Application by Beacon Fen Energy Park Ltd for an order granting development consent for the Beacon Fen Energy Park

Local Impact Report

A report prepared by North Kesteven District Council

(ID F8D379496)

NKDC reference: 23/0471/NSIP

Planning Inspectorate reference: EN010151

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1 Terms of Reference and Introduction

1.1 This report comprises the Local Impact Report (LIR) of North Kesteven District Council (NKDC). The Council has had regard to the purpose of LIRs as set out in s60(3) of the Planning Act 2008 (as amended), MHCLG's Guidance for the examination of applications for development consent and the Planning Inspectorate's Advice for Local Authorities.

2 Scope, Purpose and Structure of the LIR

2.1 This LIR describes the impact of 'Works' (as described in the Development Consent Order (DCO)) as described below.

2.2 North Kesteven District Council, Boston Borough Council (BBC) and Lincolnshire County Council (LCC) will each prepare and submit separate LIRs.

2.3 This LIR has been prepared to highlight the ways in which the proposed development of a solar farm and associated battery storage facility at Beacon Fen Energy Park will affect the locality and local community. It is not intended as a technical document – the application itself is accompanied by a great deal of technical information – but as a broad overview of the likely issues (positive, negative and neutral) that might arise from the proposed development. These are summarised in tabular form.

2.4 This LIR seeks to identify where there is compliance (or conversely where there is a tension or conflict) with national and, in particular, local plan policy and to distinguish between matters that are of most potential impact and those that are either temporary or less significant in the longer term.

3 Application Description

3.1 Beacon Fen Energy Park is a proposed solar photovoltaic (PV) electricity generating and battery storage facility with associated infrastructure which would have a generation capacity of approximately 400 megawatts (MV) of electricity, with a 600MW battery energy storage system (BESS). It is proposed to have an operational lifespan of 45 years including the construction and decommissioning phases.

3.2 The key components of the proposed development, as set out in paragraph 2.4.1 of the Environmental Statement are:

- Solar arrays
- Power conversion units: inverters and transformers
- Battery energy storage system (BESS)
- Onsite substation
- Onsite cabling
- Fencing
- Water supply and drainage infrastructure
- Cable route
- Bespoke access road from A17

3.3 The design of the proposals has followed an iterative process informed by ongoing environmental assessment, consultation and engagement with statutory and non-statutory consultees. Outline Design Principles have informed the planning and design process. These design principles will be secured through project parameters, design commitments, embedded mitigation and other control documents such as works plans or outline management plans. A number of detailed elements of the design of the proposed development remain to be confirmed but the use of design parameters on a worse-case assessment of the potential environmental effects has been carried out in accordance with the Rochdale Envelope approach to the ES. The DCO Requirements will also have a role in securing the design outcomes.

3.4 The height of the solar PV panels will be up to 3.9m above ground in the fields to the east and 3.5m above ground in other areas. The proposal is for a fixed static panel orientation. The main access will be on the western edge of the solar array area from the A17 with a secondary access to the north from Halfpenny Toll Lane.

3.5 Public Right of Way (PROW) Ewer/12/1 will be extended in a south and westerly direction as a permissive path terminating in the vicinity of Ewerby Thorpe and will remain for the operational duration of the energy park. The exact route is yet to be determined.

3.6 The bespoke access road will be the last component to be removed as it will be used to facilitate decommissioning of the solar array area. It is possible that engagement with landowners at that time may establish a preference for it to be retained in perpetuity.

3.7 The solar farm will be connected to an existing substation at Bicker Fen located in Boston Borough (BBC) which will be enlarged in size as part of the DCO application. As the applicant understands that National Grid Energy Transmission (NGET) proposes to carry out the substation extension works for Heckington Fen and Beacon Fen projects simultaneously as one single construction programme, this application includes the extent of the land required, along with the powers necessary, to enable the construction of the generator bays for both solar farms.

3.8 Construction is anticipated to take from 2.5-5 years commencing in 2027. The bespoke access road would be constructed first (6-12 months) and concurrently with the cable route (12-24 months). The solar array construction will take between 24-36 months. The Bicker Fen substation extension will be undertaken separately by National Grid and is anticipated to last 60 weeks.

3.9 The Grid Connection Agreement provides for a connection in three stages between June 2029 and October 2033 as set out in paragraph 4.1.6 of the Grid Connection Statement.

4 Site Description, Surroundings and Characteristics

4.1 The proposed solar farm is located on approximately 758ha (1873 acres) of land to the north of Heckington in close proximity to the settlements of Howell, Ewerby Thorpe, Anwick, North Kyme and South Kyme. It comprises three functional areas:

- **Solar Array Area**: approximately 529ha in size and located wholly within the administrative area of NKDC. The solar array predominantly consists of agricultural fields in arable use divided by ditches with sparse tree cover that is limited to small woodland blocks and scattered hedgerow trees. A small reservoir is located in the south-west of the solar array area. It is bounded to the south, west and north by local highways, and bound to the east by the Car Dyke, public right of way (PROW) Ewer/12/1 extends across the north-eastern corner of the site, close to the northern site boundary. There are no other PROW within the solar array area.
- **Cable Route Corridor**: approximately 183ha in size and extends 13 km south-east from the solar array area to Bicker Fen substation. The majority of the cable route corridor is located within the administrative area of NKDC but the southern section is within BBC's administrative area. There are a number of PROW within the Cable Route Corridor.
- **Bespoke Access Corridor**: approximately 45.4ha in size comprising predominantly agricultural land and extends approximately 3km south-west from the solar array area to the A17. The bespoke access corridor is located wholly within the administrative area of NKDC. Asgarby Road and Heckington Road cross the Bespoke Access Corridor and there are four PROWs located within the route.

4.2 There are no statutory environmental designations within the Order Limits. The predominant habitat is agricultural in arable use. There are some areas of woodland, scrub, semi-improved grassland, improved grassland, marsh/marsh grassland, tall ruderal vegetation, standing water, ditches, amenity grassland, bare ground and hedgerows.

4.3 The majority of the site lies within Flood Zone 1 (little/no risk), however, the north-east of the solar array area and the mid-and southern section of the cable route corridor area located within Flood Zones 2 and 3.

4.4 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.

4.5 There are a number of statutory historical designations, including Scheduled Monuments and Listed Buildings within the nearby villages and hamlets of Asgarby, Howell, Ewerby and Evedon. These include St Andrews Church, Asgarby, Asgarby Hall, Boughton House, Howell Hall and, further afield, Kyme Tower in South Kyme. There are a number of non-designated heritage farmsteads within the area.

4.6 The site is generally flat with land rising around the settlement of Ewerby. There is a small reservoir located in the south-west of the solar array area. No part of the site or its immediate surrounding context falls within a statutory designated landscape. There are no Registered Parks and Gardens within 5km of any part of the site. There are also no local landscape designations covering any part of the site.

4.7 Land use across the solar farm site is in arable, agricultural use. Agricultural land is graded, with Grade 1 being excellent quality and Grade 5 being very poor quality. Grade 3 is further divided into subgrades 3a "good" and 3b "moderate" quality land. Grades 1, 2 and 3a are defined as the "best and most versatile" (BMV) in the National Planning Policy Framework (NPPF). The development will impact on agricultural land (including BMV land) amounting to 529ha in the solar array area, 45ha in the bespoke access corridor and 183ha in the cable route corridor.

4.8 The amount of BMV land likely to be permanently lost due to 'sealing over' as a result of the proposed development would be 20.37ha. Public right of way (PROW) Ewer/12/1 extends across the north-eastern corner of the site, close to the northern site boundary. There are no other PROW within the solar array area.

5 Planning History

5.1 The following planning history is relevant to the main solar array area:

Reference Number	Description and Location	Status	Date
14/1003/FUL	Development of a solar photovoltaic power generating installation with associated inverter cabinets, transformers, switchgear, internal access tracks, security fencing and cameras - Land associated with Ewerby Thorpe Farm Ewerby Thorpe Sleaford NG34 9PR	Approved	3/10/14
14/1034/EIASCR	Request for EIA Screening Opinion - Erection of solar array with generating capacity of up to 28 MW and associated infrastructure - Land associated with Ewerby Thorpe Farm Ewerby Thorpe Sleaford NG34 9PR	Screening Opinion Issued	18/8/14
04/0679/FUL	Conversion of redundant farm barn to residential dwelling - Barn off Ewerby Fen Ewerby Waithe (known as 'Gashes Barn')	Approved	1/7/04

6 Legislative and Policy Context – National Policy Statements

6.1 NKDC recognises the application as one made under the Planning Act 2008 (PA2008) for a Development Consent Order (DCO) for development that falls within the definition of energy generating stations set out in section 15 of the PA2008.

6.2 The PA2008 provides for two different decision-making procedures for NSIP applications.

i) Section 104 - where a relevant National Policy Statement (NPS) has been designated and has effect; and
ii) Section 105 – where there is no designated NPS or there is a designated NPS but which does not have effect.

6.3 The application falls to be determined under section 104 of PA2008 due to electricity generation by solar generating stations being included within the scope of EN-1 'Overarching National Policy Statement for Energy' and EN-3 'National Policy Statement for Renewable Energy Infrastructure' (both November 2023 which came into force on 17 January 2024). In addition, energy storage infrastructure also falls within the scope of EN-1 and EN-3. The consultation draft documents EN-1, EN-3 and EN-5 (issued for consultation in April 2025) are not considered to have reached a stage where any significant weight can be ascribed to them given that they are not yet adopted and remain in 'draft'.

6.4 EN-5 'National Policy Statement for Electricity Networks Infrastructure' (November 2023 which came into force on 17 January 2024) is relevant to the proposed development as the policy recognises electricity networks as 'transmission systems (the long distance transfer of electricity through 400kV and 275kV lines), and distribution systems (lower voltage lines from 132kV 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'.

6.5 NPS EN-1 on Energy together with the technology specific energy NPS's (EN-3 and EN-5) provides the primary policy for the decision by the Secretary of State on this type of application. Under the Planning Act 2008, where an NPS has effect, the Secretary of State (SoS) must also have regard to any local impact report submitted by a relevant local authority, any relevant matters prescribed in regulations and any other matters which the Secretary of State thinks are both important and relevant to the planning decision.

EN-1 'Overarching National Policy Statement for Energy' (2023)

6.6 NPS EN-1 is an overarching document supported by the suite of five technology-specific NPSs. It sets out government's aims for decarbonisation of the power sector and to support sustainable development. It concludes that 'there is a critical national priority (CNP) for the provision of nationally significant low carbon infrastructure'. It also emphasises that the need for these types of infrastructure is urgent, that substantial weight should be given to this need when considering NSIP applications and that there is no requirement to consider separately the specific contribution of any individual project to satisfying the need established in EN-1.

