle, as part of the Springwell solar farm examination.

13.6 A summary of the key sensitive receptors in the study area is provided at Table 15.10, however the potential impacts on education, skills and supply chain appears to be missing and should be included as a receptor in the assessment.

13.7 Paragraph 15.5.46 of the ES states that 'Touring caravan and camping sites have not been considered as this is not considered to be appropriate accommodation for workers'. However, it is noted that there are 34 Touring Caravans/Camping sites and the potential impact by the proposed development on these sites should be considered in relation to tourism and the benefit that such sites can have for the local economy.

Tourism

13.8 Lincolnshire County Council's Energy Infrastructure Position Statement asserts that Lincolnshire's landscape and open skies are recognised as significant economic drivers, supporting the visitor economy and the role of the RAF in the County—these must be protected for future generations to enjoy and use. Please note the Western portion of the Beacon Fen proposed development is on the edge of The Southern Lincolnshire Edge National Character Area (NCA 47), known for its dramatic limestone cliff and open landscape with far-reaching views. The Eastern portion of the development lies within The Fens National Character Area (NCA 46), historically a vast wetland with large-scale, open vistas and expansive skies, creating a unique sense of place, tranquillity, and inspiration. Lincolnshire's landscape and open skies are recognised as significant economic drivers, supporting the visitor economy.

13.9 At paragraph 15.9.3, entirely new information that is not assessed anywhere in ES Chapter 15 is introduced, that '*Touristic attractions rarely attract visitors from outside of the region*' . The Council is unsure to which tourist attractions this refers. Paragraph 15.9.3 also goes on to state that '*the visitor economy is not a significant contributor to GVA in the study area*'. This too appears to be new information and at odds with paragraph 15.5.37 which quite objectively seems to show the significance of the visitor economy to North Kesteven: which for 2023, generated 2.9 million visitors, a total value of £201 million and directly supported the full time equivalent of over 2,000 jobs across the year. The Council is concerned that the importance of visitor economy in North Kesteven is not being fully acknowledged.

Temporary Workforce

13.10 The impacts of a temporary workforce should be a receptor in table 15.10. As identified at paragraph 15.6.43 a peak of 433 workers would require accommodation during November 2027 falling to a peak of 363 by May 2028, however it is not clear how many workers would commute. The chapter focuses on shops, hospitality and

accommodation itself and appears to ignore the potential negative socio-economic effects that could arise including:

- Demographic changes and potentially community cohesion, which could be significant depending on workforce age, gender and location of temporary accommodation;
- Impact on local housing markets including availability and affordability, particularly if the workforce is located within nearby smaller settlements;
- Social services and infrastructure, most importantly healthcare and potentially education depending on age, gender and location of temporary accommodation;
- Public health and safety, depending on age, gender and location of temporary accommodation, with potential for anti-social behaviour.

13.11 With regard to the requirement for accommodation during the construction phase, Table 15.18 provides a list of projects within the vicinity of Beacon Fen which shows that 1,239 workers cumulatively would require accommodation at the same time. Paragraph 15.8.3 states that '*As the only impact being considered is that of effect on current accommodation only projects within 25km have been considered, the determination of effects from each of the sites within 25km is provided [in Table 15.18] below*.' For reference Paragraph 2.15.2 [APP- 053] states that the Beacon Fen construction is anticipated to '*commence in 2027 and last between 2.5 to 5 years'*. Table 15.18 however scopes out a number of NSIP schemes which is based on incorrect or outdated information, as such it is proposed that the following are scoped in:

- Outer Dowsing (circa 20km) as the likely time frame for construction does not overlap, yet according to the Outer Dowsing website, construction is expected 2027-2030, a clear timetable similarity.
- With regard to the assessment of Eastern Green Links 3 and 4 (EGL 3 & 4) which is located within 8km of Beacon Fen, the Statutory Consultation PEIR Socio-Economic chapter states '*It is anticipated that approximately 1,130 gross construction employees would be required at the peak of the construction phase (487 on-site construction staff, 403 staff based at Contractor office compound and satellite compound locations, and 240 based at substation locations'* therefore the Beacon Fen assessment scoping out EGL 3 & 4 on the basis that '*construction workers are very limited (6 full time staff*)' is clearly out of date. National Grid has presented the EGL 3 & 4 construction is presented 2029 to 2033 and should construction of Beacon Fen take 5 years (2027 to 2032) as referenced above there is a clear construction overlap. As such EGL 3 & 4 should be scoped into the cumulative assessment.
- Grimsby to Walpole is also within 8 km of Beacon Fen and has a construction start dates of 2029 which overlaps with the proposed Beacon Fen timetable.

13.12 The Ossian Transmission DCO submission is expected in Q4 2027 and therefore this scheme could potentially have some construction overlap however further information is awaited on this scheme.

13.13 It is noted that a Major adverse inter-cumulative effect on accommodation has been identified before mitigation (not including the projects as identified above which appear to have been excluded from the assessment). While the mitigation for direct impacts on accommodation (at paragraph 15.8.9) is welcome this does not consider other socio-economic impacts**.** The cumulative accommodation mitigation measures includes suggesting alternative accommodation to workers, outside of NKDC (paragraph 15.7.4), however the construction overlap with other NSIPs within a 25km radius may make this unachievable.

Agriculture

13.14 The economic impact on agricultural production is not considered ES Chapter 15, with the only agricultural impact assessed being the impact on employment. As noted in this Local Impact Report, Section 12, the cumulative loss of agricultural land has the potential loss of crop output could be in the region of £50 million and the associated impact on agricultural suppliers and the downstream food supply chain. Further detail is provided in Section 12 above.

Cumulative

13.15 The commitment to produce SSCEP is welcomed, however this is set against the temporary nature of the majority of the employment, the more specialist nature of solar suppliers, and indirect 'supply chain' benefits noted in paragraph 15.6.5 the vast majority of which would be confined to the construction phase. The impact of this scheme both alone and more significantly in combination with other NSIPs within a 25km radius will be substantial. The construction phase will impact on accommodation, access to community infrastructure and healthcare, and access local services. At this point impacts associated with the tourism industry and the agricultural supply chains (upstream and downstream) will start to be experienced and will continue through the operational phase and into decommissioning commencing circa 2090. The inter-cumulative impacts of the proposal alongside other NSIP proposals are not sufficiently well analysed or mitigated in this application. The significance of effects is being asserted as Negligible Adverse on the assertion that large-scale infrastructure schemes are a characterising presence, however this is subjective. On balance therefore, the Council considers the impacts associated with matters on socio-economic impact to be **negative**.

Public Rights of Way

13.16 Section 2.10 of EN-3 makes several recommendations in relation to accessibility and Public Rights of Way (PRoW), noting at 2.10.35 that the suitability of the access routes to the proposed site for both the construction and operation of the solar farm must be considered, with the former likely to raise more issues. EN-3 advises that applicants should keep, as far as is practicable and safe, all PRoW that cross the proposed development site open during construction and protect users accordingly. They are also encouraged to design the layout and appearance of the site to ensure continued recreational use of PRoW, where possible during construction, and in

particular during operation, and to provide enhancements to PRoW and the adoption of new PRoW through the site.

13.17 Local Policies:

- CLLP Policy S48: Walking and Cycling Infrastructure
- CLLP Policy S54: Health and Wellbeing
- CLLP Policy S59: Green and Blue Infrastructure Network
- SELLP Policy 31: Climate Change and Renewable and Low Carbon Energy
- SELLP Policy 33: Delivering a More Sustainable Transport Network

13.18 The theme of the CLLP policies relates to the protection, maintenance, and availability of public rights of way, specifically on the grounds that they provide public access to green/natural spaces as well as provide places for exercise, health, and wellbeing.

13.19 The ES Chapter 15 (Socio-Economic) [APP- 066] and Figure 15.3 Public Rights of Way [APP- 273] identifies a number of PRoW, that depending on the final design, may be temporarily affected during the construction phase. The PRoW all fall within the Cable Route and Access Road Corridors, with the exception of one LL|Ewer|12/1 in the solar array area which the applicant states is inaccessible and not currently not in use. Three PRoWs would affected by temporary closures due to land take for the Bespoke Access Corridor, LL|KkLT|5/1, LL|KkLT|4/2 and LL|KkLT|6/1. PROW crossing the cable route corridor would also be subject to temporary closures. The applicant's assessment is that the impact would be short-term, reversible, and local, resulting in a minor adverse impact and therefore Not Significant.

13.20 The majority of the construction works would avoid direct impacts on public rights of way, but there are some areas where the PRoW cross or run adjacent to the site. The Council would therefore have expected a PRoW Management Plan to have been included in the DCO application, that considers how these routes, particularly those that cross the transmission lines would be managed.

13.21 Specific path closures are set out in Schedule 5, Part 1 of the draft DCO. The Council has reviewed these closures and has the following comments:

Path	**LCC Comments**
Ewer/12/1	The closure is considered to be sensible, the path appears to be a dead end at this point and runs over the operational part of the site
KkLT/5/1	The closure is considered to be sensible, the path appears to be a dead end at this point and runs over the operational part of the site
KkLT/4/2	LCC **objects** to closure without an alternative arrangement. This path provides the sole off-road link between Asgarby and Kirkby La Thorpe. Closure of this route would sever the connection. A diversion will be required or the path should remain open.

Heck/14/1	The closure of this cross field route is considered to be sensible PROVIDED THAT walking along Star Fen Drove is available and safe. The diversion would add approx. 200m to an ongoing journey. Littleworth Drove is a quiet road with a verge suitable for walking (and presumably will stay that way)
Heck/2/4	LCC **objects** to closure without an alternative arrangement. This is a long, off-road route from Heckington that provides a useful circular walk from Heckington and links to the east.

13.22 Schedule 5, Part 2 details permanent use of motor vehicles on PROW, the Council has the following comments:

Path	**Comments on proposal**
Ewer/9/1	Further details are needed on this point before the Council could consider agreement to this proposal. If permanent vehicle access is required, details of how the PRoW would be managed in terms of space and surface is required. The PROW would retain priority over motor vehicles and this needs to be taken into account.

13.23 Schedule 5, Part 3 details temporary use of motor vehicles on PRoW. Further details about how all temporary vehicle use would be managed is required before the Council would agree to this proposal. If the paths are temporarily closed that would be acceptable provided it is reinstated to the Council's satisfaction afterwards, however any path that is open and being used by vehicles would need to be managed carefully in terms of space and surface. The PROW would take priority over vehicular use.

13.24 The Council acknowledges the proposal to extend PRoW Ewer/12/1 in a south-westerly direction as a permissive path, terminating in the vicinity of Ewerby Thorpe. This extension, which is intended to remain in place for the operational duration of the project and would be subject to approval through the discharge of requirement process, is viewed positively. It offers the potential to establish a connection with existing PRoW routes, thereby facilitating the creation of a circular walking loop.

13.25 Nevertheless, the Council maintains that the temporary closure of multiple footpaths during the construction phase is likely to result in a detrimental impact on the accessibility and functionality of the wider PRoW network. Consequently, the overall effect on public rights of way is considered to be **negative**.

13.26 The Council does have concerns about the wording of Article 15 in the draft DCO which appears to give blanket powers for the undertaker to temporarily close, divert or alter any PROW. Further comments are provided below in section 19 – Draft Development Consent Order below.

14. Human Health

14.1 Paragraph 4.4.1 of NPS EN-1 states that 'energy infrastructure has the potential to impact on the health and well-being ("health") of the population. Access to energy is clearly beneficial to society and to our health as a whole. However, the construction of energy infrastructure and the production, distribution and use of energy may have negative impacts on some people's health'.

14.2 Paragraph 4.1.7 of EN-1 advises when weighing the impacts and benefits of a proposed development "Where this NPS or the relevant technology specific NPSs require an applicant to mitigate a particular impact as far as possible, but the Secretary of State considers that there would still be residual adverse effects after the implementation of such mitigation measures, the Secretary of State should weigh those residual effects against the benefits of the proposed development. For projects which qualify as CNP Infrastructure, it is likely that the need case will outweigh the residual effects in all but the most exceptional cases. This presumption, however, does not apply to residual impacts which present an unacceptable risk to, or interference with, human health and public safety, defence, irreplaceable habitats or unacceptable risk to the achievement of net zero."

14.3 Local Policies:

- CLLP Policy S54: Health and Wellbeing
- SELP Policy 30: Pollution

14.4 CLLP Policy S54 states that the potential for achieving positive mental and physical health outcomes will be taken into account when considering all development proposals. Where any potential adverse health impacts are identified, the applicant will be expected to demonstrate how these will be addressed and mitigated. The Central Lincolnshire authorities will expect development proposals to promote, support and enhance physical and mental health and wellbeing, and thus contribute to reducing health inequalities. The provision of a Health Impact Assessment for development of 5 ha or above is required to demonstrate how the conclusions of the HIA have been taken into account in the design of the scheme.

14.5 SELP Policy 30 states that "*Development proposals will not be permitted where, taking account of any proposed mitigation measures, they would lead to unacceptable adverse impacts upon: 1. health and safety of the public*;"

14.6 A dedicated chapter on Human Health is not included in the ES, having been scoped out of the assessment. The impact of the development on Human Health has been considered where relevant under other specific topic chapters of the ES and supporting documentation.

14.7 A Health Impact Assessment aligned with CLLP Policy S54 (Health and Wellbeing) would have been preferred. Moreover, the lack of a dedicated Human Health chapter within the ES, which could have consolidated both positive and negative

health impacts, is disappointing. Notably, the assessment appears to have inadequately addressed mental health impacts.

14.8 The Council's Public Health division notes the comments submitted by Ewerby and Evedon Parish Council in its representation [AS-023]. It is evident that the prospect of the development on this scale is already causing anxiety and stress to residents due to the loss of farming land and the impact on the countryside over such a large proportion of the parish. The villages, hamlets and roads around the site are in elevated positions looking down on the proposed solar arrays. Newly planted hedgerows as screening will, therefore, do little to improve the visual amenity for residents. New screening that is planted if any development goes ahead must be well developed (i.e., mature trees) and be allowed to settle in before construction commences, such that they are established by the time of operation and looked after throughout the lifespan of the project. Contributing to new accessible woodland would be preferable. Land around and under the panels could potentially still be used for some arable food growing. Where it is not, grazing land or wildflower meadows could be considered rather than just grass to continue food production and/or contribute to biodiversity improvements.

14.9 Public Health is satisfied that air quality, noise, and glint and glare issues during all phases of the development have been considered in relevant chapters of the ES. However, the ExA should be guided by the opinion of NKDC Environmental Health Services and the UK Health Security Agency (UKHSA) on these issues.

14.10 The applicant's consideration of Electromagnetic Fields (EMF) and assessment as not significant is noted and the Council welcome all cabling being underground. It is also noted that EMF from the operation would be below exposure levels specified in health protection guidelines from the International Commission on Non-Ionizing Radiation Protection (ICNIRP) at all residential receptors.

14.11 The Council's public health comments should be read in conjunction with responses submitted by the Office for Health Improvement and Disparities (OHID) and the UKHSA.

14.12 Whilst there are enhancements through this development that may lead to a neutral position on health and wellbeing; overall, it is felt this large-scale development would be visible from nearby villages, and there is more that needs to be done to mitigate the potential mental health effect on the local communities; therefore, on balance the Council considers the impacts associated with health to be **negative**.

14.13 Appropriate compensation and demonstrable community benefits from the commencement of the project, such as enhancements to local infrastructure could provide potential health and wellbeing benefits for residents adversely affected by the development. Any proposed Community Fund could contribute to these community gains and other health improvement agendas. The Council's Public Health Division would like to influence the allocation of a future Community Fund if the DCO is granted.

14.14 The Council also notes that the DCO requires (Requirement 4) a Community liaison group with an intention to disband it at the end of the commissioning phase. Subject to the views of the group/community, we would like to see the possibility of this group, or similar, continuing to facilitate the relationship between the project and local communities throughout the lifetime of the project.

15. Minerals and Waste

Minerals and Waste Safeguarding

15.1 Paragraph 5.11.19 of NPS EN-1 states, "Applicants should safeguard any mineral resources on the proposed site as far as possible, taking into account the long-term potential of the land use after any future decommissioning has taken place."

15.2 The NPPF paragraph 222 emphasises the importance of a sufficient supply of minerals to provide infrastructure, building, energy and goods that the country needs. It goes on to say at paragraph 223 (c) that planning policies should safeguard mineral resources by defining MSA and Mineral Consultation Areas (MCA); and adopt appropriate policies so that known locations of specific minerals resources of local and national importance are not sterilised by non-mineral development where this should be avoided (whilst not creating a presumption that the resources defined will be worked).

15.3 Local Policies:

- LMWLP Policy M11: Safeguarding of Mineral Resources
- LMWLP Policy M12: Safeguarding of Existing Mineral Sites and Associated Minerals Infrastructure
- LMWLP Policy W8: Safeguarding Waste Management Sites

15.4 LMWLP Policy M11 (Safeguarding of Mineral Resources) requires proposals for development within a mineral safeguarding area (MSA) to be accompanied by a Minerals Assessment and will only be granted where it can be demonstrated that it would not sterilise a mineral resource. Where this is not the case then proposals will need to demonstrate compliance with a range of criteria.

15.5 LMWLP Policy 12 (Safeguarding of Existing Mineral Sites and Associated Mineral Infrastructure) safeguards existing mineral sites that supply minerals in the county from development that would unnecessarily sterilise the sites and infrastructure or prejudice or jeopardise their use by creating incompatible and uses nearby.

15.6 LMWLP Policy 8 (Safeguarding Waste Management Sites) seeks to protect safeguarding existing and allocated waste management facilities from redevelopment to a non-waste use and/or the encroachment of incompatible development.

15.7 The northern most corner of the Order Limits intersects with a Minerals Safeguarding Area (MSA) for sand and gravel, as shown on Figure 9: Existing Minerals and Waste Sites (North Kesteven District) map of the LMWLP. There are no existing site specific safeguarded mineral or existing waste sites within or in close proximity to the site. In light of the MSA, Policy M11 of the LMWLP technically requires the developer to provide a Minerals Assessment. However, in line with our Scoping Opinion letter of 16th May 2023 and relevant representation [RR-002], the Council's view is that there is no requirement to undertake a minerals assessment for this project. Accordingly, the Council does not object to the proposal on mineral or waste safeguarding grounds, and the development is considered to have a **neutral** impact in this regard.

Waste Management

15.8 NPS EN-1 states at paragraph 5.15.4 that "All large infrastructure projects are likely to generate hazardous and non-hazardous waste. The EA's Environmental Permitting regime incorporates operational waste management requirements for certain activities. When an applicant applies to the EA for an Environmental Permit, the EA will require the application to demonstrate that processes are in place to meet all relevant Environmental Permitting requirements."

15.9 Paragraphs 5.15.14 and 5.15.15 of NPS EN-1 outline that during decision making consideration should be given to the extent the Applicant has proposed an effective system for managing hazardous and non-hazardous waste arising from the construction operation and decommissioning of the proposed development. Waste should be properly managed, both on-site and off-site and can be dealt with appropriately by the waste infrastructure which is, or is likely to be, available. Waste arisings should not have an adverse effect on the capacity of existing waste management facilities and steps should be taken to minimise the volume of waste arisings.