6.7 In respect of this solar farm DCO application, it falls within the meaning of low carbon infrastructure for the purposes of EN-1, since the policy includes:

- For electricity generation, all onshore and offshore generation that does not involve fossil fuel combustion
- For electricity grid infrastructure, all power lines in scope of EN-5 including network reinforcement and upgrade works, and associated infrastructure such as substations.

6.8 EN-1 states that in all but the most exceptional circumstances, it is unlikely that consent will be refused on the basis of non-Habitat Regulations Assessment (HRA) residual impacts identified after the mitigation hierarchy has been applied in the EIA process. Any HRA residual impacts will continue to be considered under the framework set out in the Habitats Regulations.

6.9 The NPS does not contain any general requirement to consider alternatives or to establish whether the proposed project represents the best option from a policy perspective. The applicant should, however, include information about the reasonable alternatives that they have studied including an indication of the main reasons for their choice. This is also a requirement of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. The SoS, given the level and urgency of need for new energy infrastructure will be guided by principles of proportionality and ability to meet the objectives of the development when deciding what weight be given to alternatives.

6.10 Achieving biodiversity net gain is not currently an obligation on applicants (this will be introduced from November 2025), however, energy NSIP proposals are encouraged to seek opportunities to contribute to and enhance the natural environment by providing net gains for biodiversity, and these should be set out in a biodiversity gain statement.

6.11 The NPS envisages that, wherever reasonably possible, applications for new generating stations and related infrastructure should be contained in a single application or in separate applications submitted in tandem which have been prepared in an integrated way. The SoS will need to be satisfied that appropriate grid network connections are/will be in place for a given project.

6.12 An assessment of any likely significant heritage impacts of the proposed development as part of the EIA, together with mitigation, is expected by the NPS. This should include consideration of heritage assets above, at, and below the surface of the ground. The NPS advises that considerable importance should be given to the desirability of preserving all heritage assets. Substantial harm to or loss of significance of asset of the highest significance should be wholly exceptional. Where there would be less than substantial harm of a designated heritage asset, it must be demonstrated that substantial public benefits outweigh that harm or loss.

6.13 In terms of landscape issues the overarching commentary in EN-1 is that the landscape and visual effects of energy projects will vary on a case-by-case basis according to the type of development, its location and the landscape setting of the proposed development.

6.14 EN-1 requires the applicant's Landscape and Visual Impact Assessment (LVIA) to include reference to any landscape character assessment and associated studies as a means of assessing landscape impacts relevant to the proposed project, as well as any relevant policies based on these assessments in local development documents in England.

6.15 In terms of decision making, EN-1 requires the SoS to have regard to the degree to which projects have been carefully designed to take account of the potential impact on the landscape. The general aim is that with reference to siting, operational and other relevant constraints harm to the landscape should be minimised, providing reasonable mitigation where possible and appropriate.

6.16 EN-1 also notes that the SoS will have to judge whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the project. When considering whether reductions to the scale of a project could help to mitigate adverse visual and landscape effects, EN-1 cautions that reducing the scale or otherwise amending the design of a proposed energy infrastructure project may result in a significant operational constraint and reduction in function – for example, the electricity generation output – which needs to be factored into decision making.

6.17 In relation to impacts on Best and Most Versatile (BMV) land, EN-1 requires applicants to seek to minimise impacts on BMV (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification) and preferably use land in areas of poorer quality (grades 3b, 4 and 5) except where this would be inconsistent with other sustainability considerations. Applicants should also identify any effects and seek to minimise impacts on soil quality taking into account any mitigation measures proposed.

6.18 Where new energy infrastructure is, exceptionally, necessary in flood risk areas, EN-1 aims to make it safe for its lifetime without increasing flood risk elsewhere and, where possible, by reducing flood risk overall. It should also be designed to remain operational during times of flood. The Sequential Test for flood risk should be applied, and if necessary, the Exception Test.

6.19 At Section 4.11, EN-1 advises that the connection of a proposed electricity generation plant to the electricity network is an important consideration for applicants wanting to construct a generation plant such as a solar farm. It envisages that '*wherever reasonably possible, applications for new generating stations and related infrastructure should be contained in a single application to the Secretary of State or in separate applications submitted in tandem which have been prepared in an integrated way, as outlined in EN-5. This is particularly encouraged to ensure development of more co-ordinated transmission overall.*' However, it also recognises that this is not always possible and each element may be subject to a separate application.

6.20 In this respect EN-1 (paragraph 4.11.18) states '*Where this is the case, the applicant should include information on the other elements*[160] *and explain the reasons for the separate application confirming that there are no obvious reasons for why other elements are likely to be refused*.' It goes onto warn that '*the applicant accepts the implicit risks involved in doing so and must ensure they provide sufficient information to comply with the EIA Regulations including the indirect, secondary, and cumulative effects, which will encompass information on grid connections.*' (paragraph 4.11.9).

EN-3 'National Policy Statement for Renewable Energy Infrastructure' (2023)

6.21 NPS EN-3, taken together with EN-1 above, provides the primary policy for NSIP applications for renewable energy infrastructure. This includes solar photovoltaic (PV) electricity generating stations of a size >50MW in England; although noting that this threshold will increase to >100MW from 31/12/25 through the provisions of the Infrastructure Planning (Onshore Wind and Solar Generation) Order 2025. While EN-1 contained the general principles and the policy on generic impacts arising from energy technologies, the policies in EN-3 are concerned with specific considerations arising from solar PV (and other technologies covered by the NPS). It reiterates the urgent need for new major renewable electricity infrastructure.

6.22 Section 2.10 of EN-3 sets out the detailed policies on solar PV covering:

- site selection and design (such as topography, network connection, proximity to dwellings, agricultural land classification, public rights of way, security and lighting),
- technical considerations (such as capacity, site layout, project lifetime, decommissioning), and
- site specific impacts (such as landscape and visual impact, traffic, ecology etc) and mitigations

6.23 EN-3 reiterates the advice that poorer quality land should be preferred to higher quality land avoiding the use of Best and Most Versatile agricultural land where possible together with consideration of whether continued agricultural use can be accommodated to maximise the efficiency of land use. The NPS confirms that the Agricultural Land Classification (ALC) system should be applied in the

overall assessment of the construction, operation and decommissioning phases. Whilst the statement recognises that solar farms of the scale governed by the Planning Act may use some agricultural land, applicants are expected explain their choice of site, noting the preference for development to be on brownfield and non-agricultural land.

6.24 EN-3 recognises that below ground impacts may include direct impacts on archaeological deposits through ground disturbance associated with trenching, cabling, foundations, fencing, temporary haul routes etc. It anticipates that the results of pre-determination archaeological evaluation will inform the design of the scheme and related archaeological planning conditions. Where a site includes, or has potential to include, heritage assets with archaeological interest, the applicant should submit an appropriate desk-based assessment and, where necessary, a field evaluation (including investigative work).

EN-5 'National Policy Statement for Electricity Networks Infrastructure' (2023)

6.25 As identified in EN-1, government has concluded that there is a CNP for the provision of nationally significant low carbon infrastructure. This includes for electricity grid infrastructure, all power lines in scope of EN-5 including network reinforcement and upgrade works, and associated infrastructure such as substations. NPS EN-5, taken together with EN-1 above, provides the primary policy for NSIP applications for electricity networks infrastructure. This includes two main elements:

- transmission systems (long distance transfer of electricity through high voltage power lines) and distribution systems (lower voltage lines from transmission substations to the end-user) which can either be carried on towers/monopoles, or undergrounded; and
- associated infrastructure e.g. substations and convertor stations to convert DC power to AC power and vice versa.

6.26 EN-1 covers all above ground electricity lines subject to certain criteria such as above 132kV and greater than 2km in length. Again, this NPS should be read in conjunction with EN-1. The advice on generic impacts detailed in EN-1 are relevant alongside the additional policies in EN-5 on factors influencing site selection and design, biodiversity and geological conservation, landscape and visual, noise and vibration, electric and magnetic fields; and sulphur hexafluoride.

6.27 EN-5 recognises that the initiating and terminating points – or development zone – of new electricity networks is not substantially within the control of the applicant. It may be determined by the location or new generating stations or other infrastructure requiring connection to the network, and/or system capacity and resilience requirements determined by the Electricity System Operator. These locational constraints do not exempt applicants from their duty to consider and balance the site-selection considerations set out in the NPS, much less the policies on good design and impact mitigation.

6.28 EN-5 includes a section on ‘Environmental and Biodiversity Net Gain’ which states that when planning and evaluating a projects contribution to environmental and biodiversity net gain, it will be important, for both the Applicant and examining Authority, to recognise that ‘the linear nature of electricity networks infrastructure allows excellent opportunities to: i) reconnect important habitats via green corridors, biodiversity stepping zones, and re-establishment of appropriate hedgerows; and/or ii) connect people to the environment, for instance via footpaths and cycleways constructed in tandem with biodiversity enhancements.’

6.29 The NPS aspires to co-ordination between applications for new generating stations and their related infrastructure but also recognises that this is not always possible.

6.30 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.

6.31 The ‘Clean Power 2030 Action Plan: A New Era of Clean Electricity’ was published in December 2024. It outlines a target of clean power generation to meet Great Britain’s total annual electricity demand, backed up by unabated gas supply to be used only when essential by 2030.

7 National Planning Policy Framework (NPPF), National Planning Practice Guidance (NPPG) and Written Ministerial Statements (WMS)

7.1 The latest version of the National Planning Policy Framework (NPPF) was published in December 2024 and updated in February 2025.

7.2 Paragraph 5 of the NPPF states that the document does not contain specific policies for NSIPs. These are to be determined in accordance with the decision-making framework set out in the Planning Act and relevant NPSs for nationally significant infrastructure, as well as any other matters that are considered both important and relevant (which may include the NPPF).

7.3 The NPPF does, however, state that the planning system should support the transition to a low carbon future and support renewable energy and associated infrastructure (paragraph 161) and that local planning authorities should, when determining planning applications for such development, approve the application if its impacts are (or can be made) acceptable. Applicants are not required to demonstrate the overall need for renewable or low carbon energy (paragraph 168(a)).

7.4 The National Planning Policy Guidance (NPPG) outlines guidance on the specific planning considerations that relate to large scale ground-mounted solar PV farms. It states that one consideration amongst others should be whether land is being used effectively; recommending that large scale solar farms are focused on previously developed and non-agricultural land.

7.5 The NPPG advises that where a proposal involves greenfield land, decision making should consider whether (i) the proposed use of any agricultural land has been shown to be necessary and poorer quality land has been used in preference to higher quality land; and (ii) the proposal allows for continued agricultural use where applicable and/or encourages biodiversity improvements around arrays.

7.6 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 energy generation, and the WMS (dated 25/3/15 and referenced UIN HCWS488) affirmed that meeting energy goals should not be used to justify the unnecessary use of high quality agricultural land. The WMS noted that 'any proposal for a solar farm involving the best and most versatile agricultural land would need to be justified by the most compelling evidence'.