15.10 Local Policy:

- CLLP Policy S53: Design and Amenity

15.11 Part (9) of CLLP Policy S53 requires schemes to minimise the need for resources both in construction and operation of buildings and be easily adaptable to avoid unnecessary waste production. One of the 15 objectives of the CLLP as set out in paragraph 1.5.2, under the heading of 'Waste' is 'To minimise the amount of waste generated across all sectors and increase the reuse, recycling and recovery rates of waste materials'.

15.12 The Council has reviewed the application in respect of waste matters and whilst waste has been scoped out of the ES as a separate chapter, a Waste and Recycling Strategy [APP-189] has been submitted with the DCO application. The Council has concerns about certain aspects of this document, primarily concerning the anticipated volume of end-of-life photovoltaic panels generated by this project, both in isolation and in conjunction with other proposed NSIP-scale solar developments

within the County and adjacent counties, which are similarly experiencing a notable increase in large-scale solar installations. Currently the DCO application contains insufficient information on expected waste arisings, and of their proposed fate, from all phases of the development and cumulatively with other developments.

15.13 As with other solar NSIP's the Council has serious concerns about the lack of current capacity for recycling solar panels, particularly at decommissioning but also with operational failures given the 40 year lifetime, weather related impacts (note the impact of Storm Darragh on the Porth Wen Solar Farm on Anglesey) and the cumulative impacts alongside other proposed NSIP-scale solar farms, particularly in terms of waste management capacity. The impact of adverse weather or other event which would require replacement of panels significantly earlier in the project lifetime would create issues given the lack of current capacity for recycling solar panels. There is no certainty that sufficient capacity for recycling solar panels will be available in 40 years' time. This has the potential to become a significant issue.

15.14 In respect of Policy W1 of the LMWLP this requires the Council to make provision for sites to meet predicted future capacity gaps for waste arisings. Currently there are no waste facilities locally to process discarded solar infrastructure as it is replaced during the lifetime of the development and at the decommissioning stage. When combined with the other solar projects in the county and region, cumulatively this will potentially present a significant issue and additional facilities to ensure these products are sustainably disposed of will be needed. The developer needs to be mindful that local facilities for recycling solar waste don't exist at present and this needs to be taken in account as part of any decommissioning plan.

15.15 Following a review of the Waste and Recycling Strategy for each phase of the development, the Council wishes to highlight the following points:

- Construction Phase – The Council note that the Applicant has not mentioned in the Waste and Recycling Strategy (APP-189, para 7.1.3) the potential waste arising from construction breakages of PV panels. Given that other NSIP scale solar developers have suggested a breakage rate of 0.2% of all panels, the Applicant should take account of, and prepare for the processing of, this large quantity of waste.
- Operational Phase – As stated in the Applicant's Waste and Recycling Strategy (APP-189, para 7.2.5), there are likely to be PV panel failures during the Operational Phase of the development, and the applicant should therefore provide an estimate of the annual quantity of failed panels and what they intend to do with them. In light of other NSIP-scale solar farms suggesting an annual failure rate of up to 0.5%, the Applicant should either revise or justify their stated 0.2% assumption. The Applicant should also clarify the basis of their assumption (APP-189, para 7.2.7) that sufficient capacity for treatment and recycling of PV panels will appear in time to handle the cumulative quantity of failed panels from projects across our area which are likely to commence operations on a similar timeframe.

- Decommissioning Phase –no forecast of the quantity of waste, particularly PV panels anticipated at the end of the project has been provided. This is vital given the limited capacity of recycling facilities for PV panels at present, and should be accompanied by a forecast of the cumulative quantity of waste arising from other NSIP-scale solar farms locally which would be decommissioning on a similar timescale.

15.16 For all phases of the development the applicant is placing considerable reliance on the market response to demand for recycling facilities. Even if it could be assumed that the market would respond to the demand for recycling facilities, it is uncertain where the capacity would be provided. Where possible, local waste facilities should be used but, given that they may not be available locally, transport should be taken into account in assessing the emissions arising from waste.

15.17 The Council, in its role as Waste Planning Authority, has a statutory duty to prepare a Waste Local Plan that ensures sustainable waste management within its jurisdiction. The Council must assess the existing and future generation of waste arising over the plan period, and produce a comprehensive, long-term plan to identify sufficient opportunities to meet the identified waste management needs of the area, aiming to drive waste management up the waste hierarchy. This involves setting strategic policies, engaging with stakeholders and the public, identifying sites and facilities, where a need is identified, and aligning with national planning policy. The plan must also safeguard existing waste facilities, promote waste reduction and recycling, and support the transition to a circular economy. This process relies on having a complete set of data on the likely waste streams, which we currently do not have for potential future solar waste. Whilst it may be possible for sites to be identified in the plan, it would then still fall to the market to deliver the facilities.

15.18 Notwithstanding the need to assess the quantity of PV panels which may need to be recycled, the applicant's documentation should reflect an intention to attempt to minimise waste and reuse/repair where possible in accordance with the Waste Hierarchy.

15.19 It is noted at paragraph 7.3.1 of APP-189 that a Site Waste Management Plan (SWMP) would be included as part of the detailed DEMP and this is secured through requirement 18(3) of the draft DCO. A SWMP should be produced for all stages of the development and it is noted at paragraph 5.5.2 of the oCEMP that there is a similar commitment to produce a SWMP with the CEMP. However, no such commitment to produce a SWMP is apparent for the operational phase. The Council would have expected the application to also include an Operational Environmental Management Plan but this appears to be absent from the DCO submission.

15.20 On the basis of the above and until such time as the applicant can provide further information, the Council consider the development would have a **negative** impact in terms of waste. The Council would be happy to engage further with the Applicant regarding these matters, including through the SoCG.

16. Fire Safety

16.1 Paragraph 1(8) of Schedule 4 to the EIA Regulations requires consideration to be given to the risks of major accidents and disasters but does not include a definition of these terms. The regulations, however, specifically refer to effect on human health.

16.2 EN-1, EN-3 and EN-5 are silent regarding consideration of major accidents and disasters and other safety issues which may arise specifically from solar PV development and associated energy storage systems as well as electricity networks infrastructure.

16.3 The Planning Practice Guidance section on 'Renewable and low carbon energy' provides specific guidance regarding potential risks arising from BESSs, including engagement with the relevant local fire and rescue service so that its views can be taken into account regarding potential mitigations which could be put into place in the event of an incident.

16.4 Local Policies:

- CLLP Policy S53: Design and Amenity
- CLLP Policy S54: Health and Wellbeing

16.5 Part (7) of CLLP policy S53 'Design and Amenity' requires development to avoid adverse impacts associated with noise and vibration taking into account surrounding uses nor result in adverse impacts upon air quality from odour, fumes, smoke, dust and other sources

16.6 Policy S54 seeks to ensure that where any potential adverse health impacts are identified the developer will be expected to demonstrate how these will be addressed and mitigated.

16.7 There is potential for negative effects to arise as a result of fire safety risk from this development. The potential impacts from major accidents and disasters are considered in Chapter 17 (Other Environmental Topics) of the ES [APP-068]. Table 17.3 of APP-068 identifies Fire as posing a major accident or disaster risk, sensitive receptors are identified as local residents, habitats and species. The main potential hazard of BESS failure is stated to be thermal runaway and, if not controlled, fire. The applicant sets out key fire safety provisions for the BESS in the outline Battery Safety Management Plan (oBSMP) [APP- 279] submitted with the DCO application. In recognition of the emerging technology of BESS and the challenges this poses to Fire and Rescue Services the National Fire Chiefs Council circulated a letter to all Chief Fire Officers on the 22 August 2023 drawing attention to the updating of Renewable and Low Carbon Energy Planning Policy Guidance that was updated in August 2023

by the Department of Levelling Up, Housing and Communities to include reference to BESS[9].

16.8 The planning policy guidance encourages planning authorities to consult with their local Fire and Rescue Service as part of formal planning consultations and directs developers to the National Fire Chiefs Council guidance on BESS schemes. From discussion with Lincolnshire Fire Service (LFR) who have developed standing advice for BESS[10] based on national guidance, a program of monitoring and risk assessment has been identified as necessary once the BESS has been established to ensure it complies with the Battery Management Safety Plan and Emergency Response Plan. During the first year of operation this will involve 21 days of work for the Fire Service and then two days in each subsequent year for the lifetime of the development.

16.9 The need for this monitoring and assessment will enable early engagement to ensure the required standards are being complied with; to ensure the BESS is constructed to the correct standards with support from the Fire Service; early development of emergency response plans; familiarisations of the BESS for local fire crews and overview by the Fire Service; development of on-going maintenance and updating risk information; and assurance for local residents and communities that the BESS are being independently inspected and monitored to reduce the risk of a fire.

16.10 A Protective Provision for Lincolnshire Fire and Rescue is included in the draft DCO [APP-039] Schedule 11, Part 6 that would facilitate site inspections, annual reviews and payment of costs to LFR for monitoring of the BESS facility which is considered to be acceptable.

Outline Battery Safety Management Plan

16.11 LFR has reviewed the oBSMP and provided the following comments at this stage:

- The current oBSMP at this stage contains generic information, e.g., BESS enclosures, battery technology to be employed etc. LFR will need to be sighted on specific details as they become available, e.g., spacing distances, safety measures based on battery technology and compliance with specific standards.
- Installation Standards – Further details will be required as they become available, at this point they are generic.
- LFR will require further details on suppression systems to be installed at the design phase within the BESS containers.
- Details on site access and accessibility around the site is generic and will also require further details as they become available.
- LFR consider that the oBSMP document provides a good framework that mentions all required areas, but as with the above points, LFR encourage on-

[9] Planning Practice Guidance: Renewable and low carbon energy: Paragraph: 032 Reference ID: 5-032-20230814 to Paragraph: 036 Reference ID: 5-036-20230814

[10] Battery Energy Storage Systems (online)

going engagement as the design phase progresses, and maintain the right to highlight areas that are not compliant with national guidance**.**

16.12 However, in the absence of more detailed information, such as comprehensive plans, the response is primarily based on the content provided within the application documents. It is important to note that Requirement 6 of the draft DCO mandates the submission and approval of a detailed BSMP by the Council, in consultation with LFR and NKDC.

16.13 The Fire Service remains committed to ongoing engagement throughout the examination process and wishes to have its views considered as specific elements of the fire strategy emerge. Subject to Requirement 6 and the Protective Provision for LFR, which would ensure the Fire Service has sufficient resources to conduct regular inspections of the BESS, being secured in any DCO that may be granted, the development's impact on fire safety and pollution is currently assessed as **neutral**, provided all mitigation measures are properly implemented and maintained throughout the project's duration.

17. Cumulative Effects

17.1 The EIA Regulations at Schedule 4 require that an ES should include "a description of the likely significant effects on the environment resulting from, inter alia, (e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources."

17.2 NPS EN-1 in section 4 (Assessment Principles), paragraph 4.1.5 states "In considering any proposed development, in particular when weighing its adverse impacts against its benefits, the Secretary of State should take into account: its potential adverse impacts, including on the environment, and including any long-term and cumulative adverse impacts, as well as any measures to avoid, reduce, mitigate or compensate for any adverse impacts, following the mitigation hierarchy."

17.3 Whilst the development plan for the area does not contain any specific stand-alone policies for the consideration of cumulative impacts, CLLP Policy S14 (Renewable Energy) is of relevance for this proposal as it requires cumulative impacts to be taken into consideration when considering the acceptability of development proposals.

17.4 Policy S14 outlines proposals for renewable energy schemes, including ancillary development, will be supported where the direct, indirect and cumulative impacts on the following considerations are, or will be made acceptable. The following tests will have to be met:

(i) The impacts are acceptable having considered the scale, siting and design, and the consequent impacts on landscape character; visual amenity; biodiversity; geodiversity; flood risk; townscape; heritage assets, their settings and the historic landscape; and highway safety and rail safety; and

(ii) The impacts are acceptable on aviation and defence navigation system/communications; and
(iii) The impacts are acceptable on the amenity of sensitive neighbouring uses (including local residents) by virtue of matters such as noise, dust, odour, shadow flicker, air quality and traffic.

17.5 The Applicant's assessment of cumulative effects is set out in ES Chapter 18 - Cumulative Effects [APP-069]. It considers intra-cumulative effects, the interactions between residual impacts of the Proposed Development (in isolation) likely to be experienced for each type of receptor and inter-cumulative effects where there is the potential for the Proposed Development to result in significant effects in combination with other developments. In considering inter-project cumulative effects, the ES considered both a long-list and a short-list of projects after consultation with the Council (Appendix 4.1 [APP-081] and 4.2 [APP-082]).

17.6 The short list of cumulative sites in Appendix 4.2 includes 21 NSIP projects and 47 other existing or proposed developments. Appendix 4.2, dated April 2025, is considered by the Council to now require updating. The assessment should be revised to reflect the current status of other developments (some of which are not up to date), to include the solar farm located on land south of Little Hale Drove (NKDC Ref: 23/1021/FUL), which was granted planning consent on appeal on 13 August 2025. The update should also incorporate other emerging NSIP proposals, such as Ossian Offshore Wind and National Grid's EGL5 and the Weston Marsh to East Leicestershire schemes.

17.7 The inter-project cumulative effects have been assessed within technical chapters 6 to 16 of the ES, with a summary of the findings presented in Table 18.3 of APP-069. Further updates to the relevant cumulative assessments within the topic chapters should then be undertaken where necessary. The assessment of inter-project cumulative effects should be kept under review as the Beacon Fen project progresses through examination and the lists and assessments updated as information becomes available.

17.8 The nature and scale of current and emerging proposals relating to large scale solar developments and other NSIP scale developments in Lincolnshire is significant. At the time of writing this report 5 NSIP scale solar schemes have been granted a DCO in Lincolnshire and a further 8 schemes (including Beacon Fen) are either progressing through examination or are at pre application stage. In addition the County is host to a further 10 NSIP proposals including five Great Grid Upgrade proposals and a new Lincolnshire reservoir. The cumulative effects of the Beacon Fen Energy Park, in combination with other major infrastructure developments identified, could be considerable. These impacts, in particular impacts on landscape character and visual amenity, ecology, waste management (from construction, operational and decommissioning activities), socio-economic factors, and the permanent loss of BMV agricultural land have been considered in greater detail within the relevant topic-specific chapters above. The Cumulative Development NSIP Map provided in ES Volume 3, 6.4.10 Figure 4.1 [APP-201] only shows point data with regard to the

location of other NSIPs within and adjacent to Lincolnshire – this does not provide a true depiction of the extent and location of NSIPs, including the scale and number of linear transmission schemes such as Eastern Green Links 3 and 4, and Grimsby to Walpole National Grid Schemes. On that note, both the Ossian and Outer Dowsing Transmission Routes have been omitted from the plan.

17.9 There remains a potential for cumulative impacts with other solar developments on ground nesting birds. As such the Council does not agree with the applicant's conclusion in table 18.3 of APP-069 that no inter-cumulative effects are anticipated.

17.10 In relation to effects on landscape character and visual amenity the Council does not agree with the conclusions in table 18.3 of APP-069. As summarised in Section 7 above the cumulative landscape and visual effects with other renewable energy and infrastructure projects across the county present a further concern. Whilst the immediate cumulative schemes within the ES are relatively modest, the scale of other NSIP's and large-scale energy projects proposed in the wider area raises the potential for extensive alteration of the regional landscape character. The combined effect of these developments could be a marked and enduring change, both directly through a change in land use and introduction of solar as a key element, and also in the perception and experience of the landscape, particularly for visual receptors travelling through the landscape and experiencing sequential effects. This is a clear and marked change to landscape character.

17.11 As the Waste Planning Authority, the Council is also concerned about the impact from waste arising from solar developments and the lack of existing waste capacity as described above. The waste arisings from these proposals combined, during the construction and operational phases as well as at decommissioning is potentially significant. It must also be highlighted that there is no Waste chapter in the ES having been scoped out.

17.12 Waste management is considered in the Waste and Recycling Strategy [APP-189], however it does not provide any meaningful or quantified assessment of cumulative waste arisings, particularly at decommissioning but also with construction and operational failures and repowering, particularly in terms of waste management capacity. We would therefore expect to see an updated Strategy including forecasts of waste, and particularly PV panels, for each phase of the project – e.g., the Applicant's stated figure of a 0.2% failure rate of panels per annum is broadly in line with other NSIP applications but should be converted to an annual tonnage and shown alongside other projects as a cumulative figure.

17.13 Based on currently available data, the Council estimates that, should all solar NSIPs and Town and Country Planning Act (TCPA) schemes in Lincolnshire be consented, the cumulative number of solar panels potentially requiring recycling or disposal at the point of decommissioning could be in the region of 15 million units. While the Council acknowledges that decommissioning is a long-term consideration, we are increasingly concerned about the ongoing annual failure rates of solar panels across these schemes. Even a modest failure rate of 0.2% would result in approximately

circa 31,000 panels requiring replacement each year. It is important to note that some schemes are reporting higher annual failure rates, which could significantly increase this figure. Further detail and the Council's methodology behind these estimates is provided in Appendix 3.

17.14 In the absence of the aforementioned forecasts of waste arisings tonnages, the Council do not agree with the applicant's conclusion at paragraph 7.3.6 [APP–189] that the cumulative effects from other solar NSIPs would be negligible.

17.15 In light of the Council's concerns regarding the provision of recycling facilities in the shorter term given the potential annual cumulative impact of panel failures from solar farms across Lincolnshire, the Council welcomes the proposal for a requirement in the Springwell DCO put forward by the ExA to limit the number of solar panels replaced over the lifetime of the authorised development to 5%, with the percentage figure provided annually to the relevant planning authority.

17.16 Altogether, Lincolnshire is a host authority to 23 NSIPs which are at various stages in the application process. The Council is concerned about the effects of this potentially significant industrialisation on its local landscape, public access, agriculture, historic and natural environment, and community. The impact on the perception of the county by visitors and tourists as well as residents and businesses is also material to the local economy. The Council is concerned that the socio economic impacts of this development in combination with other NSIPs have not been meaningfully or fully considered. A number of NSIPs within a 25km radius have also been erroneously excluded from the cumulative list in Chapter 15, and as such the potential adverse impacts on sensitive receptors across all stages of the potential development have been underestimated.

17.17 The Council is particularly concerned about the cumulative impact of large scale solar development, on agricultural land. The applicant's summary at paragraph 18.5.3 of APP-069 is that there is potential for significant adverse inter-cumulative effects in relation to agricultural land in terms of the total agricultural land (and BMV land) lost due to the proposed development in combination with other developments. The Council agree with this statement, however as described in Section 12 above it is considered that the applicant's assessment underestimates the amount of BMV land affected by solar development in Lincolnshire.