7.7 The then Secretary of State for Energy Security and Net Zero, in May 2024, released a written ministerial statement regarding the impact of solar farms on food production. In particular, it referenced the impact of geographical clustering of solar developments in some rural areas, such as in Lincolnshire, and drew attention to the importance of considering cumulative impacts.

7.8 Meanwhile, Development Consent Orders for the Heckington Fen Solar Farm in North Kesteven together with the Mallard Pass Solar Farm, Gate Burton Energy Farm, West Burton elsewhere in Lincolnshire, approved by the new government, came into force on 3 August 2024 and 24 January 2025. The cumulative impact of the loss of BMV agricultural land was considered by the Examiners in each application, concluding that the impact was not so significant when considered across Lincolnshire on a spatial scale.

7.9 The NPSs provide the predominant policy context; and whilst the applicant's DCO application has cross referred to the NPPF and the NPPG where applicable, where there are any inconsistencies between the NPPF and the relevant NPSs, it is policies within the latter that prevails.

8 Central Lincolnshire Local Plan (April 2023)

8.1 The Central Lincolnshire Local Plan forms part of the development plan for North Kesteven (replacing the previous Central Lincolnshire Local Plan, adopted in 2017). The Local Plan was adopted in April 2023 and therefore represents an 'up to date' statutory development plan, which is 'important and relevant' for the purposes of section 105 of the PA 2008 and to which significant weight should be afforded in decision making. The relevant policies and a brief summary of each are set out are set out below.

Table 8.1

Policy	Summary
Policy S1: The Spatial Strategy and Settlement Hierarchy	The spatial strategy will focus on delivering sustainable growth for Central Lincolnshire that meets the needs for homes and jobs, regenerates places and communities, and supports necessary improvements to facilities, services and infrastructure. Development should create strong, sustainable, cohesive and inclusive communities, making the most effective use of previously developed land and enabling a larger number of people to access jobs, services and facilities locally.
Policy S2: Level and Distribution of Growth	The economic vision and strategy of this plan is to seek to facilitate the creation of 24,000 new jobs over the plan period, 2018-2040. To help facilitate that target and ensure the provision of new homes is in balance with job creation, this plan aims to facilitate the delivery of 1,325 dwellings per year, or 29,150 dwellings over the Plan period.
Policy S5: Development in the Countryside	Part E 'Non-residential development in the countryside' states that such proposals will be supported provided that: a) The rural location of the enterprise is justifiable to maintain or enhance the rural economy or the location is justified by means of proximity to existing established businesses or natural features; b) The location of the enterprise is suitable in terms of accessibility; c) The location of the enterprise would not result in conflict with neighbouring uses; and d) The development is of a size and scale commensurate with the proposed use and with the rural character of the location.
Policy S10: Supporting a Circular Economy	The Joint Committee is aware of the high energy and material use consumed on a daily basis, and, consequently, is fully supportive of the principles of a circular economy. Accordingly, and to complement any policies set out in the Minerals and Waste Development Plan, proposals will be supported, in principle, which demonstrate their compatibility with, or the furthering of, a strong circular economy in the local area (which could include cross-border activity elsewhere in Lincolnshire).

Policy S11: Embodied Carbon	All development should, where practical and viable, take opportunities to reduce the development's embodied carbon content, through the careful choice, use and sourcing of materials.
Policy S14: Renewable energy (matters for solar based energy proposals)	*(specific matters for solar based energy proposals)* Proposals for ground based photovoltaics and associated infrastructure, including commercial large scale proposals, will be under a presumption in favour unless there is clear and demonstrable significant harm arising; or the proposal will take place on Best and Most Versatile (BMV) agricultural land and does not meet the requirements of Policy S67, or the land is allocated for another purpose. Proposals should be accompanied by evidence demonstrating how opportunities for delivering biodiversity net gain will be maximised in the scheme taking account of site-specific factors.
Policy S16: Wider Energy Infrastructure	The Joint Committee is committed to supporting the transition to net zero carbon future and, in doing so, recognises and supports, in principle, the need for significant investment in new and upgraded energy infrastructure. Where planning permission is needed from a Central Lincolnshire authority, 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 (such as battery storage or thermal storage); and upgraded or new electricity facilities (such as transmission facilities, substations or other electricity infrastructure).
Policy S21: Flood Risk and Water Resources	All development proposals will be considered against the NPPF, including application of the sequential and, if necessary, the exception test. Development proposals that are likely to impact on surface or ground water should consider the requirements of the Water Framework Directive.
Policy S28: Spatial Strategy for Employment	In principle, employment related development proposals should be consistent with meeting the following overall spatial strategy for employment. The strategy is to strengthen the Central Lincolnshire economy offering a wide range of employment opportunities focused mainly in and around the Lincoln urban area and the towns of Gainsborough and Sleaford, with proportionate

	employment provision further down the Settlement Hierarchy
Policy S47: Accessibility and Transport	Development proposals which contribute towards an efficient and safe transport network that offers a range of transport choices for the movement of people and goods will be supported. All developments should demonstrate, where appropriate, that they have had regard to the following criteria: a) Located where travel can be minimised and the use of sustainable transport modes maximised; b) Minimise additional travel demand through the use of measures such as travel planning, safe and convenient public transport, car clubs, walking and cycling links and integration with existing infrastructure; c) Making allowance for low and ultra-low emission vehicle refuelling infrastructure.
Policy S53: Design and Amenity	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	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. Part (c) of the policy promotes schemes that will safeguard, create or enhance the role of allotments and orchards.
Policy S57: The Historic Environment	Development proposals should protect, conserve and seek opportunities to enhance the historic environment of Central Lincolnshire. Development should protect the significance of heritage assets (including where relevant their setting) including through protecting and enhancing architectural and historic character, and take into account the desirability of sustaining and enhancing non-designated heritage assets and their setting. Where a development proposal 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.

	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.
Policy S59: Green and Blue Infrastructure Network	The Central Lincolnshire Authorities will safeguard green and blue infrastructure in Central Lincolnshire from inappropriate development and work actively with partners to maintain and improve the quantity, quality, accessibility and management of the green infrastructure network.
Policy S60: Protecting Biodiversity and Geodiversity	All development should a) protect, manage, enhance and extend the ecological network of habitats, species and sites of international, national and local importance (statutory and non-statutory), including sites that meet the criteria for selection as a Local Site; b) minimise impacts on biodiversity and features of geodiversity value; c) deliver measurable and proportionate net gains in biodiversity in accordance with Policy S61; and d) protect and enhance the aquatic environment within or adjoining the site, including water quality and habitat. Development should avoid adverse impact on existing biodiversity and geodiversity features as a first principle, in line with the mitigation hierarchy. Where adverse impacts are unavoidable, they must be adequately and proportionately mitigated. If full mitigation cannot be provided, compensation will be required as a last resort where there is no alternative. If significant harm to biodiversity resulting from development cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission will be refused
Policy S61: Biodiversity Opportunity and Delivering Measurable Net Gains	Following application of the mitigation hierarchy, all development proposals should ensure opportunities are taken to retain, protect and enhance biodiversity and geodiversity features proportionate to their scale, through site layout, design of new buildings and proposals for existing buildings with consideration to the construction phase and ongoing site management. All qualifying development proposals must deliver at least a 10% measurable biodiversity net gain attributable to the development. The net gain for biodiversity should be calculated using Natural England's Biodiversity Metric.

	Biodiversity net gain should be provided on-site wherever possible.
Policy S66: Trees, Woodland and Hedgerows	Development proposals should be prepared based on the overriding principle that the existing tree and woodland cover is maintained, improved and expanded; and opportunities for expanding woodland are actively considered and implemented where practical and appropriate to do so. Proposals for new development will be expected to retain existing hedgerows where appropriate and integrate them fully into the design having regard to their management requirements. Loss of hedges of high landscape, heritage, amenity or biodiversity value unless the need for, and benefits of, the development clearly outweigh the loss, and this loss can be clearly demonstrated to be unavoidable.
Policy S67: Best and Most Versatile Agricultural Land	Proposals should protect the best and most versatile agricultural land so as to protect opportunities for food production and the continuance of the agricultural economy. Significant development resulting in the loss of the best and most versatile agricultural land will only be supported if: a) The need for the proposed development has been clearly established and there is insufficient lower grade land available at that settlement; and b) The benefits and/or sustainability considerations outweigh the need to protect such land, when taking into account the economic and other benefits of the best and most versatile agricultural land; and c) The impacts of the proposal upon ongoing agricultural operations have been minimised through the use of appropriate design solutions; and d) Where feasible, once any development which is supported has ceased its useful life the land will be restored to its former use (this condition will be secured by planning condition where appropriate).
Policy S84: Ministry of Defence Establishments	Part Two ‘Development affecting MOD establishments’ of policy S84 states that development ‘will not be supported where it would adversely affect military operations or capability unless those impacts can be appropriately mitigated in agreement with the MOD’.

9 Neighbourhood Plans and Other Local Policy, Guidance and Strategy

9.1 There are no relevant Neighbourhood Plans relevant to the application site.

9.2 The Lincolnshire Minerals and Waste Plan (Core Strategy and Development Management Policies) is also applicable. 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.

9.3 The site intersects (at the northernmost corner of the site) with a MSA for sand and gravel. Lincolnshire County Council (as Minerals Planning Authority), at EIA Scoping stage, confirmed that there is no requirement for the applicant to undertake a minerals assessment for the development.

9.4 The Lincolnshire Minerals and Waste Local Plan is being updated, and additional reserves will be required to cover the proposed new plan period up to 2041. Consultation on the 'preferred approach' draft local plan was undertaken in 2024. No up-to-date public information is available on the timeline for the preparation of the 'proposed submission' draft version and examination by the Secretary of State. The Council defers to Lincolnshire County Council regarding the likely impact of the Beacon Fen Energy Park on minerals reserves and safeguarding areas.

9.5 The Council considers that the following key plans, studies, strategies and guidance (some of which comprise part of the evidence base to the preparation of the CLLP) are also material to the assessment of the proposed development.

- NKDC Climate Response Strategy and Framework (2025-2030)
- NKDC Climate Action Plan 2025/26
- NKDC Environment Policy 2024/25 – 2026/27
- The NK Plan 24-27
- NK Community Strategy 2030
- NK Economic Strategy 2024
- NK Tourism Strategy 2024
- NKDC Air Quality Strategy 2024-2029
- NKDC Heritage Strategy (draft) 2025
- North Kesteven District Council Landscape Character Assessment (2007)
- North Kesteven District Council Strategic Flood Risk Assessment (2009)
- Central Lincolnshire Level 1 Strategic Flood Risk Assessment (SFRA) (2015 and 2022)
- Biodiversity Opportunity Mapping for Central Lincolnshire
- Central Lincolnshire Green infrastructure mapping for Central Lincolnshire
- Historic Landscape Characterisation Project for Lincolnshire
- 4th Lincolnshire Local Transport Plan (LTP4) and consultation draft LTP5
- Central Lincolnshire Economic Needs Assessment (ENA) March 2020

- NKDC criteria for the assessment of non-designated heritage assets

A number of these are summarised below.