17.17 The cumulative loss of all agricultural land for arable production when combined with other projects across the District and County, is considered to be potentially cumulatively significant in terms of food production and security and the residual socio-economic impact of this loss. A recent report, UK Food Security – Outlook to 2050[11], published by the think-tank Science for Sustainable Agriculture echoes these concerns and warns that up to 23% of the country's farmland could be lost to

[11] https://www.scienceforsustainableagriculture.com/_files/ugd/f77b24_768efc488c9e441aa763bb088575230a.pdf

competing land-use demands by mid-century, including from solar energy and dramatically reducing the nation's ability to feed itself.

17.18 The potential for significant inter-projects effects to arise from this development in combination with other developments is of particular concern and as such the Council's position on cumulative impacts in the overall balance is **negative**. The Council will make further comments on the potential cumulative impact of the development with other NSIP proposals as further information on the other projects comes forward.

18. Other topics

Decommissioning

18.1 The Council is concerned that the applicant's Funding Statement does not evidence how decommissioning would be funded or for dealing with long-term shutdowns. To address this, the Council recommends adding a Requirement to the draft DCO that would ensure funding is in place for decommissioning, both after a long outage and at the end of the project's life. The Council would draw the ExA's attention to two other NSIP projects where this has been considered:

- Helios Renewable Energy Project – The draft DCO[12] includes provision (Requirement 5(3)) to require the developer to notify the Local Planning Authority that the undertaker has put in place the requisite decommissioning security.
- Oaklands Farm Solar Park – page 8, paragraph 4.22 of the SOS's decision letter[13] states that 'the Applicant stated a fund was not necessary since Requirement 22 of the dDCO secured decommissioning of the site, was legally enforceable, and was consistent with recent precedent. The Applicant considered its funding statement as part of the application demonstrated it had sufficient funds to construct, operate and decommission the Proposed Development.' This reinforces the Council's argument that if it is not demonstrated that decommissioning funding is not suitably covered within the Funding Statement, then it would be in public interest to ensure that it is covered in the draft DCO by way of an additional Requirement.

18.2 The Council may wish to make further representations as appropriate during the examination and at issue specific hearings relating to matters that are not contained within this LIR. Therefore, the comments contained above are provided without prejudice to the future views that may be expressed by the Council in its capacity as an Interested Party in the examination process.

[12] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010140/EN010140-000453-Examination%20Library%20Helios.pdf

[13] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010122/EN010122-000918-Secretary%20of%20State's%20Decision%20Letter%20-%20Oaklands%20Farm%20Solar%20Park%20-%2019.06.2025.pdf

19. Draft Development Consent Order

19.1 In addition to the comments provided under the relevant topic chapters above in respect of the draft DCO [APP-039], at this stage the Council wishes to raise the following points:

DCO Article/Part/Schedule	LCC Comments	Suggested wording
Part 1 Interpretation and Schedule 2 Requirements	The definition of 'maintain' is considered to be too broad and would potentially allow for wholesale replacement of solar panels. In line with comments made in section 15 of this report a requirement to limit the replacement of panels to the percentages stated in the application documents and an annual reporting requirement would be welcomed. The Relevant Planning Authority to be Lincolnshire County Council, as the waste planning authority.	LCC suggest wording similar to that proposed by the EXA in its proposed changes to the draft Development Consent Order (dDCO) for the Springwell Solar DCO application. The number of solar PV panels replaced over the lifetime of the authorised development shall not exceed XX%. Details of the number of solar PV panels replaced, including an overall percentage figure that includes all previous years, shall be submitted to the relevant planning authority on a yearly basis.
Part 3 (Streets), Articles 11 and 12	As currently written these Articles would give the developer the right to undertake works with no further approvals from the Council. At this stage, the technical details have not been submitted or approved. The Council require highway works to be delivered via the Section 184 or Section 278 process (or equivalent agreement) which would also for consideration of detailed design and allow for the provision of a bond which, if the developer was unable to complete the	As referred to in section 10 above, the Council will expect the need for such further approvals to be included in the DCO application and it has been suggested this could be through the draft CTMP and the final CTMP to be approved by the Council under requirement 13 of the draft DCO.

	works, the Council would be able to make the Highway safe.	
Part 3 (Streets) Article in relation to the Councils Permitting Scheme.	The Council would wish to see the dDCO include an article regarding the Application of the Council's Permitting Scheme. The Lincolnshire Permit Scheme applies to the whole of the Lincolnshire road network. Anyone who wants to carry out highways works in Lincolnshire must apply for a permit. This includes: • utility companies (telephone, gas, electricity, water) • the council itself • anyone working on a permitted development that affects the highway The Council are of the opinion that the scheme should apply to the DCO, as it does for statutory undertakers, which is the power sought by the applicant in the DCO.	LCC would suggest wording similar to that in the Viking CCS DCO and the dDCO for Springwell Solar. (1) The permit scheme applies with the modifications set out in this article to street works carried out under the power conferred by article 8 (street works) of this Order. (2) For the purposes of this Order— (a) a permit may not be refused or granted subject to conditions which relate to the imposition of moratoria; and (b) a permit may not be granted subject to conditions where compliance with those conditions would constitute a breach of this Order or where the undertaker would be unable to comply with those conditions pursuant to the powers conferred by this Order. (3) References to moratoria in paragraph (2) mean restrictions imposed under section 58

		(restrictions on works following substantial road works) or section 58A (restrictions on works following substantial street works) of the 1991 Act. (4) Without restricting the undertaker's recourse to any alternative appeal mechanism which may be available under the permit scheme or otherwise, the undertaker may appeal any decision to refuse to grant a permit or to grant a permit subject to conditions pursuant to the permit scheme in accordance with the mechanism set out in Schedule 16 (procedure for discharge of requirements) of this Order.
Part 3 Streets Article 15 Temporary prohibition or restriction of use of streets and public rights of way	Section 15(1) (general powers to alter or temporarily close any street or public right of way) runs contrary to 15(3) (detailing specific rights of way mentioned in the schedules). This power is considered to be excessive and should reduce to those PROW identified in the DCO application. The section does contain a requirement to consult the street authority for any closures (15(4)). For the avoidance of doubt this should state the highway authority as well.	

	Section 15(6) allows the undertaker to use any street or PROW that has been closed as a temporary working site, with a requirement for it to be reinstated to its previous condition after such use ends. This should have a requirement somewhere for the condition to be noted in advance of works so that we have a record of exactly what condition that was, and also for any reinstatement to be completed to the satisfaction of the highway authority. The section does not contain any timeframes notices periods or consultation requirements with the Council as the Highway authority. There is no requirement for consent to the highway authority and there is no maximum timeframe given in the DCO, which runs contrary to the normal procedures for closing public rights of way. LCC consider that this wording is too wide a power to be included, and should contain a requirement for consultation and agreement with the highway authority, advance notice periods (so we know whether it is an enforcement issue or that the undertaker is acting under their powers), maximum timeframes for any diversion (suggest 6 months to be in line with the Road Traffic Regulation Act system), and alternative route arrangements.	
Part 6 Miscellaneous and general Article 43	This article provides a blanket approval to remove hedgerows and protected trees without the need to notify the relevant	

Felling or lopping trees or removal of hedgerows	authority or provide replacement planting. This provision risks undermining the principles and calculation of BNG provision within the site and could result in the loss of valuable trees. The Council recommends that this article is amended to include better safeguards to protected trees.	
Part 6 Miscellaneous and general Article 45 Procedure in relation to certain approvals etc	The proposed 8 week timeframe for the determination of any consent or, agreement or approvals is considered to be too short. 10 weeks, which would consistent with the timeframe for discharge of requirements, would be considered more appropriate.	
Schedule 2 (Requirements) Requirements 5, 7, 12, 18 and 19	The Council would wish to be a consultee on these requirements, as discharge of aspects of these requirements relate to or would potentially affect other requirements and approvals such as access and traffic management, waste management where the Council is the relevant authority and/or has a statutory duty.	
Schedule 2 (Requirements) Requirement 8	LCC suggest that the requirement includes specific reference to the minimum percentage of habitat, hedgerow and watercourse unit gain to be provided as part of the development.	
Schedule 2 (Requirements) Requirement 16	LCC would be agreeable to the Relevant Planning Authority to be changed to North Kesteven District Council	
Schedule 2 (Requirements) Requirement 18	LCC suggest that an additional clause is provided for a) how a period of extended outage would be managed (if not dealt with through the management plans) and b)	

	funding for decommissioning both as a result of an extended period of outage and at the end of the lifespan of the development – see Section 18 above.	
Schedule 2 Part 2 23. Fees	The Council is of the view that the proposed fee structure is unnecessarily complex and would not adequately cover the Council's reasonable costs in fulfilling its obligations. It recommends adopting the fee structure used in several recent Lincolnshire NSIPs, which incorporates an increase aligned with the national planning fee rise introduced in April 2025. The most current example of such a structure can be found in the draft Development Consent Order (DCO) for the Springwell Solar Farm, submitted at Deadline 3 and referenced as REP3-005 (Schedule 16).	

Appendix 1: Landscape and Visual Review of the Development Consent Order (DCO) Application for Beacon Fen Energy Park

Appendix 1

AAH consultants

LANDSCAPE AND VISUAL REVIEW

OF THE DEVELOPMENT CONSENT ORDER (DCO) APPLICATION

FOR THE BEACON FEN ENERGY PARK

FOR

LINCOLNSHIRE COUNTY COUNCIL

&

NORTH KESTEVEN DISTRICT COUNCIL

August 2025

Landscape and Visual Review

Quality Assurance – Approval Status

Version	Date	Prepared by	Checked by	Approved by	Version Details
1	11/08/25	Oliver Brown	Tom Ferraby	Oliver Brown	Draft Issued for comment
2	19/08/25	Oliver Brown	Tom Ferraby	Oliver Brown	Issued for LIR

Landscape and Visual Review

Contents

Appendices:

1.0 Introduction

Purpose of the Landscape and Visual Review

1.1 AAH Consultants (**AAH**) has been commissioned to prepare a review of the Landscape and Visual elements of the Development Consent Order (**DCO**) Application for the Beacon Fen Energy Park (the '**Development'**), submitted to the Planning Inspectorate in April 2025 and accepted for Examination in May 2025, on behalf of Lincolnshire County Council (**LCC**) and North Kesteven District Council (**NKDC**). This follows on from AAH providing landscape and visual consultation with the applicant on behalf of LCC and NKDC at the Scoping and Statutory Consultation stages of the project. Relevant Representation comments on Landscape and Visual matters are provided within **Appendix A** for reference.

1.2 The purpose of this report is to carry out an independent review of the landscape and visual elements of the DCO submission, with a focus on a review of the Landscape and Visual Impact Assessment (**LVIA**) chapter, Chapter 6, of the Environmental Statement (**ES**), and is structured the guidance provided within the Landscape Institute *Technical Guidance Note 1/20 (10 Jan 2020): Reviewing Landscape and Visual Impact Assessments (LVIAs) and Landscape and Visual Appraisals (LVAs)*, which is included within **Appendix B** for reference.

1.3 This review will be utilised to inform and guide LCC and NKDC input into further stages of work through the Pre-Examination and Examination stages of the DCO application, which is for a Nationally Significant Infrastructure Project (**NSIP**). This will include input into Local Impact Reports (**LIR**) and Statements of Common Ground (**SoCG**), as well as formal requests for information or responses to examination questions that may be required through the Examination or at any associated Examination Issue Specific Hearings (**ISH**).

About AAH Planning Consultants and The Author

1.4 AAH Consultants comprises professional and accredited individuals. Our consultants are Chartered Members of the Landscape Institute (**CMLI**) and the Royal Town Planning Institute (**RTPI**).

1.5 This review has been prepared by Oliver Brown, who is a Chartered Landscape Architect within AAH, with over 20 years' experience in landscape design and assessment, and extensive

experience in landscape and visual matters associated with solar NSIP and associated DCO Applications.

Relevant Documents

1.6 The Landscape and Visual review is based on the following documents (including sub-appendices) submitted to the Planning Inspectorate, which are available at: https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN010151/documents

The information downloaded and initially reviewed is as follows (which include any associated sub-appendices, and based on the document: *EN010151– Beacon Fen Energy Park Examination Library*):

- **Plans / Drawings / Sections**
  - 2.1 Location Plan
  - 2.2 Land Plans
  - 2.4 Works Plan
  - 2.5 Streets rights of way and access plans
  - 2.5 to 2.31 Illustrative plans and sections, and Bicker Fen layouts
- **3.1 Draft Development Consent Order**
- **Environmental Statement**
  - 6.1 Environmental Statement Non-Technical Summary
  - 6.2.1 Chapter 1 Introduction
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- **Other Documents**
  - 5.5 Planning Statement
  - 5.6 Design and Access Approach Document

Please note: this review is of the information available at the time of writing. Throughout the Pre-Examination and Examination process additional information will likely be submitted, including updates and amendments to some of the documents listed above.

Previous Consultation

1.7 As part of the DCO process, as stipulated by *The Planning Act 2008* (**PA2008***)*, AAH have carried out landscape and visual consultation with the applicant and relevant members of their design team over approximately a 12-month period on behalf of LCC and NKDC. This has included discussion and consultation on:

- Expectations of the LVIA, including content and reflection of current best practice and guidance
- LVIA Methodology;
- ZTV parameters;
- Study Area extents (distance);
- Viewpoint quantity and locations;
- Accurate Visual Representations (**AVR**s), including the quantity and location, as well as type and Level.
- Mitigation Measures/Landscape Scheme/Site Layout;
- Cumulative landscape and visual effects, including identification of sites/projects; and
- Residential Visual Amenity Assessment (**RVAA**) if there are residential properties with receptors likely to experience Significant effects to their visual amenity.

1.8 Section 6.3 of the LVIA details the consultation undertaken during the preparation of the DCO, with Table 6.1 summarising the relevant consultation carried out for landscape and visual matters, and AAH have subsequently issued a Relevant Representation (**RR**), included within Appendix A of this review, as part of the pre-examination process to summarise the high level comments on the submission and key areas for the subsequent DCO examination to cover.

2.0 Presentation of the LVIA

The following section provides a review of the presentation of the LVIA, based on the following criteria (where applicable):

- *Is the LVIA appropriate and in proportion to the scale and nature of the proposed development;*
- *Are findings of the assessment clearly set out and readily understood;*
- *Is there clear and comprehensive communication of the assessment, in text, tables and illustrations;*
- *Are the graphics fit for purpose and compliant with other relevant guidance and standards; and*
- *Are landscape and visual effects considered separately;*
- *Are receptors and all likely effects comprehensively identified;*
- *Does the LVIA display clarity and transparency in its reasoning, the basis for its findings and conclusions; and*
- *Is there a clear and concise summation of the effects of the proposals.*

LVIA Chapter

2.1 The LVIA and associated figures, appendices and documents provide a thorough analysis of landscape and visual effects of the Development, and the level of information and detail is appropriate for the scale and type of development. The assessment overall is laid out in a logical manner, however the LVIA chapter does not read easily and the process of assessment is not fully explained within the chapter with items or steps in the process not clearly introduced, or lacking consistency in referencing appendices. For example, *Views from Residential Receptors and Settlements* (paragraph 6.5.43) references the detailed visual assessment at Appendix 6.4, but subsequent receptor groups do not include this reference – we would suggest an overarching introductory paragraph prior to these groups would have been more suitable stating that the intention is to identify receptors with potential views desk based study and ZTV carried out, then from this field work carried out to

identify visual receptors, and subsequently a detailed assessment is provided at Appendix 6.4, with a summary. This would set the scene and describe what is being subsequently presented within the chapter.

2.2 The LVIA has predominantly been carried out to best practice and guidance, primarily the *Guidelines for Landscape and Visual Impact Assessment (GLVIA3)* by the *Landscape Institute*, by a Chartered Landscape Architect. However, we have identified issues with some areas of the LVIA, that we have provided narrative on below, and the DCO examination provides an opportunity to explore these in more detail.

2.3 As a general note: Throughout the LVIA chapter, some references are missing, predominantly from Tables, which needs addressing and updating at an appropriate time to make navigation easier. However, for this review we have assumed the Table numbers are based on the list provided on Page 5.

2.4 The LVIA clearly draws a distinction between **landscape effects** and **visual effects**, with the main chapter focussing on likely **'Significant'** effects. Paragraph 6.4.20 of the LVIA clarifies that Significant Effects *"are described as being of a Major or Moderate adverse/beneficial level." a*nd the effects that are *"assessed as Minor or Negligible"* are Not Significant. Paragraph 1.15.6 of Appendix 6.2 identifies that any deviation from this would be clearly explained in the assessment. This is acceptable, and provides a clear and transparent threshold to identifying Significant landscape and visual effects.

2.5 Paragraph 1.15.4 of Appendix 6.2 clarifies professional judgement is applied to determine the significance of the effects by combining sensitivity of receptor and magnitude of change as presented on Figure 1.1. Professional judgement is promoted within GLVIA3, however it is important that the application of this judgement be explained and transparent throughout.

2.6 The ES presents an assessment of a 'worst case' scenario of the Development, based on design parameters presented in section 2.4 of ES *Chapter 2: Proposed Development*. This is clarified in paragraph 2.3.1 which clarifies that *"use of design parameters has been incorporated into the assessment to present a likely worst-case assessment of the potential environmental effects"*, which is in accordance with the Rochdale Envelope Approach. However, the LVIA is not explicit in this regard, and while paragraph 6.3.9 provides information on parameters that have been used at each phase of the scheme, in no location states or clarifies that the LVIA has been undertaken on a worst-case scenario regards to assessing the maximum parameters

laid out in Chapter 2 and areas shown on Figure 2.4: Works Plan – only worst case in regards to winter views is clarified.

2.7 It has been assumed that the maximum parameters have been used for all elements within the LVIA chapter, however it should be clarified at the examination stage that this is the case. This includes an assumption that the assessment includes that all vegetation proposed to be removed on *Figure 6.32 Vegetation Removal Plans* and identified in Schedule 13 of the DCO would, ultimately, be removed. However, if proposed mitigation areas and existing retained vegetation proposals are changed in later, detailed design stages, the findings of the LVIA are likely to also change. Landscape mitigation, and vegetation retention and protection, needs to be clarified and guaranteed as the assessment relies heavily upon it to reduce the residual landscape and visual effects of the Development.

2.8 Paragraph 6.3.10 (bullet 7) identifies the potential for a 4m high acoustic fence may be required. Could it be clarified as to whether this has been considered in the LVIA or included on visualisations as this may present a monolithic element within the scheme, potentially of a substantial length.

2.9 Paragraph 6.3.12 identifies a 50m working width for the Bespoke Access Road. This is a very wide corridor that may be affected by construction for a 6m wide road. We have concerns regarding this affecting existing vegetation, and seek clarifications on vegetation protection throughout these works and as to whether the 50m would be utilised only for the road construction or if plant and vehicles would track across this very wide corridor to access the Solar Array construction area.