NKDC Climate Response Strategy and Framework to 2030 and Climate Action Plan (CAP) 25/26

9.6 The NKDC CRS is the Council's vision for a sustainable carbon reduction transition by 2030 for both North Kesteven District Council (NKDC) and the District of North Kesteven, supported by mitigation measures to reduce emissions and adaptation measures to improve resilience to the effects of climate change. Aim 2 of the CRS focuses on encouraging and promoting action to tackle environmental challenges, including reducing carbon emissions across the district by working with residents, communities and local businesses. It also includes collaborative efforts to promote adaptation and resilience.

9.7 The NKDC Climate Action Plan establishes the actions being taken across the Council and the District to achieve its carbon reduction goals and address the climate emergency and complement the CRS. The Strategy and Action Plan are fundamentally integral to one another and shape the Council's activities, building upon its Climate Emergency Declaration in July 2019. The Climate Action Plan contains nine themes used to categorise our climate actions, including 'decision making' and 'energy'. The Climate Response Strategy acts as the overarching document which sets out the aims and objectives for NKDC's carbon reduction efforts, and also shapes the council's Action Plans.

9.8 The 'decision making' theme within the Climate Action Plan includes embedding climate actions and activities within Council Service Delivery Plans and accounting for climate implications as part of its corporate decision-making processes.

9.9 The 'energy' theme focuses on reducing fossil fuel dependence and associated emissions by promoting renewable energy generation opportunities for both NKDC and the District. It sets out to do this by supporting renewable energy generation opportunities across the District of North Kesteven.

NKDC Environment Policy 2024/25 – 2026/27

9.10 This document sets out NKDC's corporate environment policy and provides guidance through 8 key principles to ensure that all necessary steps are taken to help protect and enhance the natural environment, address the climate emergency, and work towards achieving its carbon reduction goals. The key principles include;

- empowering everyone within NKDC to act to protect and enhance the natural environment, take action to address the climate emergency, and work towards our carbon reduction (2030) target
- ensuring that the decisions we make at all levels consider the climate emergency, deliver our carbon reduction goals, and;

- protecting and enhancing the natural environment, supporting ecosystems, habitats, and biodiversity.

The NK Plan 24-27 and Community Strategy

9.11 The NK Plan and the overarching Community Strategy drive forward the Council's priorities for 'Our Economy', 'Our Homes', 'Our Environment', 'Our Communities', 'Our Green Thread' and 'Our Council' through to 2030. The 'Our Environment' Key Ambition is to 'Champion greenhouse gas reduction, both within the Council and across the District'. Given the extent of the target for net-zero by 2030, the 2021 NKDC Corporate Peer Challenge identified the Council's 'excellent ambitions for tackling climate change'.

9.12 The 'Environment' action within the 'Our Green Thread' priority is to 'champion and deliver a just transition for our climate and environmental commitments and aspirations'. The associated 'Sustainable Development Goals' confirm that as the Council targets its actions on achieving both carbon net-zero and the aspirations of our Community Strategy in 2030, it has aligned all that it does with the United Nations Sustainable Development Goals; making this a shared vision where global aims influence local ambition.

9.13 The Council has also recently adopted an Economic Strategy and Tourism Strategy. The Tourism Strategy is a central component of the 'Our Economy' priority of the 2024-27 NK Plan which aims to 'Support sustainable and regenerative local economic growth and resilience, transitioning to a green economy working within environmental thresholds'. The Economic Strategy recognises that the District has a significant number of operational and proposed solar farms and increasingly associated battery storage facilities. It supports the growth of the green economy and to maximise the benefits arising from solar farms including the creation of a dedicated Community Energy Fund. It also seeks to support skills development for the green economy including sustainable construction and specialised trades.

9.14 The consultation draft (2025) version of the NK Heritage Strategy contains five themes and has an overarching vision including that 'historic buildings, archaeological sites, natural heritage, and local customs and traditions will be better understood, preserved and protected for future generations'.

10 Alternatives and Design Evolution

10.1 Chapter 3 of the Environmental Statement (ES) describes the consideration of alternatives and design evolution in relation to the proposed development. It considers four alternatives:

- No development scenario
- Site Selection process
- Design Evolution – site extents
- Design Evolution – layout and technologies

10.2 The Site Selection Report (Appendix 2 of the Planning Statement) describes the applicant's subsequent assessment of reasonable alternatives and flood risk sequential approach following the applicant's identification of large landholdings capable of entering into voluntary commercial agreements within timescales that would allow the connection date to be achieved. There was a particular focus on minimising the extent of Flood Zone 3 land and BMV land. The applicant sought continuous areas of unconstrained land of at least 300ha, excluding collections of non-continuous sites due to increased costs and legal processes that would be required and knock-in impact on scheme viability.

10.3 The fixed point of connection to the grid was based on the Bicker Fen National Grid Substation. A connection agreement has been obtained with a connection period between June 2029 and October 2033. The site search area is based on a 10km radius of the Bicker Fen Substation. Sites were sought that were potential suitable in accordance with EN-3 criteria and capable of accommodating a development of 400MW generation capacity. Part of the original site known as 'Beacon Fen South' was removed once it became apparent that it would conflict with the proposed site for the Lincolnshire Reservoir and for other environmental reasons.

10.4 A site selection process was also undertaken for the Cable Route Corridor and the Bespoke Access Road Corridor (described in ES Table 3.2 and 3.3). Three potential alternative sites (PAS) were examined during Stage 4 of the site selection process and discounted for a variety of reasons (as set out in Section 4.4 of the Site Selection Report and Annex D, E and F) including the Flood Risk Sequential Test (paragraphs 4.4.33 to 4.4.30 of the Site Selection Report). PAS1 is located in Flood Zones 2 and 3 and therefore is not considered to be of lower risk than the proposed site.

10.5 PAS2 does not meet the minimum size criteria and is heavily constrained and therefore was not considered to comprise a viable alternative. PAS3 is located in Flood Zone 1 and meets the size criteria but is heavily constrained and therefore was not considered to comprise a viable alternative. For these reasons, the applicant concludes that there are not suitable, and reasonably available sites appropriate for the development in areas with a lower risk of flooding and that the site accordingly passes the Sequential Test for flood risk.

10.6 This is discussed further under section 18 Water Resources and Flood Risk (ES Chapter 11).

11 Environmental Impact Assessment (EIA) Methodology

11.1 The ES is required to contain the information specified in regulation 14(2) and must meet the requirements of Regulation 14(3) and 14(4) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. It must also include any additional information specified in Schedule 4 - Information for Inclusion in Environmental Statements of the EIA Regulations at (Regulation 14(2)) which is relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to

be significantly affected. The Council and its consultees do not identify any overarching areas where the submission documents do not accord with these regulations, although we do highlight some matters in relation to assessment methodology in relation to the temporary/permanent loss of BMV agricultural land.

11.2 The Council also notes that where the applicant has identified that flexibility is required in relation to design and layout considerations (in particular the general arrangement within the BESS/substation), guidance produced by the Planning Inspectorate with regard to the use of the 'Rochdale Envelope' has been applied within the relevant ES chapters to ensure a robust assessment of the likely significant (and worse case) environmental effects of the proposed development. We note that this involves assessing the maximum (and where relevant, minimum) parameters, size (footprint, width, and height) technology, and locations of the different elements of the proposed development for the elements where flexibility needs to be retained.

11.3 The Council also agrees that the applicant has applied relevant 'Zones of Influence' for each environmental topic area based on the extent of likely effects as identified as the study area in each of the individual topic chapters of this ES. In most cases these have been agreed with the Council and its consultees at pre-application stage and in feedback in relation to the Preliminary Environmental Impact Report (PEIR).

11.4 Finally, the Council has also discussed and agreed the 'Cumulative Sites Long List and Shortlist' (Chapter 4, Appendix 4.1 and 4.2 respectively) which presents the identified long list of existing and/or approved developments within the search area and sets out the threshold criteria applied to identify the shortlist of existing and/or approved developments for each environmental topic.

12 North Kesteven District Council Assessment of Impacts

12.1 The following sections identify the relevant policies within the development plan and other local policy, the key issues raised by the proposed development, the extent to which the applicant addresses them and thus the degree to which the Council considers the proposal to comply with local policy and the NPSs.

13 Landscape and Visual Impacts, and Residential Visual Amenity

13.1 EN-1 states that the Examining Authority (ExA) needs to consider the design of a scheme carefully. They should have 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.

13.2 Paragraph 5.10.35 of EN-1 states that the ExA 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 ExA 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'.

13.3 Paragraph 5.10.5 of EN-1 sates that 'Virtually 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'. Paragraph 5.10.6 then states that projects need to be designed carefully, taking account of the potential impact on the landscape, and that they should have 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'.

13.4 The specific guidance relating to Solar Photovoltaic Generation in section 3.10 of EN-3 notes at paragraph 2.10.94 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 3.10.95 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'.

13.5 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.

13.6 CLLP policy S53 'Design and Amenity' states all development must achieve high quality sustainable design which contributes positively to the local character and landscape. Development should, amongst other things, be based on a sound understanding of the context, integrating 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.

13.7 **Landscape Impact:** no part of Beacon Fen Energy Park or the land surrounding it falls within a designated landscape. There are also no registered parks and gardens close to Beacon Fen Energy Park.

13.8 The site would be located within the Fenland Landscape Sub Area and is characterised by a low lying and relatively flat fenland landscape crossed with drainage dykes and ditches, dominated by arable land use and open, relatively un-developed, character.

13.9 **Visual Impact:** people in the landscape surrounding Beacon Fen Energy Park who are likely to experience views of Beacon Fen Energy Park are:

- Residents in settlements;
- Property groups;
- Individual properties

- Recreational receptors using the recreational path network and facilities; and
- Users of the transport network.

13.10 Proposed 'embedded' mitigation includes a reduction in the extent of solar PV panels to provide buffers from nearby residential receptors and PROW, existing hedgerows and trees and drains. The solar arrays will be located within the existing field pattern with associated boundary hedgerows and tree cover retained as much as possible. Native shrub areas with trees will be introduced within the solar array area to provide visual mitigation in relation to specific residential properties and shrub and hedgerow planting will provide landscape and biodiversity enhancements.

13.11 Lincolnshire County Council has commissioned specialist advice from AAH consultants on the impacts of the solar farm on landscape and visual impacts in a shared arrangement with the District Council. A copy of AAH's review of the applicant's LVIA is attached at Appendix A. AAH have carried out pre-application landscape and visual consultation with the applicant over a 12 month period.

13.12 The LVIA and associated figures, appendices and documents provide a generally comprehensive assessment of the proposed 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.

13.13 AAH's specific comments on landscape impact and visual impact are set out as follows.

13.14 **AAH comments on Landscape Impact:** the Future baseline is covered in paragraphs 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.

13.15 AAH 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.

13.16 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/DCO schemes as well as Town and Country _Planning (TCPA) scale projects. These will all combine to change the character of the wider landscape.

13.17 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. AAH consider that 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*.

13.18 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 'Operational' effects are not broken down in the same way, mixing together these two aspects (character and elements). AAH consider that some clarity and re-structuring would assist in clarity of this section, specifically clearly laying out the landscape receptors identified, summarising the likely elements to be affected within these, assessing the list of landscape receptors breaking down into effects on elements and character.

13.19 For clarity, AAH 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.

13.20 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 AAH 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. The applicant should clarify the process adopted.

13.21 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 AAH 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.

13.22 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: Significant**

- 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.

13.23 These ‘Significant’ effects represent direct effects on the landscape of the entirety of the site. At year 15, the Order Limits (the 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.

13.24 While AAH acknowledge the establishing planting as part of the mitigation proposals will add a positive element to this landscape, they 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 AAH disagree with the applicants’ findings that the residual effects on the Fenland Sub Area would subsequently reduce to ‘Minor Adverse’; instead AAH judge it would remain as ‘Moderate adverse’ and therefore ‘Significant’ (negative).

13.25 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”.* AAH also have concerns in regards to the mitigation planting itself causing adverse effects by being out of character with this open fenland, e.g. through the introduction of 3.5m high hedgerows.

13.26 The proposed 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. AAH strongly recommend limiting vegetation loss along the 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.

13.27 **AAH comments on Visual Impact:** The Visual Assessment is provided within section 6.6 of the LVIA and detailed within *Appendix 6.4: Visual Assessment*. As outlined above, AAH 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.

13.28 The LVIA chapter does not provide any narrative in regard 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 the Landscape Institute's *Technical Guidance Note LITGN-2024-01 'Notes and Clarifications on aspects of the 3rd Edition Guidelines on Landscape and Visual Impact Assessment (GLVIA3)'.*

13.29 AAH have also raised concerns about other aspect of the Visual Baseline as set out in paragraphs 5.1 to 5.10 and 5.12 of their comments (Appendix A).

13.30 Regarding the significant visual effects at Construction phase, 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.

13.31 The significant visual effects at Construction phase are listed in a concise form in paragraph 5.15 of AAH's comments (Appendix A) and below.

- **<u>At Construction:</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 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 Tilebarn 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

13.32 These **'**Moderate' and 'Major Adverse' (negative) 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, AAH disagree with the LVIA that they are low in number, as the list within AAH's full comments (paragraph 5.15 and above) clearly identifies. The construction phase will affect a high number of visual receptors across a wide area.

13.33 The significant visual effects at Operation (Year 1) are listed in a concise form in paragraph 5.15 of AAH's comments (Appendix A) and below.

- **<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);
    - 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 is assumed to be an omission)
    - 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

13.34 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 which remain 'Significant'). AAH would expect this level of 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 through a change in the ground surface (road), which would have limited wider visibility.

13.35 While there are still several receptors identified as experiencing 'Significant' adverse visual effects from the development, AAH 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.

13.36 The significant visual effects at Operation (Year 15) are listed in a concise form in paragraph 5.15 of AAH's comments (Appendix A) and below:

- **<u>At Operation (Year 15):</u>**
  - **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

13.37 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.

13.38 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.

13.39 AAH 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. The Council requests 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.

13.40 One example is for Residential receptors at Gashes Barn (receptor 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 as a 'Moderate Adverse' Year 15 residual effects. The Council requests that the judgements are reviewed thoroughly and a tracked change LVIA is provided to fully assess the findings of the visual assessment and comment upon individual judgements.

13.41 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. AAH's concern is that mitigation planting must be well considered at any detailed design stage, and not simply put in place to screen views of development at the cost of the existing view.

13.42 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 Outline Landscape and Ecological Management Plan (OLEMP) that is carried out for a suitable period of time.

13.43 Subsequently, AAH 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: Ewerby Thorpe Farm and Ewerby Lodge;
- R2 Group Receptor: Howell Fen Farmhouse, Asgarby Barns, Westmorelands Farm (potential views of Solar Array Area and Cable Route Corridor);
- R3 Group Receptor: Copperhill Kennels Cattery, Waithe Farmhouse, The Grange, Ferry Farm and Mere House;
- R4 Gashes Barn;
- R20 Group Receptor: (Howell) including Crown Cottage and Keepers Cottage.

13.44 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 Crown Cottage.

13.45 AAH judge that the year 15 effect on all these nearby residential receptors will be at least 'Moderate' and 'Significant'. The solar 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 in AAH's opinion appearing out of character in this location. Even with a larger offset of development, or an increased landscape buffer, the open views would predominantly be foreshortened and changed compared with the existing. The year 15 assessment must be compiled based on changes to the baseline, not on how successfully the development is being screened from view.

13.46 **Residential Visual Amenity:** Residential Visual Amenity has been considered as part of the LVIA. 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.

13.47 RVAA methodology is included within Section 1.18 of the LVIA methodology within Appendix 6.2. The methodology is considered to be sound and reflects Landscape Institute guidance '*TGN 2/19: Residential Visual Amenity Assessment'*, however the main LVIA does not state that it has considered this process explicitly, whether the Residential Visual Amenity Threshold (RVAT) has been met by any of the assessed 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.

13.48 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 RVAT is reached when the change to visual amenity of residents in individual properties identified as *"having the greatest magnitude of change".*

13.49 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 operational 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

13.50 On this scheme, due to the scale and extents, as well as height of some elements (e.g. substations) 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 design and layout, which will surround this property.

13.51 Gashes Barn is an isolated property located within an agricultural landscape, and as set out in the planning history referred to in section 5 it was converted to a residential dwelling by virtue of a 2004 planning permission. It currently has predominantly open boundaries. Gashes Barn would be entirely surrounded by solar arrays at a distance of 150m to the north, 165m to the east, 205m to the south and 185m to the west. The proposed substation and BESS would be approximately 1,030m to the south west. There would be views of the solar arrays from all aspects of the property and its associated access road. The RVAA concludes that this is likely to be perceived as 'overwhelming' but not 'overbearing' in the medium term until Year 10.

13.52 While it is judged that the degree of effect 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 property would remain surrounded by the development, completely changing the current open rural outlook and context for residents, and remains a significant concern. Again, established mitigation planting will aid in screening the development, however the open views will be foreshortened drastically.

13.53 However, we agree with the RVAA that while the remaining properties as assessed will experience 'Significant' effects, it is unlikely that these will reach the RVAT through as a result of the development.

13.54 The 'Embedded Mitigation' section of the LVIA (paragraph 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 the occupiers of Gashes Barn and discussions of buffers.

13.55 We have been unable to locate as to what these buffers are, and 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 – Crown Cottage within Appendix 6.5.

13.56 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.

13.57 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.

13.58 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.

13.59 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.

13.60 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 that if the planting does not establish as anticipated, the residual effects will likely be higher than initially judged.

13.61 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.

13.62 **Cumulative Landscape and Visual Effects:** the ES considers cumulative landscape and visual effects with Heckington Fen Solar Park, Vicarage Drove Solar Farm, Bicker Fen Solar Farm and Little Hale Solar Farm; the latter having recently been granted planning permission on appeal (planning application reference 23/1021/FUL; appeal reference APP/R2520/W/25/3363027).

13.63 No ‘Significant’ landscape or visual cumulative effects are identified in the LVIA. However, we do not support this and have concerns regarding cumulative effects due to the unprecedented number and extent of renewable energy projects and associated infrastructure in the county and 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.

13.64 The landscape character of Lincolnshire 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 undoubtably become a widespread characteristic in the county. Subsequently, we judge that solar development would be a key characteristic in any updates to published character assessments from local to national scale.

13.65 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 of 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.

13.66 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.

13.67 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 county/region as a whole.

13.68 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.

13.69 GLVIA3 defines types of cumulative visual effect as either: Combined (in the same view) or Sequential. Table 7.1 of GLVIA3, regarding Sequential Cumulative visual effects states that *"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".*

13.70 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.

13.71 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.

13.72 By way of summary and conclusions, AAH state that by virtue of its scale and massing, the development would result in 'Significant' adverse (negative) effects on local landscape character and visual amenity during all key phases (construction, early operation, and at year 15).

13.73 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.

13.74 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.

13.75 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.

13.76 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 need to be in accordance with BS:5837 'Trees in Relation to Construction' and any subsequent arboriculture method statements, again this should be approved by the appropriate authority.

13.77 In particular, this should ensure that 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.

13.78 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.

13.79 The Council considers that there is a **negative** impact on the landscape character of the whole site during construction and the initial years of operation. The impact on visual amenity is **negative** in respect of 12 residential properties at Ewerby Thorpe Farm, Ewerby Lodge, Howell Fen Farmhouse, Asgarby Barns, Westmorelands Farm, Copperhill Kennels, Waithe Farmhouse, the Grange, Ferry Farm, Mere House, Gashes Barn, Crown Cottage and Keepers Cottage. In particular, the residents of Gashes Barn will experience 'overwhelming' residential visual impacts as the property will exceed the RVAA threshold. There would be **negative** cumulative landscape character and visual effects across the wider area beyond the site.

14 Ecology and Biodiversity (including Biodiversity Net Gain)

14.1 Paragraph 5.4.42 of EN-1 states that 'development should, in line with the mitigation hierarchy, aim to avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives (…); where significant harm cannot be avoided, then appropriate compensation measures should be sought'.

14.2 It also notes that due consideration should also be given to regional and local biodiversity and geological designations this is because these sites have a fundamental role to play in meeting overall national biodiversity targets; contributing to the quality of life and the well-being of the community; and in supporting research and education.

14.3 EN-3 also highlights that solar farms have the potential to increase the biodiversity value of a site, especially if the land was previously intensively managed. Paragraph 2.10.89 notes that "in some instances, this can result in significant benefits and enhancements beyond Biodiversity Net Gain, which result in wider environmental gains and which is encouraged'.

14.4 CLLP policy S14 'Renewable Energy' states that 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.

14.5 CLLP policy S59 'Green and Blue Infrastructure Network' states that the Central Lincolnshire Authorities 'will safeguard green and blue infrastructure in Central Lincolnshire from inappropriate development and work actively with partners to maintain and improve the quantity, quality, accessibility and management of the green infrastructure network'. Continuing, the policy notes 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. Where adverse impacts on green infrastructure are unavoidable, development will only be supported if suitable mitigation measures for the network are provided'.