2.10 The LVIA assesses landscape and visual effects at the main phases: **construction; operation** and **decommissioning**, with operation phase considered with and without established landscape mitigation (year 1 effects and year 15 effects). The main phases of the project are detailed within *Chapter 2*. The LVIA considers the scheme in isolation, and *Chapter 18* of the ES considers the scheme **cumulatively** with other environmental matters, as well as similar type and scale projects in the local area.

LVIA Appendices

2.11 The Appendices produced as part of the LVIA provide detailed supporting information relating to the assessment. The appendices are clearly laid out and easy to follow and locate pertinent

detailed information relating to the main chapter. The appendices are listed within section 6.1.3 of the LVIA, and are referenced throughout the report to support the findings and provide additional information.

LVIA Figures

2.12 The Figures produced as part of the LVIA are appropriate in the level of detail provided and clarity of information presented. The figures are clearly listed within section 6.1.3 of the LVIA, and are referenced throughout the report to support and illustrate the findings.

2.13 However, we do note that the PDF files on larger more complex drawings have been saved and uploaded in a format that makes viewing and navigation difficult, regularly freezing on screen or crashing. This has been tested on several AAH computers with the same occurrence. We would suggest that the applicant review the plans (e.g. layout plans, landscape plans, and vegetation removal plans) and re-upload as flattened PDFs or split into smaller files to aid viewing.

3.0 Methodology and Scope

The following section provides a review of the LVIA Methodology based on the following criteria (where applicable):

- *Has the LVIA been prepared by 'competent experts';*
- *Is the methodology in accordance with relevant guidance and meets the requirements of the relevant Regulations;*
- *Does the methodology and scope of the LVIA meet the requirements agreed in discussions at the pre-application stage during scoping and consultation;*
- *Has the methodology been followed in the assessment consistently;*
- *Are the levels of effect clearly defined, and have thresholds and approach to judging significance been clearly defined;*
- *Is detail about various development stages provided and appropriately assessed;*
- *Have cumulative landscape and visual effects been addressed.*

LVIA Methodology

3.1 The LVIA Methodology is presented in section 6.4 of the LVIA and *Appendix 6.2: Landscape and Visual Impact Assessment Methodology*. Reference is made in section 1.1.4 of *Appendix 6.2* to industry guidance, including GVLIA3, however we note that there is no reference to *Notes and Clarifications on aspects of GLVIA 3, LITGN-2024-01, Landscape Institute* which was published in August 2024. This TGN provides some key updates and clarifications that are applicable to LVIA being carried out, and we would seek confirmation from the applicant as to whether this has been utilised within the methodology and subsequently the assessment. Paragraphs 1.1.1 and 1.1.2 of Appendix 6.2 clarify the difference between **landscape effects** and **visual effects**, and subsequent compliance with GVLIA3 by assessing both as interrelated but separate components.

3.2 The process and stages of assessment are presented, including a baseline assessment, the detailing and review of the design, assessment of sensitivity (by assessing value and susceptibility), an assessment of magnitude of impact (in relation to size, scale, geographical

extent, duration and reversibility) of the Development on the baseline conditions, and a determination of the significance of effects at all phases of the scheme (construction, year 1, year 15 and decommissioning).

3.3 The study area selection is explained within paragraphs 6.4.1 and 6.4.2 of the LVIA. The Study area is illustrated in Figure 6.1. The radius of the study area of 5km from the Order Limits has been defined for the LVIA. A brief justification within paragraph 6.4.2 for extending the Study Area to 5km, stating: *"It is considered that beyond this distance the Proposed Development is unlikely to give rise to significant landscape or visual effects."*. We have not identified anything on Site that would contradict the statement that there would not be Significant effects beyond 5km, and typically distance reduces the likelihood of this occurring. However, at the construction phase (and potentially operation with maintenance and replacement operations) traffic movement to and from the Site may have effects beyond 5k, although this is unlikely.

3.4 The methodology in Appendix 6.2 is clear and detailed, with Section 1.3 to 1.10 covering landscape effects and Section 1.11 to 1.14 covering visual effects. Section 1.15 of *Appendix 11.2* clarifies how the level or significance of landscape and visual effects are determined by combining judgements regarding the sensitivity of the receptor and the nature or magnitude of the effect arising from the Development.

3.5 Tables within the methodology provide criteria for assessment of value, and susceptibility, and subsequently how these have been combined to provide a judgement on sensitivity. These tables provide clear indicative criteria of the assessment of landscape and visual value, susceptibility, sensitivity and magnitude of effects. The utilisation of professional judgement is promoted within the methodology, and should an effect be different to that presented within the tables, and we would expect any deviation be clearly explained within the main assessment.

3.6 The assumptions made on plant growth rates in Section 6.3.30 are generally acceptable, however we would state these are at the higher end of the scale as to what we would deem acceptable for a fifteen-year period: fifteen years being the period that residual effects have been assessed in the LVIA. We would query as to whether the plant growth rates allow for issues during the establishment period, and allow for any plant replacements to be carried out along with planting establishing should there be plant failures or lack of acceptable growth. These plant growth rates are dependent upon the successful implementation of a robust and well considered OLEMP, which is covered in further sections of this review.

3.7 Given the stated operational time of 45 years, there is a concern regarding the assumptions of reversibility and duration. Having reviewed the sections relating to this from GLVIA3 and other related guidance, it is clear that this project is long term. Given that 45 years is comparable to at least one generation, there is some considerable strength to the consideration that this would amount to a permanent project, as opposed to a temporary one, especially considering the average lifespan of building design is circa 50 years. If deemed a permanent Development, which it is our position, this is likely to have a bearing on the judgements of effects, as typically a temporary scheme reduces the magnitude of a change. Therefore, the majority of judgements on longer term effects (15 years+) need to be re-visited and adjusted so as to be permanent, and not *reversible*.

3.8 We would also recommend that the applicant consider fully that in this 45-year timescale, the panels, inverters, batteries and other associated elements will likely be replaced. It is not clear within the submission the frequency that this would likely be, however on similar projects this has been at least once for panels, however Inverters and batteries may be more regularly. This should be clarified and also how this has been captured within the LVIA. Also, given the pace of technology, it should be considered if it is likely that the panels could be replaced on numerous occasions. At this stage we would need additional information regarding the phases of replacements in order to consider whether there is one single construction stage, or a series of staged re-construction stages, and activity and deliveries, potentially of large-scale equipment, be for the life of the scheme.

ZTV Methodology

3.9 The process of modelling Zones of Theoretical Visibility (ZTVs) and subsequent presentation on Figures 6.1 and 6.2 is summarised in paras. 6.5.40 to 6.5.42. Section 1.19 within Appendix 6.2 provides a methodology and parameters of the ZTV generation and paragraph 6.3.28 (bullet 2) clarifies that the *"ZTV for the Proposed Development has been modelled on a worst case scenario with PV Array heights at 3.5m and 3.9m and the tallest elements of the Solar Array Area, the HV transformers at up to 13m*". The methodology, execution and presentation on Figures 6.1 and 6.2 is acceptable, with elements modelled to their maximum parameters.

Photomontage Methodology

3.10 The process of obtaining photography and delivering photomontages is presented within paragraphs 1.20 to 1.24 of *Appendix 6.2*. This states that photomontages were prepared in accordance with the Landscape Institute *TGN 06/19 Visual Representation of Development Proposals*. However, the methodology does not clarify the parameters the scheme has been modelled to or if the photomontages have been presented to the maximum allowed parameters provided within *Chapter 2: Proposed Development;* this should be clarified as to whether the visualisations present a 'worst case' visualisation, or not.

4.0 Appraisal of Landscape Baseline and Effects

The following section provides a review of the Landscape Baseline and Effects, based on the following criteria (where applicable):

- *Has the methodology been followed in the landscape assessment?*
- *Are all landscape receptors and all likely effects comprehensively identified and assessed?*
- *Has the value and susceptibility of landscape resources been appropriately addressed and at appropriate scales (e.g., site, local, regional, and national)?*
- *Is there a clear and concise summation of the landscape effects of the proposals? and*
- *Are potential cross-over topics, such as heritage or ecology, addressed?*

Landscape Baseline

4.1 The Landscape Baseline is considered in section 6.5 of the LVIA, with Figure 1.1 illustrating the Scheme Location and Order limits and Figure 6.1 illustrating the 1, 2 & 5km Search Areas. The Site covers 757.6 hectares of predominantly agricultural land, which comprises an area of 529.2 hectares proposed for solar arrays along with 183.1 hectares of cable route corridor (connecting to the Bicker Fen National Grid substation) and 45.3 hectares of bespoke access corridor (referred to as the Bespoke Access Road). The Site is located in Lincolnshire County, with the majority of the order limits within North Kesteven, however the southern extent of the cable corridor and works associated with the Bicker Fen Substation located within the administrative area of Boston Borough Council.

4.2 The landscape baseline follows the LVIA methodology and begins by identifying baseline landscape characteristics, as well as relevant designations, of the study area and the Site. This is summarised in the LVIA chapter and further detail is provided in *Appendix 6.3: Landscape Character Baseline and Sensitivity*. Paragraphs 6.5.3 to 6.5.20 provide an overview of published character assessments, utilising a hierarchy of these from National Character Areas to Local. Table 6.3 goes on to usefully summarise the key characteristics of the published Landscape Character Areas within the Study Area. We have assumed the author acknowledges that the Site and Study Area reflect the boundaries and characteristics of the published character assessments, however a clear statement on this would clarify.

4.3 Paragraphs 6.5.22 to 6.5.38 go on to provide a narrative on the existing landscape baseline of the Site and surroundings, with paragraph focussing on the main Site area (solar arrays etc.), the cable route and then the wider study area. This is a useful narrative and provides the authors own judgement on the landscape character and baseline that may be affected directly (within Order Limits) and likely indirectly (wider study area). The LVIA acknowledges the low lying and relatively flat fenland landscape crossed with drainage dykes and ditches, dominated by arable land use and open, relatively un-developed, character of the Site and Study area.

4.4 The Future baseline is covered in paras. 6.5.66 to 6.5.68. The author judges that the landscape of the Site and Study Area will remain in its current state in the future. The development of solar farm projects and energy infrastructure (such as overhead lines and pylons, and associated sub stations and converter stations) in the region is not acknowledged to be a factor in the future baseline of the Study Area. This is a landscape undergoing extensive change to land-use, predominantly changing from agriculture to renewable and energy infrastructure Development. We have concerns regarding effects on the national and regional landscape character areas. The mass and scale of these projects combined has the potential to lead to a change in landscape character over an extensive area across these published character assessments. The landscape character of the regional area may be completely altered over the operational period through an extensive area of land use change, and introduction of energy infrastructure in an area that is predominantly agricultural.

4.5 To calibrate this change to the landscape, these schemes combined, if built, would clearly require the update of any published landscape character assessment, including at a national level (NCA's), so as to include large scale solar as a defining land use characteristic as well as agriculture. This is a clear and marked change to landscape character, and several schemes have already been approved, with many others in the planning system. It should also be noted that other renewable and energy infrastructure projects (such as Solar, BESS, Hydrogen, Pylons and cables along with associated infrastructure) are planned in the region, including NSIP and DCO schemes as well as TaCPA scale projects. These will all combine to change the character of the wider landscape.

4.6 This baseline process, undertaken by the applicant, resulted in several landscape receptors being identified as likely to be affected by the Development identified as "Sensitive Receptors". These are presented in Table 6.4 and include both landscape elements or features of the Site and Study Area (e.g. vegetation and hedgerows, land use, landscape pattern), as

well as Landscape Character, which we have assumed are the published landscape character areas as identified in paragraphs 6.5.3 to 6.5.20 of the LVIA, providing an overview of published character assessments. This identification and list is confusing and used inconsistently in the subsequent assessment, which goes on to assess *Landscape Character – Site Level*; and *Effects on Landscape character – Local landscape character*. The way section 6.5.64 is written is that these are the receptors that the LVIA will assess the change to, however the actual receptors are the Site and wider character areas. Also confusingly, the construction effects on each of the landscape receptors are then broken down with subheadings into *landscape elements* and *landscape character*, but the Operation effects are not broken down in the same way, mixing together these two aspects (character and elements). Some clarity and re-structuring would assist in clarity of this section: Clearly lay out the landscape receptors identified, summarise the likely elements to be affected within these; Assess the list of landscape receptors breaking down into effects on elements and character.

4.7 For clarity, we have assumed the following are the landscape baseline receptors:

- Site level;
- Fenland Sub Area;
- Central Clays and Gravels Sub Area;
- Holland Reclaimed Fen LCA;
- Bicker to Wyberton Settled Fen LCA; and
- South Holland Fen LCA.

Landscape Assessment

4.8 The Landscape Assessment is detailed within section 6.6 of the LVIA, referring to *Appendix 6.3: Landscape Character Baseline and Sensitivity* which includes a clear assessment of Value only, and therefore would suggest Appendix 6.3 is erroneously titled as it does not contain an assessment of Susceptibility, or subsequently combine value and susceptibility for a judgement on Sensitivity. Similarly, the statement in paragraph 6.6.7 that *"The landscape assessment is based on the determination of relevant landscape sensitivity set out in Appendix 6.3: Landscape Character Baseline and Sensitivity (Document Ref: 6.3 ES Vol. 2, 6.3.15)"* is not

correct as Appendix 6.3 provides an overall character summary and Value Assessment only. Nowhere within the LVIA have we located a detailed assessment of landscape susceptibility, with only a summary (as stated in paragraph 6.6.7: *"…summarised in the following section"*) provided for the susceptibility and sensitivity of the Site and local landscape character areas. Could this process be clarified by the applicant.

4.9 The landscape assessment commences with construction effects at paragraph 6.6.30, with Operational Landscape Effects at para 6.6.54 which consider both Year 1 and Year 15 Effects.

4.10 In line with the methodology, the assessment of the landscape effects considers the change to the identified landscape receptors at construction, operation (both years 1 and 15) and decommissioning. This includes Landscape Character Effects within the Order Limits (which would be direct) and Landscape Effects within Published Landscape Character Areas (which would be both direct and indirect). However, as identified above, only Landscape Elements are considered at the construction stage, not at operation. This provides an inconsistent approach and request the applicant provide clarity as one of the main landscape effects will be the change in land use of the areas of above ground development from arable fields to a solar development.

4.11 The LVIA identifies Significant landscape effects at the phases of **construction, operation (year 0), operation (year 15)**, and **decommissioning** phases. The following effects upon identified landscape receptors are identified in the LVIA:

- At **Construction** the following receptors were assessed as having the following landscape effects:
    - Site level: **Major adverse: Significant**
    - Fenland Sub Area: **Moderate adverse (significant)**
- At **Operation (Year 0)** the following receptors were assessed as having the following landscape effects:
    - Site level: **Major adverse: Significant**
    - Fenland Sub Area: **Moderate adverse: Significant**
- At **Operation (Year 15)** the following receptors were assessed as having the following landscape effects:

- Site level: **Moderate adverse: <u>Significant</u>**

- At **Decommissioning,** effects would be similar to those at the construction phase, however, the Site and local landscape will benefit from established planting associated with the scheme.

4.12 These 'Significant' effects represent direct effects on the landscape of the entirety of the Site. At year 15, the Order Limits (entirety of the Site) has been assessed as having a Significant Residual effect even when mitigation planting has established. The landscape character area of the Fenland Sub Area has been judged by the LVIA author as having Significant effects at Construction and Operation Year 1 only, with landscape effects judged as reducing to Minor Adverse through the establishment of mitigation planting.

4.13 While we acknowledge the establishing planting as part of the mitigation proposals will add a positive element to this landscape, we consider that the urbanising element of large scale solar on open, agricultural land is a definite and adverse change to the baseline of the Fenland Sub Area. New planting will offset some of the adverse elements of the scheme, however we disagree with the applicants' findings that the residual effects on the Fenland Sub Area would subsequently reduce to Minor adverse: we judge it would remain as Moderate adverse and Significant. Even with mitigation planting in place, the scheme is still a direct, large scale land use change across all fields in which above ground infrastructure is proposed. This would be an addition of new elements that will replace a key characteristic of this landscape, influencing overall character, and being a major addition, albeit affecting a relatively localised area of the LCA. As acknowledged in paragraph 6.6.63: *"The openness of the fenland landscape will be altered with some modifications to the field pattern and greater presence of planting introduced to accommodate the Proposed Development",* we also have concerns in regards to the mitigation planting itself causing adverse effects by being out of character with this open fenland, e.g. introduction of 3.5m high hedgerows.

4.14 Localised removal of vegetation is identified in the assessment of landscape effects; however, it is unclear whether this includes vegetation works on the wider highways network, and what this would entail. We strongly recommend limiting vegetation loss along Site boundaries for access or sight lines, or along construction access routes, because this has the potential to change the character of the local landscape beyond the limits of the Development.

5.0 Appraisal of Visual Baseline and Effects

The following section provides a review of the Visual Baseline and Effects, based on the following criteria:

- *Has the methodology been followed in the visual assessment?*
- *Are all visual receptors and all likely effects comprehensively identified and assessed?*
- *Has the value and susceptibility of visual resources been appropriately addressed?*
- *Is there a clear and concise summation of the visual effects of the proposals?*
- *Are the viewpoints that have been used appropriate and meet the number, location and requirements agreed in discussions at the pre-application stage during scoping and consultation?*
- *Are the Visualisations/Photomontages that have been used appropriate and meet the number, location and requirements agreed in discussions at the pre-application stage during scoping and consultation?*

Visual Baseline

5.1 The Visual Baseline is considered in section 6.5 of the LVIA, and describes in paragraph 6.5.39 that visual receptors are identified in the Study Area likely to be affected by the Development. The process of identifying visual receptors is presented as a two-stage process, although this is not explicit in the narrative, and relies on the reader to already have a basic understanding of the LVIA process with several matters covered under the heading of ZTV Analysis, including defining the visual study area:

- Stage 1 (as described from paragraph 6.5.40) is a desk-based assessment which commenced with the Development of a Zone of Theoretical Visibility (**ZTV**) analysis, used to assist and identify potentially sensitive receptors.
- Stage 2 comprises fieldwork across the Site and Study Area utilising the ZTVs generated to identify visual receptors likely to experience views of the construction, operation or decommissioning of the Development and identify and capture representative views (viewpoints).

5.2 Paras. 6.5.43 to 6.5.58 provide a useful overview of the visual receptors that have been identified as having views towards the main Site area. This is broken down into Residential Receptors and Settlements (from paragraph 6.5.43), views from PROW (from paragraph 6.5.49), views from people at work (from paragraph 6.5.53), and views from Roads (from paragraph 6.5.55). Subsequently from paragraph 6.5.59 the process of selecting viewpoints representative of the range of views and viewer types likely to experience views of the Proposed Development is provided. It is clarified that desktop research, ZTVs and fieldwork has informed this decision. Viewpoint locations are shown on Figures 6.1 and 6.2.

5.3 However, no overall narrative of the visual baseline has been provided. This would be a useful addition, e.g. extensive open views across the landscape due to flat topography and limited vegetation.

5.4 Paragraph 6.5.43 states that a relatively limited number of residential receptors experience views towards the Site, however we would note that those that do have views are close range (adjacent to the Order Limits) and experience open, clear views across the site and currently benefit from an open view of this rural landscape.

5.5 Visual receptors likely to be affected by the Development are identified in Table 6.5 as: Residents of properties with views of the Proposed Development; Recreational receptors along the PRoWs with views of the Proposed Development; People at work with views of the Proposed Development; and People travelling along major transport corridors and local roads. This is a high-level summary and provides a general statement as to the likely potential impacts.

5.6 Views from Residential Receptors and Settlements are considered within the LVIA, with *Figure 6.7 Residential Properties* illustrating the location of residential properties and settlements. However, no reference is made within the LVIA to *Appendix 6.5: Residential Visual Amenity Assessment*. From this it is unclear as to how the Residential Visual Amenity Assessment and LVIA have been coordinated, relying on the reader cross referencing findings, which we assume are the same. It would be useful for the LVIA to provide a clear statement in this regard, and also how the separate assessment has informed the LVIA assessment of Views from Residential Receptors and Settlements as well as fed into the overall site layout and mitigation.

5.7 We have not located an assessment of value or susceptibility relating to individual visual receptors, with only a final judgement of Sensitivity of visual receptor provided within Appendix 6.4. While an assessment of Sensitivity is provided within Appendix 6.4 of the baseline panoramas (viewpoints), none is provided for the receptors themselves. This does not fully align with guidance provided within LI *Technical Guidance Note LITGN-2024-01.* This clarification by the LI clearly states that the focus of a visual assessment should be on visual receptors, with viewpoints being utilised to illustrate potential views. Section 6(7) of LITGN-2024-01 section on: "*Assessing viewpoints or visual receptors?*" clarifies:

"The focus of the visual assessment should be the visual receptors (i.e. the people as set out within paragraph 6.31. of GLVIA3). The purpose of viewpoints is covered at paragraph 6.19 (i.e. for illustration of the visual effects)."

5.8 This approach does cause some confusion, and it should be clarified as to how this has fed into the assessment of receptor sensitivity. The main LVIA chapter does not make reference to the sensitivity of visual receptors either. This appears as an omission in the process. Similarly, paragraph 6.6.89 states that *"The visual assessment has been informed by a viewpoint assessment using a selection of viewpoints".* We would stress that the viewpoints are there to illustrate views only, assisting the reader understand effects on receptors.

5.9 The selection of the nineteen viewpoints formed part of the pre-application consultation and includes locations recommended as part of this process. These viewpoints are located on Figures 6.1 and 6.2 and presented as baseline photographs within *Figures 6.8 to 6.26.*

Visualisations/Photomontages

5.10 Viewpoints representative of the visual receptors were identified through consultation and agreed upon. This baseline process resulted in the identification of four viewpoints to be developed as Type 3 visualisations/photomontages and presented in *Figures 6.27 to 6.30 which demonstrate the scheme as Existing; Year 1 and Year 15.* A brief methodology for photography and visualisations is provided in Sections 1.20 to 1.24 *Appendix 6.2: Landscape and Visual Impact Assessment Methodology*, which clarifies that the photomontages have been prepared to *Landscape Institute's TGN 06/19* . However, it is not clear as to the parameters the proposals have been modelled to, and it should be clarified if these represent a worst case scenario based on maximum design parameters provided within Chapter 2.

Visual Assessment

5.11 The Visual Assessment is provided within section 6.6 of the LVIA and detailed within *Appendix 6.4: Visual Assessment*. As outlined above, we have not located an assessment of value or susceptibility relating to visual receptors, with only a final judgement of Sensitivity of visual receptor provided within Appendix 6.4 with no explanation as to how this judgement has been arrived at. The LVIA chapter does not provide any narrative in regards to the assessment to the value of views experienced by receptors or the susceptibility of receptors to changes in their view. While an assessment of Sensitivity is provided within Appendix 6.4 of the baseline panoramas (viewpoints), none is provided for the receptors themselves. This does not fully align with guidance provided within LI *Technical Guidance Note LITGN-2024-01.*

5.12 Appendix 6.4 provides a detailed viewpoint assessment (of the 19 viewpoints), and a detailed assessment of identified visual receptor groups in Tables 1.20 to 1.22, which are broken down into: residents in settlements; property groups; individual properties; recreational receptors using the recreational path network and facilities; and users of the transport network. The visual receptors identified in Tables 1.20 to 1.22 do not have any reference back to the viewpoints, which requires the reader to cross reference information. As viewpoints are there to represent views from receptors, it would be useful if this was clearly referenced in the tables in regards to what viewpoint is representative of a certain visual receptor.

5.13 The visual assessment commences with construction effects for the Solar Array Area at paragraph 6.6.92, Cable Route Corridor at 6.6.105, and Bespoke Access Road at 6.6.118. Operational Visual Effects (year 1 and year 15) for the Solar Array Area at paragraph 6.6.127, Cable Route Corridor at 6.6.144, and Bespoke Access Road at 6.6.164.

5.14 The LVIA identifies Significant visual effects at the **construction, operation (year 1), operation (year 15)**, and **decommissioning** phases.

5.15 The following Significant effects are identified in the LVIA Chapter:

- **At Construction:**
    - **Major Adverse** (Significant) visual effects for:
      Solar Array Area
        - Residents of Ewerby Thorpe Farm (R1a);
        - Residents of Ewerby Thorpe Lodge (R1b);
        - Residential receptors at Property Group R2, including; Howell Fen Farmhouse (R2a), Asgarby Barns (R2b) and Westmorelands Farm (R2c);

- Residential receptors at Gashes Barn (R4);
- Residential receptors at Property Group R20, including; Crown Cottage (R20a) and Keepers Cottage (R20b);
- Users of sections of PRoW Ewer/8/2,Ewer/8/1, Ewer/9/1, Ewer/12/1, Skym/8/1 along and adjacent to the River Slea/Kyme Eau;
- Users of Bridleway Ewer/1103/1;
- Users of Black Drove/Ferry Lane/Halfpenny Toll Lane;
- Users of Howell Fen Drove

Cable Route Corridor

- Residential receptors at Property Group R9 including, Crow Lane Farm, White House, Broadhurst Farm;
- Residents of Property White House Farm (R10);
- Residents of Property Poplar Tree Farm (R11);
- Residents of Property Villa Farm (R12).
- Residential receptors at Property Group R5. Star Fen Farm, The Bungalow, Star Fen Cottage, Windward, Berrick Cottage, Decoy Farm;
- Residential receptors at Property Group R15. Meadow View, Dovecote Farm, Cozee Cottage, Highland House, Gauntlet Bridge Farm, Fen Lodge, Crow Hall.
- Users of PRoW network to the east of Great and Little Hale PRoW Nos. GtHa/2/1, LHal/4/1 and GtHa/2/1;
- Users of PRoW network to north west of Heckington, West of Solar Array Area, including: Heck/12/1, Heck/14/1, Heck/2/4;
- Users of PRoW Bick/2/1.

Bespoke Access Road

- Users of PRoW to the west of Asgarby Lane, including; KkLT/6/1ASHo/2/1, KkLT/4/2 and KkLT/5/1

- **Moderate Adverse** (Significant) visual effects for:

Solar Array Area

- Residential receptors at Property Group R3 Copperhill Kennels Cattery Waithe Farmhouse The Grange, Ferry Farm and Mere House

Cable Route Corridor

- Residential receptors at Property Group R6. Courtrow Farm, The Paddocks, Winkhill;
- Residential receptors at Property Group R13. Kingtree Lodge, Cowbridge Farm;
- Residential receptors at Property Group R14. Butlers, Acorn Lodge, Milldrain Lodge;
- Residential receptors at Property Group R18. Garwick Farm, Strawberry Cottage, Bramble Cottage, White House, Fen House.
- Residential receptors at Property group R7. Hall Farm, The Farm House, Poplar Farm.
- Residential Receptors at Great Hale (only identified in Appendix 6.4, Table 1.20 – not identified in the main LVIA assessment section, which we assume is an omission)
- Residential Receptors at Northorpe Village (only identified in Appendix 6.4, Table 1.20 – not identified in the main LVIA assessment section, which we assume is an omission)
- Transport receptors from some sections of the A17 (The views will also include the views of temporary access tracks.)

- Transport receptors using the of local road network adjacent to and crossing the southern extent of the Cable Route Corridor including Tileban Lane and Bicker Drove.

Bespoke Access Road

- Users of PRoW to the east of Asgarby Lane, including; ASHo/3/1 and Ewer/1103/1 KkLT/4/2 and KkLT/5/1
- Users of the A153;
- Users of Asgarby Lane; and
- Users of Heckington Lane/Halfpenny Toll Lane

These are typically identified for receptors on the road and PROW network, along with multiple residents in the local area, that are in close proximity to the Development with limited or absent screening allowing for clear views. These **Moderate** and **Major Adverse** effects are considered to be Significant and would result from the proposed construction activity seen at close range across a wide extent of a view. While these receptors are relatively localised, with limited long-range views of the construction activity, we disagree with the LVIA that they are low in number, as the list above clearly identifies. The construction phase will affect a high number of visual receptors across a wide area.

- **<u>At Operation (Year 1):</u>**

  - **Major Adverse** (Significant) visual effects for:

    Solar Array Area

    - Residents of Ewerby Thorpe Farm (R1a);
    - Residents of Ewerby Thorpe Lodge (R1b);
    - Residential receptors at Gashes Barn (R4);

  - **Moderate Adverse** (Significant) visual effects for:

    Solar Array Area

    - Residential receptors at Property Group R2, including; Howell Fen Farmhouse (R2a), Asgarby Barns (R2b) and Westmorelands Farm (R2c);
    - <u>Residential receptors at Property Group R3 Copperhill Kennels Cattery Waithe Farmhouse The Grange, Ferry Farm and Mere House – not identified in the main LVIA assessment section, which we assume is an omission)</u>
    - Residents of Property White House Farm (R10);
    - Residential receptors at Property Group R20, including; Crown Cottage (R20a) and Keepers Cottage (R20b);
    - PRoW network near the River Slea, including; PRoW Ewer/8/2, Ewer/8/1 and Anwi/2/2;
    - Users of Bridleway Ewer/1103/1;
    - Users of Black Drove/Ferry Lane/Halfpenny Toll Lane;
    - Users of Howell Fen Drove

    Bespoke Access Road

    - Users of PRoW to the west of Asgarby Lane, including; KkLT/6/1ASHo/2/1, KkLT/4/2 and KkLT/5/1

These represent a large reduction in receptors experiencing Significant effects and also several receptors have reduced in the level of Significance: from Major to Moderate adverse (but remain Significant). We would expect this reduction, which is predominantly from the Cable Corridor and Bespoke Access Road having construction effects, but limited adverse effects

once completed being either below ground (cable), or a change in the ground surface (road), which would have limited wider visibility. While there are still several receptors identified as experiencing Significant adverse visual effects from the Development, we would query as to how views that are temporary in nature (at construction) to those of a long term/permanent change are able to reduce, especially as at this stage, any mitigation planting is yet to establish and is subsequently providing limited screening or integration of the Development. This needs to be clarified.

- **At Operation (Year 15):**

  - **Major Adverse** (Significant) visual effects for:
    - Residential receptors at Gashes Barn (R4);

  - **Moderate Adverse** (Significant) visual effects for:
    Solar Array Area
    - Residents of Ewerby Thorpe Farm (R1a);
    - Residents of Ewerby Thorpe Lodge (R1b);
    - Users of the PRoW network near the River Slea, including; PRoW Ewer/8/2, Ewer/8/1, Ewer/9/1, Ewer/12/1 and Anwi/2/2

    Bespoke Access Road
    - Users of PRoW to the west of Asgarby Lane, including; KkLT/6/1ASHo/2/1, KkLT/4/2 and KkLT/5/1

These represent a further reduction in receptors experiencing Significant effects through the establishment of mitigation planting over 15 years from planting. The LVIA therefore identifies that several visual receptors will experience Significant adverse effects over the remaining 30 years (45 years in total) of the development.

- **At Decommissioning,** effects would be similar to those at the construction phase, however, the Site and local landscape will benefit from established planting associated with the scheme, which would provide screening and integration in views.

5.16 We have noted several errors in transcribing Significance of effect from Appendix 6.4 Visual Assessment into the main LVIA text, for example where some effects that are judged as Major in Appendix 6.4 have been described as Moderate in the main narrative, or have not been identified at all. We request this is further reviewed and the main LVIA chapter accurately reflects the assessment carried out in Appendix 6.4 as often Significant effects are underplayed or not identified, leading to a misinterpretation of potential visual effects. One example is for Residential receptors at Gashes Barn (R4): the LVIA chapter and subsequent summary Table 6.8 judges this to have a Moderate Adverse Year 15 residual effect, whereas Table 1.21 of Appendix 6.4 judges year 15 residual effects at Major Adverse. Subsequently the RVAA judges Gashes Barn (R4) in Table 1.1 Moderate Adverse Year 15 residual effects. We

request the judgements are reviewed thoroughly and a tracked change LVIA is provided for us to fully assess the findings of the visual assessment and comment upon individual judgements.

5.17 However, notwithstanding this, the Development has been identified in the LVIA as resulting in a Significant change to a variety of visual receptors during construction and in the early years of operation and maintenance, with Significant *residual* visual effects much reduced in number, which suggests a potential over reliance upon mitigation planting to screen the proposals without full attention to the potential impact of this screening on the landscape; mitigation planting must be well considered at any detail design stage, and not simply put in place to screen views of development at the cost of the existing view. These residual Significant effects have been identified as arising from sensitive users on the road and PROW network, along with residents that are in close proximity to the Development. The identified reduction in several Significant visual effects relies upon the successful establishment of the mitigation planting scheme and a robust OLEMP that is carried out for a suitable period of time.

5.18 Subsequently, we disagree with several reductions in level of significance of effect at year 15 through the establishment of mitigation planting. The assumption made for several receptors is that by screening views of the scheme with planting, the level magnitude of effect will also reduce. In several instances the view from receptors will be completely altered from that of the existing, baseline view, predominantly from blocking or foreshortening expansive views across an open rural landscape. These are predominantly from residential properties in close proximity to the Solar Arrays, for example:

- R1 Group Receptor: a. Ewerby Thorpe Farm b. Ewerby Lodge;
- R2 Group Receptor: a. Howell Fen Farmhouse, b. Asgarby Barns c. Westmorelands Farm, (Potential views of Solar Array Area and Cable Route Corridor);
- R3 Group Receptor: 3a Copperhill Kennels Cattery 3b Waithe Farmhouse 3c The Grange 3d Ferry Farm & Mere House;
- R4 Gashes Barn;
- R20 Group Receptor: Howell including; 20a Crowne Cottage 20b Keepers Cottage.

5.19 The outlook from residents in these properties will be altered and foreshortened, which is clearly illustrated on the *Appendix 6.5 – Residential Visual Amenity Assessment* Figure 1a,b,c - Howell Fen Farmhouse; Figure 2a,b,c - Keepers Cottage; and Figure 3a,b,c.

5.20 We judge that the year 15 effect on all these nearby residential receptors will be at least Moderate and Significant. The panels are proposed to be located very close to these receptors and the mitigation planting itself, designed to screen panels, is changing the view detrimentally; completely changing the character and openness of the view, and appearing out of character in this location. Even with a larger offset of development, or increased landscape buffer, the open views would predominantly be foreshortened and changed to the exiting. The year 15 assessment must be on changes to the baseline, not on how successfully the development is being screened from view.

6.0 Appraisal of Cumulative Landscape and Visual Effects and Residential Visual Amenity Assessment

The following section provides a review of the cumulative effects and Residential Visual Amenity Assessment (RVAA), based on the following criteria:

- *Have cumulative landscape and visual effects been addressed?*
- *Are the RVAA and cumulative effects methodologies in accordance with relevant guidance and meet the requirements of the relevant Regulations?*
- *Does the methodology and scope of the assessment of cumulative effects and RVAA meet the requirements agreed in discussions at the pre-application stage during scoping and consultation?*
- *Has the methodology been followed consistently?*
- *Are residential and cumulative receptors and all likely effects comprehensively identified?*
- *Are any residential properties (receptors) likely to experience significant effects to their visual amenity?*

Cumulative Methodology

6.1 Cumulative landscape effects are considered in *Chapter 18: Cumulative Effects*, and the approach to landscape and visual effects contained within paragraph 6.4.11, with paragraphs 6.4.12 to 6.4.13 relating to Cumulative Landscape Effects and paragraph 6.4.14 relating to Cumulative Visual Effects. Section 6.9 of the LVIA provides a summary of the Assessment of Cumulative Landscape and Visual Effects.

6.2 The cumulative landscape and visual effects section within ES Chapter 18 is dealt with separately in *Table 18.3 Inter-Project Cumulative Effects Assessment*, and provides a clear assessment of the cumulative landscape and visual effects.

6.3 The Cumulative Study Area for landscape and visual is identified within *Table 18.2* of Chapter 18 which clarifies that a 5km zone of influence from the order limits has been considered for cumulative Landscape and Visual matters.

Cumulative Landscape and Visual Effects

6.4 Cumulative landscape and visual effects are those that: *"may result from adding new types of change or from increasing or extending the effects of the main project when it is considered in isolation"*.

6.5 Table *6.7 of the LVIA* identifies the schemes that have been considered, and of those four have been identified for inclusion for assessment of cumulative landscape and visual effects:

- *Heckington* Fen Solar Park;
- Vicarage Drove;
- Bicker Fen Solar Farm; and
- Little Hale Solar Farm.

6.6 No Significant landscape or visual cumulative effects are identified in the LVIA. However, we have concerns regarding cumulative effects due to the unprecedented number and extent of renewable energy projects and associated infrastructure in the region. The mass and scale of several NSIP scale energy projects, along with planned National Grid projects, combined with Beacon Fen has the potential to lead to adverse effects on landscape character over an extensive area across multiple published character areas. The landscape character of the Lincolnshire region will be altered over the operational period through an extensive area of land use change, and introduction of energy infrastructure in an area that is predominantly of agricultural character and land use; solar development is not identified within current published character assessments at a local, regional or national scale. While it is not suggested that agriculture will not remain as a defining characteristic, over a short period of time large scale solar and other energy infrastructure will undoubtable become a widespread characteristic in the region. Subsequently, we judge that solar development would be a key characteristic in any updates to published character assessments from local to national scale.

6.7 However, given the absence of a unified, county-wide landscape character baseline across Lincolnshire, this presents a challenge when assessing cumulative effects over a strategic county-wide scale to consider all these energy projects. Therefore, an approach we are promoting is to extract common landscape attributes of the area from the multiple character area assessments that cover the region, enabling a reasoned, evidence-led baseline, and

subsequently assessment, of cumulative landscape effects across the wider county area. For example, across Lincolnshire: the Land Use is Predominantly arable agriculture; Field Patterns are predominantly medium to large-scale; the Topography has a predominantly flat to gently undulating landform; Perceptual Qualities are predominantly quiet and with a rural character and high levels of tranquillity; the Settlement Pattern is generally dispersed villages and market towns; Vegetation & Tree patterns are generally open with sparse or isolated tree cover; and regarding Views & Openness, there is generally a strong sense of openness, big skies, and expansive views. Therefore, across the region, based on these shared characteristics large scale solar development and new energy infrastructure would create cumulative change of the landscape character through an extensive Land Use change, directly affecting the perceived openness, and rural tranquillity. We judge large scale solar, battery and energy infrastructure will subsequently be a distinctive key characteristic across the region as a whole.