14.6 CLLP 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. If the proposals do cause adverse impacts, then the benefit of the scheme will need to provide benefits the clearly outweigh the harms.

14.7 Development will only be supported where the proposed measures for mitigation and/or compensation along with details of net gains are acceptable. All developments are required to meet the tests of:

- Protecting, managing, enhancing and extending the ecological network of habitats, species and sites of international, national and local importance.
- Minimising impacts on biodiversity and geodiversity value.
- Delivering measurable and proportionate net gains in biodiversity.
- Protecting and enhancing the aquatic environment within or adjoining the site, including water quality and habitat.

14.8 Part 2 of CLLP policy S60 requires developments to seek to preserve, restore and re-create priority habitats, ecological networks and the protection and recovery of priority species set out in the Natural Environment and Rural Communities Act 2006, Lincolnshire Biodiversity Action Plan, Lincolnshire Geodiversity Strategy and Local Nature Recovery Strategy. It further requires that where adverse impacts are likely, ‘development will only be supported where the need for and benefits of the development clearly outweigh these impacts’ and in such cases, ‘appropriate mitigation or compensatory measures will be required’.

14.9 CLLP policy S61 ‘Biodiversity Opportunity and Delivering Measurable Net Gains’ requires development to deliver at least a 10% measurable biodiversity net gain (BNG) attributable to the development. The net gain for biodiversity should be calculated using Natural England’s Biodiversity Metric, and should be provided on-site wherever possible. Unless specifically exempted, a biodiversity gain plan should be submitted providing clear and robust evidence for biodiversity net gains and losses, and which includes 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 on ongoing management strategy for any BNG proposals.

14.10 Finally, CLLP policy S66 ‘Trees, Woodland and Hedgerows’ requires proposals to provide evidence that they have been subject to adequate consideration of the impact of the development on any existing trees and woodland. New developments will also be to retain existing hedgerows where appropriate and integrate them fully into the design having regard to their management requirements. There is an interface here with CLLP policy S60 given the impacts on hedgerows, a habitat of principal importance.

14.11 The Council has commission specialist advice from AECOM on the topic of ecology. AECOM's full detailed comments are attached at Appendix B.

14.12 Overall, AECOM's assessment is that the ecological information and assessments accompanying the application contain a significant number of omissions and/or lack clarity on relevant points. These include matters relating to how prior advice (at EIA Scoping or Preliminary Environmental Impact Report stages) has been addressed, clarity on the methods used and the data underpinning the conclusions reached. The Council would welcome the opportunity to discuss with the applicant how to resolve these issues, however, as currently submitted the ES chapter on ecology is not considered sufficiently robust to accurately assess the likely impacts on ecological interests across the site.

14.13 In summary, omissions highlighted include:

- Insufficient discussion and evidence relating to aquatic surveys and whether impacts on aquatic plants were considered
- The survey effort for quail (a Schedule 1 bird species) notes only four phases of survey in the period mid-May to the end of July as opposed to the required six surveys as set out in prior advice
- There is an inconsistent approach to the assessment of impact on wintering birds whereby the solar array has been aggregated with the Cable Route and Bespoke Access whereas the latter are two geographically discrete areas
- No attempt appears to have been made to update the survey baseline on Schedule 1 birds (barn owl, quail and other species that could occur) since the 2022 survey of the solar array area. While the consequences of development for skylark is covered, the consequences for the long term suitability of the site for wintering birds of open farmland is not clearly assessed. This includes further consideration of cumulative impacts.
- Supplementary data should be provided to verify the status and value of individual hedgerows. If hedgerows are assessed as being of Local Wildlife Site quality they would have a 'county' nature conservation value, not 'local' as stated. This data is also required to support agreement of the BNG baseline.
- A number of significant adverse effects on the conservation status of ecological receptors are predicted during construction, however the mitigation for these impacts is not confirmed or demonstrated to be adequate so 'significant residual effects' cannot be discounted. This includes significant effects on:

    (i) Qualifying bird species of The Wash SPA and Ramsar site;
    (ii) The qualifying otter population of The Wash and North Norfolk Coast SAC;
    (iii) Great crested newt – a European Protected Species;
    (iv) Barbastelle bat – a protected and threatened species; and
    (v) Water vole – a protected and threatened species

14.14 The BNG Strategy cannot be agreed until the applicant provides the full BNG Metric for examination and the good practice requirements for evidence are met. The Metric is one of the primary documents necessary for agreement of the BNG Strategy. At present, the Council is not satisfied that the currently BNG Strategy is robust as the evidence is weak and some of the assumptions seem unrealistic.

14.15 AECOM's comments on the BNG Metric are attached at Appendix C. Examples of specific concerns include that the baseline information provided with the report does not account for all habitats, certain habitats have been mistranslated, and the habitat mapping does not appear sufficiently accurate. The 'proposed' habitat plan does not account for all land within the Order Limits; for example, the bespoke access road is not accounted for. Furthermore there does not appear to be any consideration of, and compensation for, impacts on woodland and trees within the submitted BNG information.

14.16 On BNG, the Council notes a current commitment to delivering 30% habitat units, 10% hedgerows and 10% watercourses. However, we note that the Examining Authority assigned 'great weight' (positive) in the overall planning balance in relation to EN010123 (Heckington Fen solar park) where a minimum of 65% BNG was committed to by Requirement. In addition to providing a robust approach to BNG calculations, as mentioned above, we would expect the applicant to be able to significantly exceed a minimum of 10% BNG across all three habitat types within the Beacon Fen development, consistent with policy S14 'Renewable Energy' of the CLLP which requires proposals for ground-based photovoltaics to be 'accompanied by evidence demonstrating how opportunities for delivering biodiversity net gain will be maximised'.

14.17 On the basis of the advice from AECOM regards the inadequacy of the ES chapter on Ecology, the Council must conclude that the proposals would have a **negative** impact until demonstrated otherwise. Whilst we agree that BNG of over 10% is likely to be secured, and would be **positive**, further details are needed to ensure that it would be in accordance with Central Lincolnshire's BNG guidance. As submitted, and summarised above, there are a number of potentially significant omissions from the applicant's BNG submissions meaning that the baseline metric cannot be accepted as accurate at this stage.

15 Cultural Heritage

15.1 Section 5.9 of EN-1 states that the SoS should consider the impact of a proposed development on any heritage assets and that they should take into account the particular nature of the significance of the heritage assets and the value that they hold for this and future generations. This understanding should be used to avoid or minimise conflict between conservation of that significance and proposals for development.

15.2 In terms of archaeological assets, paragraph 5.9.21 states that where there is a high probability that a development site may include as yet undiscovered heritage assets with archaeological interest, then Requirements should be considered to ensure that appropriate procedures are in place for the identification and treatment of such assets discovered during construction.

15.3 EN-1 seeks consistency with the current National Planning Policy Framework and expands the definition of heritage significance to acknowledge the contribution that can be made by setting and alters the wording of paragraphs 5.9.5 and 5.9.6 regarding non-designated archaeological heritage assets of demonstrably equivalent significance to Scheduled Monuments.

15.4 EN-1 also recommends that the applicant prepares proposals that enhance heritage significance and mitigate heritage harm, and considers whether the development effects will be direct, indirect, temporary or permanent. It further identifies a need to weigh any identified less than substantial harm to the significance of a designated heritage asset against the public benefits of the proposal.

15.5 CLLP policy S47 'the Historic Environment' requires development proposals to protect, conserve and seek opportunities to enhance the historic environment of Central Lincolnshire including through protecting the significance of heritage assets (including where relevant their setting), and taking into account the desirability of sustaining and enhancing non-designated heritage assets and their setting.

15.6 Continuing, the policy states that where a development proposal 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. Finally, 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.

15.7 **Above-ground Heritage Assets:** subject to the comments below, the Council is broadly satisfied with the methodology, analysis and outcomes of the ES chapter on Cultural Heritage in relation to the above ground heritage assets. The key sensitive designated receptors are listed at paragraph 8.6.5 of the ES Chapter on Cultural Heritage while non-designated receptors are listed at paragraph 8.6.6. Embedded mitigation includes creating buffer areas to increase the distance between the site and nearby heritage assets.

15.8 The Council agrees that at the construction stage, the Bespoke Access Road would have a Moderate Adverse (significant) effect on Grade I Listed St Andrew's Church, Asgarby (paragraph 8.7.7 and Table 8.8). It considers, however, that there would be a similar impact on Grade II Listed Asgarby Hall whose principal elevations look over the historic parkland where the new road would be in full view. Asgarby Hall is not included in Table 8.8 for assessment during the construction phase despite being listed as a key sensitive designated

receptor in paragraph 8.6.5. The Heritage Statement identifies that there is potential for impacts to the hall as a result of the introduction of the access road.

15.9 During the operational stage, due to the use of the Bespoke Access Route for maintenance purposes, the Council considers that a medium magnitude of impact should be ascribed to Grade I Listed St Andrew's Church leading to a Moderate Adverse (significant) effect.

15.10 The Bespoke Access Route would also impact on the setting of Grade II Listed Boughton House which is not particularly considered in the ES leading to a slight adverse effect being identified during the Operational Phase only (Table 8.9). Boughton House is not included in Table 8.8 for assessment during the construction phase despite being listed as a key sensitive designated receptor in paragraph 8.6.5. The Council considers that the assessment undertaken in relation to Boughton House is insufficient. The Heritage Statement identifies that there is potential for impacts to the house as a result of the introduction of the access road.

15.11 Turning to the Solar Array Area, the impact on Howell Hall (Grade II listed) during the operation phase (Table 8.9) should be upgraded to Minor Adverse in the Council's opinion due to its landscape setting and open views towards the solar array. It is recognised that a buffer has been included, however, the setting and views from the curtilage of the property will still be adversely affected.

15.12 Kyme Tower (Grade I listed and associated 'Remains of medieval monastery, moated manor house, fishponds and post-medieval garden'; a scheduled monument) has been considered under the operational phase (Table 8.9) but not given significant weighting in the ES. The Council disagrees with the conclusion that the existing landscape will remain unchanged especially when considering the cumulative impact with Heckington Fen solar farm. Instead, it considers that the magnitude of impact should be at least 'medium'. The Council notes that the setting of Kyme Tower was given some weight in the Secretary of State's decision for the Heckington Fen solar farm as follows:

'4.13 The Secretary of State also agrees that the Proposed Development will contribute to a cumulative adverse effect on Kyme Tower's setting, albeit to a lesser extent than the potential additional harm of the emerging Beacon Fen Energy Park, that amounts to less than substantial harm to the heritage asset's significance. The Secretary of State therefore agrees with the ExA that the cumulative effects on the historic environment contribute to less than substantial harm at the lower end of the scale which should be ascribed moderate negative weight.'