6.8 This would also be an issue when experienced sequentially for visual receptors travelling through the wider landscape and experiencing these schemes across potentially several kilometres, albeit with gaps between the schemes. However repeated views and presence of large scale solar would undoubtably increase the susceptibility of receptors to changes in view through visual fatigue in which viewers experience a diminishing capacity to absorb or tolerate repeated or similar visual stimuli (solar development) along routes, eroding the rural landscape character and increasing a broader perception of landscape industrialisation.

6.9 GLVIA3 defines types of cumulative visual effect as either: Combined (in same view) or Sequential. Table 7.1 of GLVIA3, regarding Sequential Cumulative visual effects states: *"Sequential: Occurs when the observer has to move to another viewpoint to see the same or different developments. Sequential effects may be assessed for travel along regularly used routes such as major roads or popular paths"*

6.10 We judge that the sequential effects would be felt throughout the area, with PROW users, that are more susceptible to changes in their view, moving slowly and often engaging with the landscape attentively; Travel along these PROW presents successive experience with solar infrastructure, creating a sequential visual effect. PROW users traveling along several rights of way have been identified within the applicants LVIA as having significant adverse visual effects at year 15. If users of these routes had previously, or would subsequently, travel on rights of way or other linear routes with views of other solar schemes (as identified in the LVIAs

associated with these projects) the implication is that users would likely experience sequential visual effects across two or more schemes, even at Year 15 when mitigation should have matured. Combined with receptors traveling long distances along road corridors in the region with views of the scheme, this can form a coherent visual narrative: a rural area increasingly defined by clustered energy-infrastructure development.

Residential Visual Amenity and Settlements

6.11 Residential Visual Amenity has been considered as part of the LVIA. Appendix 6.5: *Residential Visual Amenity Assessment* provides a detailed assessment of Residential Visual Amenity. Views from Residential Receptors and Settlements are also considered within the LVIA, however no reference is made within the LVIA to *Appendix 6.5*, although *Figure 6.7 Residential Properties* illustrates the location of residential properties and settlements. From this it is unclear as to how the Residential Visual Amenity Assessment (**RVAA**) and LVIA have been coordinated, relying on the reader cross referencing findings. It would be useful for the LVIA to provide a clear statement in this regard, and also how the RVAA has informed the LVIA assessment of Views from Residential Receptors and Settlements as well as the overall site layout and mitigation.

6.12 RVAA methodology is included within Section 1.18 of the LVIA methodology within Appendix 6.2. The methodology is sound and reflects Landscape Institute *TGN 2/19: Residential Visual Amenity Assessment*, however the main LVIA does not state that it has considered this process explicitly, or reference RVAA or whether Residential Visual Amenity Threshold (**RVAT**) has been met by any properties. The detailed visual assessment within Appendix 6.4, at Table 1.20, references *Appendix 6.5* only once for residents at Ewerby Thorpe Hamlet, however is not mentioned or referenced again for the remainder of the properties, the majority of which appear in both the RVAA and LVIA chapter.

6.13 RVAA is a stage beyond Landscape and Visual Impact Assessment and focuses exclusively on private views and private visual amenity, whereas the LVIA process is typically associated with public views from public areas. The Landscape Institute's Technical Guidance Note *2/19: 'Residential Visual Amenity Assessment'* provides further detail and that that the Residential Visual Amenity Threshold (**RVAT**) is reached when the change to visual amenity of residents in individual properties identified as *"having the greatest magnitude of change".*

6.14 The RVAA has utilised a study area of 250m which is reasonable, with TGN 2/19 not being explicit in defining a study area for RVAA. The baseline identified sixteen groups of properties within the 250m study area, which are listed in Table 1.1. Of these, properties where operation phase significant effects have been predicted are as follows:

- R1 Group Receptor: Eweby Thorpe Farm; and Ewerby lodge.
- R2 Group Receptor; Howell Fen Farmhouse; Asgarby Barns; and Westmorelands Farm.
- R4 Gashes Barn.
- R20 Group Receptor; Crown Cottage; and Keepers Cottage.

6.15 On this scheme, due to the scale and extents, as well as height of some elements (e.g. Sub stations) we would anticipate that some residents will experience Significant adverse visual effects from several properties, as laid out in the RVAA. Of particular concern is R4 Gashes Barn which is judged to reach the Residential Amenity Threshold due to the proximity of works and the scheme, which will surround this property. While it is judged that this would reduce with the establishment of planting, this is very much dependent upon the successful implementation of a robust management regime to ensure establishment, and even with established planting the extent as this property being surrounded by the development, completely changing the current open rural outlook and context for residents remains a concern. Again, established mitigation planting will aid in screening the development, however the open views will be foreshortened drastically.

6.16 However, we agree with the RVAA that while the remaining properties will experience Significant effects, it is unlikely that these will reach the RVAT through the Development of Beacon Fen.

6.17 The *Embedded Mitigation* section of the LVIA (para. 6.3.15 onwards) also goes on to explain how the site layout and mitigation has responded to properties, stating *"Reduction in the extent of the proposed solar PV panels to provide buffers from nearby residential receptors", which is also stated in Appendix 2.3: Embedded Mitigation,* however it is not explicit as to how adverse effects from properties have been fully considered as part of an iterative process. Offsets and Buffers are mentioned throughout the submission, however these predominantly refer to ecological or drainage constraints, or consideration of noise. Section 5.3.2 of the Design and Access Approach Document mentions discussions with Gashes Barn and

discussions of buffers. We have been unable to locate as to what these buffers are, how they have been established, both in the case of R4 Gashes Barn, but also other properties in close proximity (R1, R2, and R20). Offsets and buffers from sensitive receptors on the whole look minimal, and further clarification on the depth and extent of these and how they have been considered as part of an iterative process would be beneficial. As previously stated in this review, we have concerns regarding the proximity of the development to these properties, and also that the scheme will completely change the baseline views, with panels and subsequently established planting (at year 15) foreshortening views and blocking open and expansive views across this landscape. This is demonstrated on Figure 1a,b,c - Howell Fen Farmhouse; Figure 2a,b,c - Keepers Cottage; and Figure 3a,b,c within *Appendix 6.5.*

7.0 Mitigation and Design

The following section provides a review of the Mitigation and Design, based on the following criteria:

- *Is there evidence of an iterative assessment-design process and it is clear that this has informed the site redline, layout and primary and secondary mitigation?*
- *How appropriate is the proposed mitigation?*
- *Are potential cross-over topics, such as heritage or ecology, addressed and incorporated within the mitigation?*
- *Is the long-term management of existing and proposed vegetation properly addressed in any management plans to promote establishment?*

Evidence of Iterative Process

7.1 The scheme has been presented as evolving through an iterative process, with the landscape and visual findings feeding back into the design.

7.2 This is clarified in paragraph 6.3.15 which states that: "*Environmental considerations have influenced the Proposed Development throughout the design development process of the Solar Array Area and the site selection process for the Cable Route Corridor and the Bespoke Access Corridor".* Paragraph 6.3.16 goes on to state: *"The iterative design process has been informed by the Landscape and Visual Assessment, developing design principles".*

7.3 Paragraph 6.3.17 describes how the scheme has responded to landscape and visual matters, and responded to statutory consultation feedback and environmental surveys. The design appears to demonstrate some evolution through different stages of the masterplan. The mitigation appears to respond to the identified landscape and visual effects; however we would like further detail on distances and extent of proposed landscape buffers and planting. The Order Limits do appear very development heavy, with green space, buffers and habitat creation limited in area. Offsets and buffers to residential properties appear very limited considering the number of these sensitive receptors, and would benefit from further information being provided to understand distances from property lines to nearest development, fence line and mitigation planting.

7.4 As previously identified, we also have concerns regarding mitigation planting which may appear to be out of character and potentially jarring in views. This is an open landscape with boundaries predominantly defined by drainage ditches and some carriageway hedgerows. While there is an aspiration to increase areas of woodland blocks and improve connectivity, the planting scheme in reality appears as a way to screen views of the scheme, which in turn blocks currently open views and reduces the perception of an openness in this landscape.

Mitigation Measures

7.5 Landscape and Ecology proposed as part of the Scheme is covered by Work Order 9, which is subsequently located according to the Works Plans (Figure 2.4). However, on the works plans, these areas only show as isolated blocks, with the site boundary and field boundaries not covered by Work Order 9. It needs to be clarified how these boundary landscape areas are secured on site as currently all these areas fall outside any of the Work Order hatches indicated on the Legend of Figure 2.4 appearing as white, and subsequently not linked to any Work Order.

7.6 Paragraph 6.3.20 of the LVIA provides a summary of the landscape mitigation measures illustrated in the Landscape Strategy Plan**.** *Appendix 6.6: Outline Landscape and Ecology Management Plan* (OLEMP) provides information regarding the establishment and maintenance of the planting associated with the Development, as shown on *Figure 6.31: Landscape Strategy Plan*.

7.7 The success of the landscape mitigation to meet the objectives laid out in the management plan - to integrate and screen proposals, promote conservation and protection of the environment, and encourage ecological and habitat diversity - is highly dependent upon the successful management and maintenance of the new planting, as well as the protection of exiting trees and hedgerows. The maintenance operations provide an initial overview of operations; however, we would expect the management plan to be developed further, well beyond the initial 5-year period, particularly if landscape and visual effects are being assessed at 15 years. The long-term reduction in landscape and visual effects, presented in the LVIA, are based on the long-term success of the landscape mitigation, and therefore the management plan should cover at least this period, and should be in place and actively managed for the lifetime of the project. Similarly, any early planting (pre-construction) should

be included in the maintenance plan as the reduction in effects described in the LVIA are also based on the assumption that this too will have established as planned.

7.8 Monitoring of the proposals is a key aspect of the mitigation plan and is something which needs further development to ensure there is sufficient robustness to deal with the challenging climatic conditions when it comes to establishing new planting. The updating of the management plan every 5 years after the initial establishment period will go some way to ensuring that it is kept valid and can respond to issues and trends effectively, such as climate change. Plant replacements should also be considered, and also for a longer period then a "standard" 5 years, and cover for scenarios where there are large areas that have not established, or areas of significant die back beyond a 5 years period.

7.9 While the submission includes landscape proposals, these are of a high level and it would be expected that if the project proceeds much more detailed plans would to be submitted and subsequently agreed with the appropriate consultee/authority prior to the commencement of any works, which would be secured as a Requirement of the DCO. This would include clear detail of the areas of landscape mitigation, location and types of planting (species), as well as number, density and specification.

7.10 We accept that planting can be an effective way to screen development proposals and add valuable landscape and ecological elements into the landscape, however this needs to be carried out in a way that is sensitive to the existing landscape character, or meet any aims of a published character assessment to improve or introduce new planting to an area. While residual visual effects have been assessed as reducing at 15 years through mitigation planting, this is completely dependent upon the successful establishment of the planting and it growing in a manner that is anticipated within the LVIA, and illustrated on the accompanying visualisations. This is always going to be a risk, and if the planting does not establish as anticipated, the residual effects will likely be higher than judged.

7.11 This is an open landscape, and planting to simply screen could have detrimental impacts. The PROW and local roads in the study area enjoy an open aspect across most areas of the Study Area, for example from adjacent residential properties with views across the and land beyond. Therefore, care needs to be taken to prevent the loss of this character through an overbearing set of mitigation proposals. It is noted that appropriate development offsets, and with careful design, will go some way to address the matter raised.

8.0 Conclusions and Recommendations

The following section provides an overall summary and conclusion on the suitability of the Landscape and Visual elements of the DCO Application and whether they are sufficient to support an informed decision. This includes the adequacy of the LVIA, reviewed in accordance with the Landscape Institute *Technical Guidance Note 1/20 (10 Jan 2020): Reviewing Landscape and Visual Impact Assessments (LVIAs) and Landscape and Visual Appraisals (LVAs)*.

Finally, there are recommendations for further information that should be provided to assist in the examination of the DCO Application.

Summary and Conclusions on the LVIA

8.1 The LVIA and associated figures, appendices and documents provide a generally comprehensive assessment of the Development, with an appropriate level of detail for a scheme of this scale and context. The assessment process is relatively well presented, with baseline conditions and predicted effects set out in a structured way. Significant effects on both landscape character and visual amenity are identified; however, there are several areas where further clarity or additional work is considered necessary.

8.2 By virtue of its scale and massing, the Development would result in Significant adverse effects on local landscape character and visual amenity during all key phases (construction, early operation, and at year 15). The proposals would fundamentally alter the character of the site and its surroundings, replacing open, agricultural fields with extensive solar infrastructure. This represents a substantial and long-term change to the openness, tranquillity, and rural character of the area. Whilst the LVIA categorises residual effects as partially reversible, we consider that, given the likely operational lifespan and scale, the change should be regarded as effectively permanent in landscape and visual terms.

8.3 Significant adverse visual effects are also predicted for a range of receptors, due to the transformation from rural agricultural views to those containing large-scale solar arrays. We have highlighted some issues with the visual assessment within the LVIA and compliance with the recent Landscape Institute *Technical Guidance Note LITGN-2024-01,* and we also have concerns that the mitigation planting itself could generate adverse visual effects though blocking or foreshortening views and appearing out of context.

8.4 Cumulative landscape and visual effects with other renewable energy and infrastructure projects across the county present a further concern. Whilst the immediate cumulative schemes within the ES are relatively modest, the scale of other NSIP and large-scale energy projects proposed in the wider area raises the potential for extensive alteration of the regional landscape character. The combined effect of these developments could be a marked and enduring change, both directly through a change in land use and introduction of solar as a key element, and also in the perception and experience of the landscape, particularly for visual receptors travelling through the landscape and experiencing sequential effects. This is a clear and marked change to landscape character.

8.5 Tree and vegetation removal associated with the Development, including wider highways improvements and access for construction, must be clarified through the examination process, and subsequently any works (such as lopping or pruning), or removal of trees and hedgerows must be agreed prior to any works commencing. Prior to any construction activities, all tree and hedgerow protection methods associated with that phase of construction should also be clarified and subsequently agreed with the appropriate authority (in this case the local planning authority). This would be to BS:5837 Trees in Relation to Construction and any subsequent arboriculture method statements, again this should be approved by the appropriate authority. In particular this should ensure existing trees, and associated root protection areas, are suitably protected throughout the entire construction period. This would also likely include areas within the order limits, but away from construction activity, such as storage areas for materials which may suffer from tracking by plant that would damage tree root protection zones.

8.6 While the submission includes landscape proposals (as shown on *Figure 6.31: Landscape Strategy Plan*, secured via Work Order 9 on the Works Plans and DCO), these are of a high level and it would be expected that if the project proceeds much more detailed plans would to be submitted and subsequently agreed with the appropriate authority prior to the commencement of any works and secured through Requirements of the DCO. This would include clear detail of the areas of landscape mitigation, location and types of planting (species), as well as number, density and specification. The mitigation illustrated on the layout plans has been utilised to assess the landscape and visual effects of the scheme; therefore, we would expect any detailed landscape proposals to consist of the area and extent shown on these plans as a minimum.

APPENDIX A

AAH Landscape and Visual Relevant Representation

Technical Memorandum 5 (AAH TM05)

Beacon Fen Solar Farm

Relevant Representation Landscape and Visual Comments

Lincolnshire County Council & North Kesteven District Council

Introduction

On behalf of Lincolnshire County Council (**LCC**), and North Kesteven District Council (**NKDC**), AAH Consultants have reviewed the relevant Landscape and Visual elements of the Beacon Fen Solar Farm Application to provide initial comment to be incorporated within a Relevant Representation statement from both LCC and NKDC.

Beacon Fen, which is proposed on land to the north of Heckington, would have a generation capacity of approximately 400 megawatts (MW) of electricity per year, with a 600MW BESS. The scheme is located within Lincolnshire, within administrative area of North Kesteven District Council but approximately 10% of the works fall within the Boston Borough Council area, which is limited to the southern extent of the Cable Route Corridor. However, from a landscape and visual perspective, due to the scale of the proposed scheme it has been considered in its entirety, with views and wider landscape effects from all areas of jurisdiction being considered.

The documents that have been accessed and reviewed are available on the Planning Inspectorate Website at:
https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN010151/documents

A full review of the landscape and visual elements of the scheme is currently being carried out, but this Technical Memorandum summarises our initial comments. This full review will be included within the individual Local Impact Reports (**LIR**) submitted by LCC and NKDC later in the examination process. This will include a review of the submitted Landscape and Visual Impact Assessment (**LVIA**) chapter and associated appendices and figures of the ES to *Technical Guidance Note (TGN) 1/20 Reviewing Landscape and Visual Impact Assessments (LVIAs) and Landscape and Visual Appraisals (LVAs),* 10th January 2020, by the Landscape Institute (**LI**).

Landscape Effects

As a result of its mass and scale, it is clear that the proposed development would lead to some Significant Adverse effects upon the existing landscape and visual baseline, which is reflected within the submitted LVIA.

The development has the potential to transform the local landscape by altering the character on a large scale. This landscape change also has potential to affect wider landscape character, at a regional or county scale, by replacing large areas of agricultural or rural land with solar development, affecting the current openness, tranquillity and agricultural character, that are defining characteristics of the area. We are particularly concerned with identifying the landscape character effects through changes to the land use over an extensive area of agricultural land.

Significant landscape effects are subsequently identified within the LVIA chapter with the identification of Significant adverse effects at a Site level and to Published Landscape Character Areas at Construction, Year 0 Operation and Year 15 Residual. The assessment judges that the only

Significant Residual landscape effects are at Site level, with Significant effects on the Fenland and Holland Reclaimed Fen Sub Areas at Construction and Operation reduced after 15 years to Not Significant. While these Significant effects are of a concern, the judgement within the LVIA appears to be well reasoned, but a more detailed review will interrogate these findings and alignment with the methodology.

Visual Effects

The scale and extent of development would also lead to Significant Adverse effects on views from visual receptors, resulting in a change to the views experienced of an agricultural or rural landscape to a landscape containing large scale solar development.

The development has been identified in the LVIA chapter as resulting in a Significant change to a variety of visual receptors at Construction, Year 0 Operation and Year 15 Operation. Significant Residual visual effects largely arise from sensitive users in close proximity to the development where it is not possible to sufficiently screen views of the development.

While we acknowledge that the new planting and habitat creation will be valuable assets within the context of the surrounding agricultural landscape, they are part of a large-scale solar development. The planting, if it establishes as predicted, will also go some way in screening and integrating proposals in views. However, we note that the reduction in Significant landscape and visual effects predominantly relies upon the successful establishment of the planting scheme.

Cumulative Effects

The cumulative landscape and visual effects of the proposed development are considered in Chapter 18 of the ES, specifically in Table 18.3, which concludes that there are no cumulative landscape and visual effects**.**

While a 5km study area has been utilised for schemes to be considered for Inter-Project landscape and visual effects, due to the extent and proximity of additional NSIP scale solar schemes in the area, we would suggest the examination is utilised to explore the potential for significant effects from these schemes. Schemes further afield, such as Springwell Solar, Leoda Solar and Fosse Green, are also of concern, despite the intervening distances between these developments.

We have concerns regarding effects on the national, county and regional landscape character areas. The mass and scale of these projects combined has the potential to lead to adverse effects on landscape character over an extensive area across these published character areas. The landscape character of the local, and potentially regional area, may be completely altered over the operational period through an extensive area of land use change, and introduction of energy infrastructure in an area that is predominantly agricultural. This would also be an issue when experienced sequentially for visual receptors travelling through the landscape and experiencing multiple schemes across potentially several kilometres, albeit with gaps between some of the projects. However repeated views and presence of large scale solar would combine over time to create a greater perception of change.

To calibrate this change to the landscape, these schemes combined, if built, would clearly require the update of any published landscape character assessment, including at a national level (NCA's), so as to include large scale solar as a defining land use characteristic as well as agriculture. This is a clear and marked change to landscape character, and several schemes have already been approved, with many in the planning system. It should also be noted that other renewable and energy infrastructure

projects (such as Solar, BESS, Hydrogen, Pylons and cables along with associated infrastructure) are planned in the region, including NSIP and DCO schemes as well as TaCPA scale projects, which together will change the character of the wider landscape.

Mitigation & maintenance

The Solar Farm would evidently deliver landscape and ecological improvements through mitigation areas and planting. However, this will be dependent upon the information set out in the Outline Landscape and Ecology Management Plan and Figure 6.31 Landscape Strategy Plans which illustrate the mitigation, which should be further explored, and we assume would be refined at the detailed design stages.

The *DCO* should include for approval of any subsequent detailed landscape and ecological mitigation scheme (planting works), as referenced in Schedule 2 of the DCO. This should clearly link to any landscape mitigation scheme that is submitted as part of the scheme, and subsequently that which has been assessed as part of the LVIA. This should not just be a management plan, but a detailed landscape scheme clearly identifying plant species, numbers and specifications along with planting details.

The *DCO* should also include for an appropriate period of landscape maintenance, that ties into a period of time identified in the Outline Landscape and Ecology Management Plan, and would expect an initial 15-year period of management and maintenance as a minimum, which would align with the assessed residual landscape and visual effects. This would subsequently be regularly reviewed and monitored at a reasonable period, such as every 3 to 5 years and implemented for the lifetime of the project. This should include for a reasonable plant replacement program, such as following a significant loss or failure to thrive, to ensure the planting scheme meets the aims and objectives laid out in the submission.

Control of vegetation removal

Proposed vegetation removal is identified within the Draft DCO, Figure 6.32 Vegetation Removal Plans and Appendix 6.6 Arboricultural Impact Assessment. Clear vegetation removal processes should be put in place to ensure any vegetation loss is aligned with these plans and schedules and further removal or works is agreed with the relevant parties prior to any works being carried out. This should clearly relate to vegetation removal plans and AIA, and this must also include vegetation removal or works to facilitate wider highways and access works, such as for abnormal loads.

Tom Ferraby BA(Hons) Dip LA & Oliver Brown CMLI
AAH Landscape

[redacted]

[redacted]

5th June 2025

APPENDIX B

Landscape Institute Technical Guidance Note 1/20 (10 Jan 2020): Reviewing Landscape and Visual Impact Assessments (LVIAs) and Landscape and Visual Appraisals (LVAs)

Landscape Institute Technical Guidance Note

Reviewing Landscape and Visual Impact Assessments (LVIAs) and Landscape and Visual Appraisals (LVAs)

Technical Guidance Note 1/20 (10 Jan 2020)

The purpose of this guidance is to establish a framework for carrying out reviews of LVIAs and LVAs, analysing in a structured and consistent way if the assessment reflects the approach advocated in GLVIA3 and has led to reasoned and transparent judgements. Use of this framework should in due course further raise the standard of assessments

1. Introduction

The third edition of the *Guidelines for Landscape and Visual Impact Assessment* (GLVIA3) was published in April 2013. It has been widely welcomed, accepted and adopted for use in assessing the effects of projects on landscape and visual amenity and since publication been promoted by Landscape Institute (LI) training events.

GLVIA3 sets out that assessment of effects on the landscape and visual resource that may result from a development proposal may be undertaken formally as Landscape and Visual Impact Assessment (LVIA) typically as part of an Environmental Impact Assessment (EIA) or less formally as a Landscape and Visual Appraisal (LVA). The LI strongly recommends that GLVIA 3 is followed when undertaking these assessments and that the resulting LVIAs and LVAs should be objective with clear thinking, easy to follow, and demonstrate how they have informed appropriate siting, design, and mitigation.

The main difference between an LVIA and LVA is that in an LVIA the assessor is required to identify 'significant' effects in accordance with the requirements of Environmental Impact Assessment Regulations 2017, as well as type, nature, duration and geographic extent of the effect whilst an LVA does not require determination of 'significance' and may generally hold less detail.

In the case of LVIAs, The Regulations have further implications for landscape professionals:

- Reg. 18 (5) stipulates that the developer must ensure that the ES is prepared by '*competent experts'* and that the developer must include a statement "*outlining the relevant expertise or qualifications of such experts".*

- Reg 4 (5) places obligations on the relevant planning authority or the Secretary of State because they "…*must ensure they have, or have access as necessary to, sufficient expertise to examine the Environmental Statement."*

Note that the terms 'competent expert' and 'sufficient expertise' are not defined in the EIA Regulations. The Landscape Institute, in the absence of formal certification of specific competence, considers that a 'competent expert' would normally be a Chartered Member of the Landscape Institute who, has substantive experience of undertaking and reviewing LVIAs. This may be evidenced by the assessor's CV, by reference to previous assessments, and by endorsement by other senior professionals.

Following on from GLVIA3, which focusses on how to *undertake* LVIAs/LVAs, this document provides guidance on how to *review* LVIAs or LVAs prepared by others. Such review may be undertaken from within the organisation which produced the LVIA/LVA, e.g. as part of a QA process, or by third parties on receipt of LVIAs and LVAs, such as landscape and or planning professionals in public sector bodies.

This guidance sets out a framework for carrying out such reviews in a structured and consistent way that reflects the approach to assessment advocated in GLVIA3 and use of it should further raise the standard of assessments.

2. Existing advice and guidance

GLVIA3 Chapter 8, under the heading "Review of the landscape and visual effects content of an Environmental Statement", says:

"8.35 Competent authorities receiving Environmental Statements will often subject the documents to formal review of both the adequacy of the content and of their quality. The review process will usually check that the assessment:

- *meets the requirements of the relevant Regulations;*
- *is in accordance with relevant guidance;*
- *is appropriate and in proportion to the scale and nature of the proposed development;*
- *meets the requirements agreed in discussions with the competent authority and consultation bodies during scoping and subsequent consultations.*

8.36 The summary good practice points in this guidance should assist in review of the landscape and visual effects content of an Environmental Statement. In addition, several existing sources may also help anyone involved in reviewing this topic to decide what to look for:

- *IEMA has developed a series of general criterial for reviewing Environmental Statements and registrants for the EIA Quality Mark*[1] *must meet the criteria…*
- *The former Countryside Commission published criteria for reviewing the landscape and countryside recreation content of Environmental Statements…*
- *Appendix 1 of Scottish Natural Heritage's Handbook on EIA* [2]*contains useful tests to help judge the landscape and visual effects content of Environmental Statements…"*

In addition, European Commission guidance on ES review[3], published in 2001 and, although directed at whole ES review rather than topic specific review, has also provided useful pointers.

This review framework has been developed in this context.

[1] IEMA EIA Quality Mark, IEMA website: [redacted] [accessed 200110]

[2] Scottish Natural Heritage, A handbook on environmental impact assessment v5, 2018, SNH website: [redacted] [accessed 200110]

[3] European Commission, Guidance on EIA-EIS Review, Luxembourg: Office for Official Publications of the European Communities 2001 ISBN 92-894-1336-0, EC website: [redacted] [accessed 200110]

3. Carrying out the review

There are three main components of a review of a LVIA or LVA leading to a report containing the overall conclusion in respect of the completeness, competency and reliability of the LVIA/LVA.

1. **Checking the methodology used to undertake the assessment, the criteria selected (including balance between), and the process followed;**
2. **Checking the baseline, content and findings of the assessment;**
3. **Checking the presentation of the assessment findings.**

As a starting point when undertaking a review, the reviewer will need to define the structure and process to be followed by for example setting out a set of headings or questions against which the LVIA or LVA is examined. Setting out standard or systematic questions will allow consideration being given to each step and each element covered in the assessment. The "good practice" bullet points at the end of each chapter in GLVIA3, noted above, may provide a starting point for such an approach. It is also important to bear in mind the principle of proportionality (cf. EIA Directive). Both the LVIA (or LVA) and the Review should have a defined scope and level of detail which is proportionate and reasonable to allow an informed decision to be reached.

In order to improve consistency and quality of reviews of LVIAs and LVAs the Landscape Institute has produced this framework. Those who undertake reviews should follow this framework and modify or adapt the framework to the Review being carried out and set out the reasons for such modifications.

Step 1. Checking methodology, criteria and process

In this phase, the reviewer will check the methodology, scope and process used in the assessment and how these relate to GLVIA 3. This involves reviewing the following:

a) Does the scope of the assessment meet the requirements set out in the Scoping Opinion and/ or as defined in the LVIA or LVA and if substantively different, are the reasons clearly set out and explained?
b) What consultations have been carried out and have responses been acted upon?
c) Has the scope and methodology of the assessment been formally agreed with the determining authority? If not, why not?
d) As part of the methodology, has the terminology been clearly defined, have the criteria to form judgements including thresholds been clearly defined and have any deviations from good practice guidance (such as GLVIA3) been clearly explained?
e) Does the assessment demonstrate a clear understanding and provide a separate consideration of landscape and visual effects?
f) Does the assessment demonstrate comprehensive identification of receptors and of all likely effects? and
g) Does the assessment display clarity and transparency in its reasoning, the basis for its findings and conclusions?

Step 2. Check the baseline, content, and findings of the assessment

As part of this stage in the review process the reviewer will consider the description of the baseline, both in narrative as well as in illustrations by plans, photographs and drawings etc. This may also include publicly available aerial photography, books, online resources, local plans and management plans.

The reviewer may also consider that a site visit may be necessary either to complement or to verify baseline information. The site visit and potential visits to viewpoints are also useful to check actual findings of the assessment.

This stage of the review typically includes further tests:

a) What is the reviewer's opinion of the scope, content and appropriateness (detail, geographic extent) of both the landscape and the visual baseline studies which form the basis for the assessment of effects (supported by appropriate graphic such as ZTVs etc as appropriate)?
b) Has the value of landscape and visual resources been appropriately addressed (including but not necessarily limited to) considerations of: local, regional and national designations; rarity, tranquillity, wild-land and valued landscape?
c) Have the criteria to inform levels of sensitivity (both landscape and visual) and magnitude of change have been clearly and objectively defined, avoiding scales which may distort reported results?
d) How well is the cross-over with other topics, such as heritage or ecology, addressed?
e) Is there evidence of an iterative assessment-design process?
f) Is it clear how the methodology was applied in the assessment, e.g.: consistent process, use of terms, clarity in reaching judgements and transparency of decision-making?
g) How appropriate are the viewpoints that have been used?
h) How appropriate is the proposed mitigation, both measures incorporated into the scheme design and those identified to mitigate further the effects of the scheme, and mechanisms for delivering the mitigation?
i) What is the reviewer's opinion of the consistency and objectivity in application of the criteria and thresholds set out in the methodology for assessing the sensitivity of receptors, the magnitude of changes arising from the project, the degree/nature of effects, and the approach to judging the significance of the effects identified, in the case of EIA projects?
j) What is the opinion on the volume, relevance and completeness of the information provided about the development or project including, where relevant, detail about various development stages such as construction, operation, decommissioning, restoration, etc.?
k) Does the document clearly identify landscape and visual effects which need to be considered in the assessment? and
l) Have levels of effect have been clearly defined and, in the case of LVIA, have thresholds for significance been clearly defined and have cumulative landscape and visual effects been addressed?

Step 3. Critique of the presentation of the findings of the assessment

This phase is perhaps the most straightforward. It involves examining the 'presentation' of the assessment including report text, figures/ illustrations, visualisations, and other graphic material forming the LVIA or LVA, and answering the following:

a) Does the LVIA/ LVA display transparency, objectivity and clarity of thinking, appropriate and proportionate communication of all aspects of the assessment of landscape and visual effects, including cumulative effects.
b) Have the findings of the assessment been clearly set out and are they readily understood?
c) Has there been clear and comprehensive communication of the assessment, in text, tables and illustrations?
d) Are the graphics and/or visualisations effective in communicating the characteristics of the receiving landscape and visual effects of the proposals at agreed representative viewpoints?
e) Are the graphics and/or visualisations fit for purpose and compliant with other relevant guidance and standards? and
f) Is there a clear and concise summation of the effects of the proposals?

Overall Conclusion: Report the review

The final step of the review process is to use the reviewer's findings to draft a short report which would include (but need not be limited to):

1. Confirmation of the brief issued to the reviewer setting out the scope of the review;
2. A summary of how the review was undertaken);
3. A summary of findings of the review of the assessment methodology;
4. A summary of findings of the review of the scope of the assessment;
5. A summary of findings of the review of the actual assessment of effects;
6. A summary of findings of the presentation of the assessment;
7. A summary statement by the reviewer in respect of appropriateness, quality, comprehensiveness, compliance and conformity with relevant guidance and regulations;
8. Recommendations for further information to be sought (if necessary); and
9. Overall conclusions on the adequacy of the assessment and whether it is sufficient to support making an informed planning decision.

The report can also include further information not covered here but relevant to reporting on the compliance (or otherwise) of the LVIA or LVA with GLVIA3 or matters of competence or expertise. This guidance provides a summary framework for reviewing and reporting only; the Landscape Institute continues to regard GLVIA3 as the primary source of guidance for undertaking LVIAs and LVAs.

4. Further information

For further information or to provide feedback on the guidance in use, please refer to the Landscape Institute's website, using the search terms GLVIA. At the time of publication, material is likely to be found in the following section:

Authored by Mary O'Connor FLI on behalf of the GLVIA Panel and approved by LI Technical Committee
Nov 2019

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Appendix 2: Review of Soil and ALC for Beacon Fen Solar Project (LIR)

Appendix 2

August 2025

Review of Soil and ALC for Beacon Fen Solar Project (LIR)

On behalf of North Kesteven Council

LANDSCOPE
LAND & PROPERTY

Summary of Situation

I have considered the ES Chapter, agricultural land classification reports for the main area of the site, together with the outline soil management plan and various other documents.

The ALC land surveyed represents a total area of 517 hectares and 45 hectares of Access Corridor. The overall ALC results have fed into the baseline data on soils and agriculture, as set out in Chapter 14 of the Environmental Statement. The site has been fully appraised for ALC and maps and detail were provided. Land Research Associates undertook a reconnaissance survey and Wardell Armstrong have undertaken a more detailed ALC survey of the main Array area.

The ALC reports have been undertaken by a professional team in agreement with Natural England and the results are considered reliable. The oSMP should deal with construction, operation and decommissioning concerns. Land drainage is always an issue to consider on the heavier soils, but a plan is in place.

The cable route corridor has not been surveyed, the ES is based on higher grades of agricultural land and it would be unlikely that the impact would be worse after survey, unless all the land is Grade 1 classification.

There is some difference concerning the permanence of environmental measures when considering the return of BMV land to agriculture at the end of the project life.

1. The Site and Proposal

The Proposed Development comprises the installation of solar photovoltaic (PV) generating modules, battery storage facilities, and grid connection infrastructure with a capacity in the region of 600MW.

The Site is situated to the north of Heckington, adjacent to Ewerby Thorpe located within the administrative boundary of North Kesteven District Council, in the county of Lincolnshire.

2 Background to Soils and Agriculture

Consultation was had with Natural England to discuss the initial agricultural land classification survey and the consideration of Best and Most Versatile (BMV) land in the development of the design. Natural England requested a full agricultural land classification survey to be undertaken of the site and access corridor. A detailed agricultural land classification survey has been undertaken in order to assess agricultural classification within the Site, including the access routes. This survey has informed the design-development and the outline Soil Management Plan (oSMP).

3 Agricultural Land Classification

The soil types and ALC Map results are presented in **Appendix 1**.

Agricultural Land Classification Summary of The Site

Table 4: Summary of ALC within the Application Boundary.			
ALC or other land category	**Area (ha)**	**Percentage % within application boundary**	**Percentage % of Surveyed area (excluding land marked as 'other')**
Grade 2 (very good)	14.61	2.8	2.9
Subgrade 3a (good)	235.51	44.6	46.0
Subgrade 3b (moderate)	261.43	49.5	51.1
Other	16.62	3.1	
Total	**528.17**	**100**	**100 (511.55 ha)**

The ALC surveys were conducted in line with BSSS and Natural England guidance and at 1 auger per hectare.

The ES states:-

14.4.7 As a detailed soil survey had not been carried out for the Cable Route Corridor (including the Bicker Fen substation extension works) at the time of this assessment, the baseline for this area was informed by the above desk-based sources.

Cable Route Corridor

14.5.6 The current boundary of the Cable Route Corridor is approximately 183 ha and provisional ALC data shows that this is comprised predominantly of Grade 2 (145.73 ha, 79.57%) agricultural land, with portions of Grade 1 (28.18 ha, 15.39%) and Grade 3 (9.24 ha, 6.28%). The Cable Route Corridor shows a High and Moderate BMV likelihood.

14.5.25 The provisional ALC data indicates that despite the occurrence of similar soil types to those found within the Solar Array Area, the land within the Cable Route Corridor has a higher overall potential to be BMV. It is expected that this is due to the occurrence of more Wetness Class II and III conditions across the Cable Route Corridor due to better drainage.

Bespoke Access Corridor

14.5.9 The current boundary of the Bespoke Access Corridor Area is approximately 45 ha and the provisional ALC data shows that this is comprised entirely of Grade 3 agricultural land (Detailed ALC surveys have been completed on the Bespoke Access Corridor Area). The Bespoke Access Corridor Area shows a Moderate Likelihood of BMV with a small area of High Likelihood of BMV in the southwest of the Bespoke Access Corridor Area.

Solar Array Area

This comprises 529ha of agricultural land. The actual area proposed to be under solar arrays for the lifespan of the development will be 395ha. This will comprise 191ha of BMV land and is considered to be a temporary loss due to the fixed lifespan of the development for 40 years. Part of the land will be under built development (access tracks and roads, construction compounds, BESS, substation and transformer stations). Whilst the proposals have sought to avoid Grade 2 agricultural land in particular, the avoidance of BMV land has not been possible and built development will result in the permanent loss of 14.25ha BMV land due to permanent 'sealing over' for the duration of the solar farm.