15.13 Finally, the Council considers that insufficient weight has been ascribed to non-designated heritage farmsteads. Despite an acknowledgement of a high magnitude of impact on some occasions with the result of a slight adverse impact, there is little bespoke mitigation proposed to each asset with a reliance on embedded mitigation. The farmsteads include:

- Unnamed Farmstead, Ewerby and Evedon (non-designated HER MLI121913)
- Westmorelands, Asgarby Fen Farm (non-designated HER MLI121926)
- Gashes Barn (non-designated HER MLI121916)

15.14 It is clear that there will be an impact on the setting of designated and non-designated heritage assets and it is positive that, for the most part, this has been recognised in the ES. The significance and special interest of these assets will be affected by the changing landscape conditions arising from the proposed layout of the solar farm. The Council considers that greater weight and bespoke consideration of Kyme Tower, Asgarby Hall, St Andrew's Church, Boughton House and Howell Hall together with non-designated heritage farmsteads is required in order to inform a bespoke mitigation strategy for these heritage assets rather than a reliance on embedded mitigation.

15.15 In view of these conclusions, the Council considers that there will be a **negative** impact on above-ground heritage assets as listed above.

15.16 **Archaeology:** the Council has an arrangement with Lincolnshire County Council for the provision of archaeological advice on behalf of NKDC. The Council supports the views of the LCC's Historic Environment (Infrastructure) Officer which are provided below.

15.17 The authorities are satisfied that the assessment in the ES 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.

15.18 Consultation and communication between the applicant and LCC have 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.

15.19 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 Document Ref 6.2 ES Vol. 1, 6.2.8 and Appendix 8.1 Archaeological Desk Based Assessment Document Reference: 6.3 ES Vol.2, 6.3.45). 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[1] (Lincolnshire County Council 2024).

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

15.20 The desk-based assessment has been accompanied by aerial investigation and mapping survey (Appendix 8.3 Aerial and LiDAR Assessment – Solar Array Document Reference: 6.3 ES Volume 2, 6.3.47 and Appendix 8.4 Aerial and LiDAR Assessment – Access and Cable Routes Document Reference: 6.3 ES Volume 2, 6.3.48) 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.

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

15.22 The programme of trenching for the main solar array area has been completed (Appendix 8.10 Trial Trenching Report - Solar Array Appendix 6.3.73) and furthermore substantial parts of the access route trenching has been done (Appendix 8.10b Trial Trenching Report - Targeted Area on the Access Route Appendix 6.3.74).

15.23 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.

15.24 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.

15.25 The archaeological assessment therefore fulfils the requirements set out within the National Planning Statement Policy EN1 (Section 5.8), the National Planning Policy Framework 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)).

15.26 The methodological approach employed for Beacon Fen Energy Park utilises the Rochdale Envelope (Chapter 4 – Scope & Methodology Document Reference: 6.2 ES Volume 1, 6.2.4 Chapter 4 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 the authorities 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.

15.27 The draft archaeological mitigation strategy was provided to LCC for comment, in advance of the submission of DCO (Appendix 8.11 Archaeological Mitigation Strategy Document Reference: 6.3 ES Volume 2, 6.3.74).

15.28 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 survey, including the prior survey works, assessment of significance and type of mitigation required.

15.29 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 LCC.

15.30 The updated archaeological mitigation strategy has been submitted to LCC, 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.

15.31 Where further trenching is proposed within areas where access was not possible previously, this will occur post-DCO. The authorities are 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.

15.32 The draft DCO wording for Requirement 11 is appropriate and acceptable to the authorities and there is no need for any revision. As drafted, it provides a robust and enforceable Requirement that is suitable for the Beacon Fen Energy Park DCO, should it be consented.

15.33 On that basis the Council considers that there is a **neutral** impact on below-ground heritage assets.

16 Access and Traffic

16.1 Paragraph 5.14.18 and 5.14.19 of EN-1 sets out the 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 transport networks arising from the development’. Moreover, applicants may be willing to enter planning obligations to for funding infrastructure and otherwise mitigating adverse impacts.

16.2 With regards to mitigation, 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 (paragraph 5.14.14).

16.3 Section 2.10 of EN-3 makes a number of recommendations in relation to accessibility and public rights of way, noting 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. With reference to public rights of way, the draft advises that applicants should keep, as far as is practicable and safe, all public rights of way 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 public rights of way, where possible during construction, and in particular during operation, and to provide enhancements to public rights of way and the adoption of new public rights of way through the site.

16.4 CLLP Policy S47 'Accessibility and Transport' requires development to contribute towards an efficient and safe transport network and that proposals should demonstrate, where appropriate, that they have had regard to the need to minimise additional travel demand through the use of measures such as travel planning, safe and convenient public transport, walking and cycling links and integration with existing infrastructure. The policy also sets out 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.

16.5 For Beacon Fen Energy Park, construction vehicles will primarily access the Site via the proposed Bespoke Access Route from the A17. A secondary construction access route is from Halfpenny Toll Lane at the northern boundary of the site.

16.6 Appendix 3.2 of the ES comprises a Bespoke Access Road Options Appraisal which sets out an appraisal of the existing highway access and options, describing the general constraints to construction access utilising the existing highway. It is followed by an appraisal of the options for a Bespoke Access Road. The Council notes that use of the existing public highway routes (ultimately, via the A17) were deemed unsuitable without significant mitigation measures and upgrade works to facilitate the proposed development due to their inability to accommodate the required traffic volume and type of traffic, in particular Abnormal Indivisible Loads (AILs). Furthermore the impact to local communities would likely be extensive given the rural and agricultural nature of the surrounding area.

16.7 Since the Council is not the Local Highway Authority, it defers comment on traffic and transport matters to LCC. The ES notes that the Baseline Annual Average Daily Traffic (AADT) for the A17 is around 18,000 to 19,000 vehicles for the period 2021 to 2028 (future baseline) of which around 16% is comprised of HGV movements. Principal construction access to the site will be from the A17, with a left-in/left-out arrangement with connectivity to the site via the Bespoke Access Road.

16.8 The Bespoke Access Road also provides embedded mitigation in respect of proposed abnormal loads. The ES notes that there are two types of abnormal loads that will need to access the main solar array. Firstly, flatbed HGVs for the delivery of cable drums, which are oversized loads of approximately 80 tonne gross weight, and are less manoeuvrable than standard articulated HGVs. Secondly, transformers which are anticipated to be circa 160 tonnes in weight, with a total gross vehicle weight of 240 tonnes. The transformers are transported by girder frame vehicles of approximately 57m in length.

16.9 Over the 34-month estimated construction period, for the totality of the project (including the cable corridor and Bicker Fen substation works) the ES calculates a generation of 118,819 two-way light vehicle movements and 37,230 two-way HGV Vehicle movements. This represents a 0.9% to 1.2% increase above the baseline levels in terms of movements on the A17, and up to a 5% increase along Carterplot Road and Cowbridge Road associated with the cable corridor and Bicker Fen substation works. The applicant notes that these traffic levels are substantially below the IEMA guidance which recommends adopting a 30% change threshold for where a 'significant' effect might occur. The combination of the use of the A17 and the Bespoke Access Road will account for 93% and 75.7% respectively of all light and HGV vehicle movements associated with the construction phase.

16.10 However, whilst the Council notes that the proposed Bespoke Access Road represents the applicant's preferred highway solution its benefits will require to be balanced against its impacts on the landscape of the area and – as above - the nearby above and below ground heritage assets.

16.11 It is notable that the applicant had not fixed the access strategy at the point of their s42 statutory consultation. In its PEIR response, the Council noted that they considered:

'there to be limited justification for the retention of the haul road post-construction mindful of the limited number of operational/maintenance vehicles anticipated. In this context paragraph 9.3.13 notes that "whilst equipment replacement traffic has not been quantified, intensity of activity on site, and hence traffic generation, will be substantially lower than during the construction phase. Therefore, it is likely that traffic impact on local roads during equipment replacement will not be material."

16.12 Furthermore, the Council noted paragraph 9.6.17 of the draft ES which concluded that:

"given that the Construction Effects of the Proposed Development are negligible, and allowing for access during equipment replacement via lightly trafficked local roads, it is very likely that Equipment Replacement would have negligible and Not Significant effects". This seems to support a proposition that the haul road does not need to be retained beyond the construction phase and that local roads between the A17 and the site can thereafter be used. However, the applicant should supply tracking/swept paths details for all vehicle types expected for operational phases to demonstrate accessibility and whether any localised highway improvements are required".

16.13 As above, the proposal to incorporate the Bespoke Access Road has only been fixed in the period post-statutory consultation and therefore whilst we defer comment on traffic and transport matters to LCC as the Highway Authority, we would encourage the examining authority to balance the consideration of the access options to the main solar array area against its impacts on the landscape of the area and above and below ground heritage assets; notwithstanding the Council's overall assessment of impacts in relation to the latter.

16.14 The development also seeks to protect and enhance the existing public right of way network. The Council would also defer comment on Public Rights of Way to LCC although the Council recognises that the provision of an extension to PROW Ewer/12/1 (subject to the final routeing being agreed) would respond positively to broader policy objectives in the CLLP. In particular, the Council would be supportive of the creation of a circular walking route that could be provided from the connection of this extension to the surrounding PROW network. The socio-economic, community and public health benefits are more fully described in paragraph 22.17.

16.15 The extension would be a permissive path for the duration of the development. While the precise route would be determined following the designed design of the development and would be discharged via draft DCO Requirement 15, it is anticipated that it would extend in a south and easterly direction along the Car Dyke then head south-west on the north side of Hodge Dike. An undetermined number of footbridges (unlikely to be more than eight in total) will be required to cross existing watercourses and will require Internal Drainage Board agreements. The path would be provided and open to the public one year following the date of final commissioning of the solar arrays.

16.16 The Council is concerned regards the temporary closure of PROW KkLT/4/2 save under the direction of the undertaker as there is no definition of the timescale for the temporary period or provision for an alternative route in the draft DCO, though it is assumed that it will be for the duration of the construction period only (as stated in ES paragraph 15.5.16). This footpath provides the sole off-road link between Asgarby and Kirkby La Thorpe.

16.17 The Council is also concerned regards the temporary closure of PROW Heck/2/4 save under the direction of the undertaker as there is no definition of the timescale for the temporary period or provision for an alternative route in the draft DCO, though it is assumed that it will be for the duration of the construction period only (as stated in ES paragraph 15.5.17). This footpath is part of the Heckington Fen route of Stepping Out Walk network of footpaths across North Kesteven. The network is of local importance to the tourism economy and for public health.

16.18 The Council raises concerns that farm accesses will be cut off by the Bespoke Access Road and requests that the proposed plans demonstrate how landowner access to the fields adjacent to the energy park will be maintained.

16.19 In summary the proposed development would have a **neutral** impact on access and traffic.

17 Noise and Vibration

17.1 Paragraph 5.12.15 of EN-1 states that developments should demonstrate good design through selection of the quietest cost-effective plant available; optimisation of plant layout to minimise noise emissions; and, where possible, the use of landscaping, bunds or noise barriers to reduce noise transmission.