14.6.2 75% (395.62 ha) of the Solar Array Area would be covered by the solar arrays, which would be piled directly into the ground without prior soil removal. Of this 11.69 ha is Grade 2, 180.02 ha is Subgrade 3a, and 203.92 ha is Subgrade 3b. In total the solar panels would cover 191.71 ha of 'best and most versatile' (BMV) land.

14.6.3 The requirement for directly impacting the soil by stripping, temporary stockpiling or storage would be associated with the construction of the access tracks and roads within the Solar Array Area, construction compounds, BESS, substation and transformer stations (referred to here as 'built infrastructure'). Using the breakdown in Table 14.13 the total area of proposed built infrastructure on agricultural soil is estimated to be 23.31 ha of the Solar Array Area which constitutes 4.4% of the agricultural soil within the Solar Array Area.

4 Soil Management Plan

Soil structure can be significantly damaged during the construction phase of the process. There is a lot of trafficking of vehicles on the land to erect the panels and if this work is undertaken when soils are wet, there can be significant damage. Much of this damage can be remedied post construction but not all and it is possible that long term drainage issues occur on the site due to the construction.

Soil Damage During Construction

Soil structure can be significantly damaged during the construction phase of the process. There is a lot of trafficking of vehicles on the land to erect the panels and if this work is undertaken when soils are wet, there can be significant damage. Much of this damage can be remedied post construction but not all and it is possible that long term drainage issues occur on the site due to the construction.

The oSMP includes the cable route in order to minimise the impact on soil structure, land drainage and ultimately soil quality. Further guidance is available in published documents.

The ES States

14.4.19 Soils of differing texture and structural development may be subject to a range of potential impacts during and following reinstatement.

14.4.20 For example, the incorrect handling/reinstatement of a heavy textured (clay rich) soil whilst in a plastic state may cause permanent or semi-permanent soil compaction. The resulting soil profile will have a reduced natural drainage compared to the undisturbed soil profiles and a subsequent increased risk of soil loss (erosion) due to surface water run-off. Whereas sandy soils are more resistant to compaction pressures and have a greater capacity to recover from compaction without intervention or management. Sandy soils will also remain more permeable if compaction does occur and the drainage potential of these soils is therefore more easily maintained upon reinstatement.

14.6.8 The OSMP details the requirements for the development of a site-specific SMP which will required as part of the construction phase. In addition to the ALC surveys already conducted for the Solar Array Area and Bespoke Access Corridor, a detailed soil survey of the Cable Route Corridor will be carried out pre-construction to inform the site-specific SMP.

The reality often is that contractors are under immense pressure to complete works in accordance with a work programme and will inevitably undertake works in substandard conditions in order to complete their contractual obligations.

Suitable soil management and restoration clauses would be needed in order to secure the land's quality at the end of the term. Whilst many of the damaging operations can be remedied using agricultural equipment, the layout of the panels and buried cables will often prohibit this during the life of the solar farm and as such remedies can only be completed at the end of the term when all infrastructure has been removed. If the soil is in substandard condition during the operation of the solar farm, carbon sequestration is reduced and infiltration of water can also be reduced, leading to localised standing water and the reduction in soil quality.

There is a programme for decommissioning and re-instatement of the land. Whilst this is detailed and can be conditioned as part of a consent, even possibly with S106, it remains to be seen whether it will be effective in leading to the land being returned to productive agriculture.

Cumulative Impact at District and County Level

14.5.12 Table 14.11 displays the total agricultural land within Lincolnshire County Council boundary and is calculated based upon the provisional ALC data and post 1988 ALC data. For the purpose of assessing the amount of Subgrade 3a and Subgrade 3b land within the administrative boundary, the Grade 3 provisional calculations assume a 50/50 split between Subgrade 3a and Subgrade 3b.

Table 14.11 Provisional ALC Data and Post 1988 Data Combined with Administrative Boundaries

ALC GRADE	LINCOLNSHIRE COUNTY COUNCIL BOUNDARY (HECTARES OF LAND)
Grade 1	75568.28 ha
Grade 2	186336.8 ha
Subgrade 3a	148602.9 ha
Subgrade 3b	148345.9 ha
Grade 4	14762.45 ha
Non-agricultural	25655.91 ha
Total	599272.2 ha

The scale of the project and the amount of BMV land, I consider makes the impact significant at both District and County level. The information argues that the area of amounts to only 1% of the farmed area of Lincolnshire. However, the cumulative effect is significant for Lincolnshire and the District. There are a several other large solar schemes proposed or approved across the wider area that contribute to this impact.

For a project of this scale there is an impact the project will tie up the land for up to 40 years. The loss of such a large area of land would normally be considered as significant at District level, even though the use is 'temporary'. Any permanent loss of land due either to construction or through biodiversity designation may affect this assessment.

The ES acknowledges that the broader loss of agricultural land for built development within the proposed development would be a major adverse impact. However, there are some concerns over how information about the impact on land use on agricultural land is covered in Table 14.13 as it does not include the amount of agricultural and BMV land, in particular, which would be lost due to new green infrastructure (temporary and permanent) and BNG provision within the solar array area and bespoke access corridor.

Other NSIP projects – notably the Springwell solar farm - have assessed that certain elements of green infrastructure (temporary and permanent) and BNG provision should be classed as a permanent loss on the basis that not all of those green infrastructure elements (especially woodland planting) would be reverted to agriculture at the end of the operational period.

Across Lincolnshire the estimated proportion of BMV is 71.2%; across North Kesteven the proportion of BMV at 67% is slightly lower than the Lincolnshire average, but this still covers two thirds of agricultural land, and is well above the national average.

Overall, the proposed development would lead to the loss of 528ha of agricultural land of which 250ha would be BMV land (47%).

Cable route

It has been agreed that the cable route involves temporary disturbance of the soils to enable a trench to be dug and the cabling to be inserted. This will not involve the sealing or downgrading of the land quality. An ALC survey of the cable route has not yet been carried out, but the Outline Soil Management Plan (oSMP) will include the route.

The route of the offsite Grid Connection Route Corridor has been ALC surveyed. The cable route will be underground and laid either through open trenching or through directional drilling where open trenching is not possible.

As each section of cable is laid it will be back filled, and farming would be able to re-commence on this land.

As ever the trenching works may damage land drainage locally and a suitable record of condition and re-instatement plan is required.

Ecological Effect

There is some conflict between maintaining the land in agricultural production and improving biodiversity. Whilst not incompatible, site based issues, such as soil type(s) and local agricultural practices may create future problems. The biodiversity areas particularly target the highest grades on agricultural land and any future restriction that might prevent its return to cultivation should be a consideration in the planning process and in the conditioning of any consent.

BMV Land 'Take'

The overall ALC findings are found in tables in the ES chapter. Nearly 50% of the site is assessed as BMV. The total area of BMV land – mostly Grade 3a, and the remainder is non BMV being Grade 3b - moderate quality.

BMV land is considered as temporarily used under the panels, although 40 years is a long period. The amount of BMV land to be lost 'permanently' (mainly due to green infrastructure) is significant.

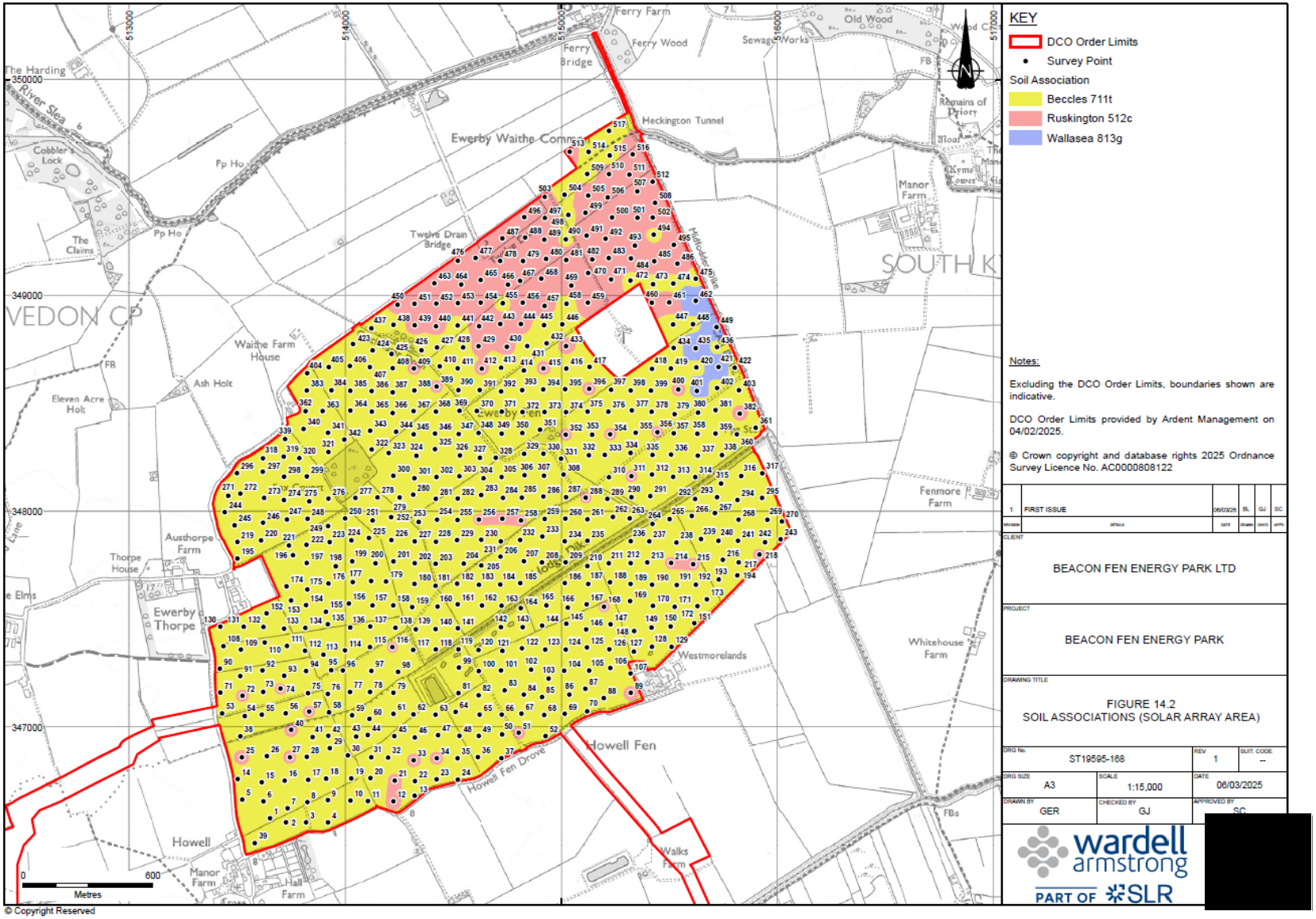
Nevertheless, the whole area is productive farmland, which will be removed from mainly arable farming for 40+ years and at best, a lower intensity grass based system will replace it. The loss of arable production is I consider locally significant and in view of other projects in the wider District and County potentially cumulatively significant.

Whilst the scheme includes measures to remove the panels at the end of the project, this will remain an uncertainty as very few largescale solar farms have been decommissioned in the UK to compare.

Spatial Approach and Methodology for Assessment of Significance

The report follows the recent guidelines found in the IEMA Soils and EIA document. It argues that the impact on actual loss of BMV land is therefore small. This is only correct if it is accepted that the temporary loss of around 520 hectares of land is not included in this assessment. I recognise that Natural England consider the main use as temporary, however local policies may take a different view.

Appendix 1


KEY
DCO Order Limits
Survey Point
Soil Association
Beccles 711t
Ruskington 512c
Wallasea 813g
Notes:
Excluding the DCO Order Limits, boundaries shown are indicative.
DCO Order Limits provided by Ardent Management on 04/02/2025.
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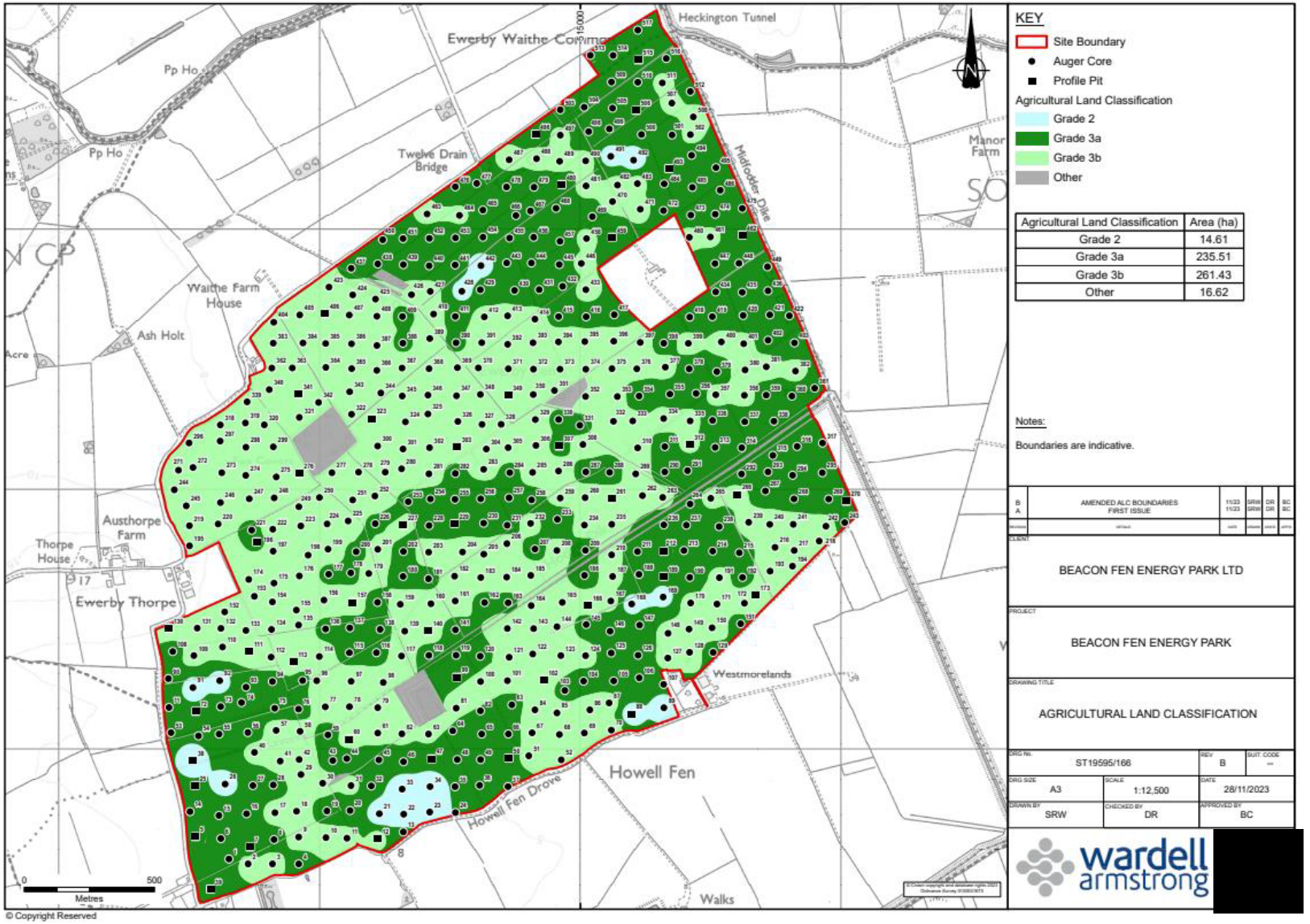
1 FIRST ISSUE 06/03/25 BL GJ SC
CLIENT
BEACON FEN ENERGY PARK LTD
PROJECT
BEACON FEN ENERGY PARK
DRAWING TITLE
FIGURE 14.2
SOIL ASSOCIATIONS (SOLAR ARRAY AREA)
DRG No. ST19595-168
REV 1
SUIT. CODE --
DRG SIZE A3
SCALE 1:15,000
DATE 06/03/2025
DRAWN BY GER
CHECKED BY GJ
APPROVED BY SC
wardell armstrong
PART OF SLR
0 600
Metres
© Copyright Reserved

Appendix 2


Ewerby Waithe Common
Heckington Tunnel
Pp Ho
Pp Ho
Twelve Drain Bridge
Midlodes Dike
Manor Farm
Waithe Farm House
Ash Holt
Acre
Austhorpe Farm
Thorpe House
Ewerby Thorpe
Westmorelands
Howell Fen
Howell Fen Drove
Walks
0
500
Metres
© Copyright Reserved
KEY
Site Boundary
Auger Core
Profile Pit
Agricultural Land Classification
Grade 2
Grade 3a
Grade 3b
Other
Agricultural Land Classification | Area (ha)
Grade 2 | 14.61
Grade 3a | 235.51
Grade 3b | 261.43
Other | 16.62
Notes:
Boundaries are indicative.
B AMENDED ALC BOUNDARIES 11/23 SRW DR BC
A FIRST ISSUE 11/23 SRW DR BC
CLIENT
BEACON FEN ENERGY PARK LTD
PROJECT
BEACON FEN ENERGY PARK
DRAWING TITLE
AGRICULTURAL LAND CLASSIFICATION
DRG No. ST19595/166
REV B
SUIT. CODE
DRG SIZE A3
SCALE 1:12,500
DATE 28/11/2023
DRAWN BY SRW
CHECKED BY DR
APPROVED BY BC
wardell armstrong

Appendix 3: LCC Potential Cumulative Solar PV Waste Arisings

The calculations below based on information provided in NSIP applications with regard to PV panel failures (rather than tonnage).

	MW	Operational time period	Max no of panels	PV Failure rate (%)
Beacon Fen	400	40	884,000*	0.20%
Fosse Green	240	60	575,000	0.05%
Heckington Fen	400	40	884,000*	0.20%
Tillbridge	500	60	1,105,000*	
Cottam	600	60	1,320,000	
West Burton	480	60	1,000,000	0.40%
Gate Burton	530	60	988,000*	
Mallard Pass	350	60	773,500*	
One Earth	740	60	1,600,000	
Meridian Solar Farm	750	40	1,657,500*	
Leoda	600	40	1,320,000*	
Springwell	800	40	1,500,000	
TCPA	910		2,011,100*	
ESTIMATED TOTAL NUMBER OF PANELS			**15,618,100**	

* Please note not all NSIP applications provide information on PV panel numbers, therefore those indicated are an estimate of the number of panels based on an average of MW/no. of panels where the information is provided (2210 per MW). PV failure rates are provided in 4 DCO applications, and include 0.05%, 0.2% and 0.4% per annum.

Solar NSIP Total no of panels	PV failure rate (%)	Potential no. of PV failures per annum
13,607,000	0.05%	7,809
13,607,000	0.20%	31,236
13,607,000	0.40%	62,472