17.2 The NPS also states that the decision maker should not grant development consent unless it is satisfied that the proposals will avoid significant adverse impacts on health and quality of life from noise, mitigate and minimise other adverse impacts on health and quality of life from noise and where possible, contribute to improvements to health and quality of life through the effective management and control of noise.

17.3 Moreover the decision maker should consider if mitigation methods needed for construction and operational noise over and above any which may form part of the project application. The mitigation methods may include consideration of layout to ensure adequate distance between source and noise-sensitive receptors; incorporating good design to minimise noise transmission through screening by natural barriers, or other buildings and administrative controls such as restricting activities allowed on the site including specifying acceptable noise limits.

17.4 EN-3 includes construction (including traffic and transport noise and vibration) as a specific factor to consider. The accompanying text does not however identify specific effects related to noise (aside from the volume of traffic potentially associated with construction activities).

17.5 CLLP policy S14 ‘Renewable Energy’ supports the principle of new renewable energy schemes, including ancillary development, subject to the direct, indirect, individual and cumulative impacts on (inter alia) the amenities of sensitive neighbouring uses (including local residents) by virtue of matters such as noise, dust, odour, shadow flicker, air quality and traffic being satisfactorily addressed.

17.6 CLLP policy S53 ‘Design and Amenity’ requires all development, including extensions and alterations to existing buildings, to achieve high quality sustainable design that contributes positively to local character, landscape and townscape, and supports diversity, equality and access for all. Under the ‘Uses’ sub-heading of the policy, this includes a requirement for development to ‘not result in adverse noise and vibration taking into account surrounding uses nor result in adverse impacts upon air quality from odour, fumes, smoke, dust and other sources’.

17.7 In addition, the value of retaining trees and hedgerows in terms of reduced noise impacts from development is recognised in paragraph 11.7.2; the preface to CLLP policy S66 ‘Trees and Hedgerows’.

17.8 Paragraph 10.2.3 of the ES state that activities associated with the construction and decommissioning phases of the proposed development have the potential to give rise to significant noise effects at the nearest Environmentally Sensitive Receptors (ESRs). The ES measured noise from 4 locations within the proposed development. Overall, 28 noise sensitive receptors, comprising primarily residential properties and farms, were identified up to a distance of 675m from the boundary of the application site. The location of the receptors were agreed in advance with NKDC Environmental Health officers.

17.9 Section 10.7 of the ES concludes that following the implementation of the Construction Environmental Management Plan (CEMP); the residual effects from construction traffic, site construction works and decommissioning will be negligible and not significant.

17.10 Paragraph 10.7.7 concludes that for all ESRs, however, there will be a moderate adverse effect as a result of operational noise due to industrial noise from electrical components installed within the solar arrays. The specific infrastructure components which emit sound are the inverters, transformers and Power Conditioning Units associated with the solar PV and BESS. Noise emissions from the solar inverters will not occur during periods of darkness.

17.11 However, the BESS, which includes inverters, transformers and PCUs is required to operate at any time which may include during periods of darkness, and therefore the noise emissions from it have been assessed on their own during this period. There are 11 receptors located close to the boundary of the solar array area which will have noise impacts. These are not deemed to be significant as assessed in Section 10.5. These results are shown in Tables 10.23 to Table 10.26. The proposals have been designed to locate the BESS and onsite substation within the centre of the site to maximise the distance from ESRs, ensuring a minimum distance from ESRs to any noise emitting plant.

17.12 The 11 receptors which will experience noise impacts are:

- R1: The Farm Kitchen Limited, Thorpe Road, Ewerby
- R2: Ewerby Thorpe Lodge, Ewerby

- R3: Austhrope Top House, Ewerby
- R4: Copperhill Kennels Cattery, Ewerby
- R5: Cooks Farm House, Ewerby
- R6: Gashes Barn, Ewerby
- R7: West Grange, Howell
- R8: Fen Farm, Howell Fen
- R9: The Old Rectory, Howell
- R10: Tythe Lodge, Howell
- R11: Crown Cottage, Howell

17.13 There will the potential for inter-project cumulative effects in relation to construction activity in the event that the construction of the proposed development (including the Cable Route Corridor and works at Bicker Fen Substation) overlaps with that of the nearby developments. These are not considered to be significant and would be temporary in nature.

17.14 The Council is satisfied that the assessment methodology is correct and concur with the outcomes. The Council is also satisfied that potential sensitive receptors have been identified. There is a high risk of adverse impacts during the construction and decommissioning phases, however, mitigation is proposed, and noise/vibration can be addressed through a CEMP by using best practicable means. This will ensure a risk of noise that is deemed to be not significant.

17.15 For the operational phase, there is a potential risk of noise impacts to sensitive receptors based on the data provided by the applicant. The applicant proposes that a full noise assessment and mitigation scheme will be provided as part of Requirement 14 prior to the commencement of the solar array, BESS and onsite substation.

17.16 The ES notes, at table 10.24 that for the daylight period between 07:00 and 19:00 (Solar Panels and BESS), sound rating levels of between 42-45db will be experienced at Receptors R1 to R11, equivalent to between a 5-12db increase above existing background noise levels. For the period between 19:00 and 22:00 (Solar Panels and BESS), the level of change varies between 8-18db above background.

17.17 For all receptors R1 to R11 the ES notes that the worst-case magnitude of change is ‘Medium’, and the sensitivity of the receptor is ‘Medium’ and as such, the significance of effect is ‘Moderate Adverse’ and ‘Potentially Significant’. However, the applicant has confirmed that when considering the internal ambient sound level within an ESR, a worst-case scenario has been used which assesses internal sound levels through a partially open window; which otherwise provides approximately 15 dB attenuation. The applicant notes that

as such, the recommended internal sound levels (in accordance with BS 8233) will be achieved for habitable spaces, where the daytime period effect is judged as 'Negligible' and 'Not Significant'.

17.18 For the nighttime period (between 23:00 and 04:00) and for the BESS only, the ES estimates that noise levels will vary between 11-20db above background. For receptors R1 to R11 and where the background sound level is ≤35 dB LA90, the worst-case magnitude of change is 'Medium', and the sensitivity of the receptor is 'Medium' and as such, the significance of effect is 'Moderate Adverse' and 'Potentially Significant'. However, the same window attenuation performance has then been assumed, reducing the overall impact to 'not significant'.

17.19 The ES also confirms that specific noise attenuation measures have not yet been developed (pending finalising of the scheme design) and as such that other than providing for a tonal element, the submitted operational noise estimates do not include any further reduction/s based on site-specific acoustic mitigation being applied. Instead, the ES advises that a further noise assessment/modelling will be undertaken once the site layout is confirmed so that precise mitigation methods can be provided. However, it is expected that mitigation will bring the noise impacts down to not being significant.

17.20 Cumulative impacts have been considered for noise and deemed as not being significant.

17.21 The Council is satisfied that the oCEMP has considered all relevant matters which would normally be outlined. The Council recommends that site working hours during the construction phase are amended and brought into line with NKDC guidance (07:00 to 18:00 hours Monday to Friday and 08:00 to 13:00 hours on Saturdays with no noisy construction work on Sundays or Bank Holidays). As per section 2.3.3, out of hours working should be agreed with the Council, in advance of them taking place. Noise, vibration and dust have been considered, along with potential sensitive receptors. The CEMP appears to be aiming to achieve Best Practical Means.

17.22 The Council considers that the impact of noise and vibration is **neutral** however this would be predicated on a layout-specific acoustic mitigation scheme being prepared which addresses and mitigates the change in decibel levels summarised above for both the daytime and nighttime periods.

18 Water Resources and Flood Risk

18.1 Sections 5.8 and 5.16 of EN-1 focuses on flood risk as well as water quality and resources. In the decision-making process, the SoS should note that all activities that discharge to the water environment are subject to pollution control. Moreover, the SoS will 'generally 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 Directive'.

18.2 EN-1 also states that the SoS ‘should consider whether appropriate requirements should be attached to any development consent and/or planning obligations entered into to mitigate adverse effects on the water environment’ (paragraph 5.16.16).

18.3 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.

18.4 The guidance confirms that the Exception Test should only be engaged where “the Sequential Test has identified reasonably available, lower risk sites appropriate for the proposed development where, accounting for wider sustainable development objectives, application of relevant policies would provide a clear reason for refusing development in any alternative locations identified”. The examples of such ‘relevant policies’ which would provide a clear reason for refusing potential alternative sites are those relating to landscape, heritage and nature conservation designations, for example Areas of Outstanding Natural Beauty (AONBs), SSSIs and World Heritage Sites.

18.5 Paragraph 2.10.60 of EN-3 also set out that applicants for solar generating stations will need to consider several factors when considering the design and layout of sites, including “proximity to available grid capacity to accommodate the scale of generation, orientation, topography, previous land – use and ability to mitigate environmental impacts and flood risk”.

18.6 Paragraph 2.10.84 then notes that where a Flood Risk Assessment has been carried out this must be submitted alongside the applicant's ES and will need to consider the impact of drainage. It notes that as solar PV panels will drain to the existing ground, “the impact will not, in general, be significant”.

18.7 Paragraph 54.10.145 also notes that 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”.

18.8 CLLP policy S21 ‘Water Efficiency and Sustainable Water Management’ sets out that in addition to the wider flood and water related policy requirements contained in policy S21, all residential development or other development comprising new buildings with outside hard surfacing, must ensure such surfacing is permeable unless technical considerations dictate otherwise.

18.9 CLLP policy S14 ‘Renewable Energy’ supports proposals for renewable energy schemes, including ancillary development, where the direct, indirect, individual and cumulative impacts are or can be made acceptable, which with reference to point (i) includes flood risk, albeit there are no further references to flood risk under the ‘Additional matters for solar based energy proposals’ subheading.

18.10 CLLP policy S20 ‘Resilient and Adaptable Design’ requires design proposals to be adaptable to future social, economic, technological and environmental requirements in order to make buildings both fit for purpose in the long term and to minimise future resource consumption, including that they are resilient to flood risk, from all forms of flooding.

18.11 CLLP policy S21 ‘Flood Risk and Water Resources’ requires all proposals that are likely to impact on surface or ground water to consider the requirements of the Water Framework Directive and that with specific relevance to flood risk that they will be considered against the NPPF, including application of the sequential and, if necessary, the exception test.

18.12 Amongst other things proposals are required to 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 assessments where appropriate; that the development will be ‘safe’ during its lifetime taking into account the impacts of climate change, that flood defence integrity is not impacted, that wider scope for flood risk reduction has been considered and that where appropriate they have incorporated Sustainable Drainage Systems (SuDS).

18.13 Finally 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.

18.14 A Flood Risk Assessment has evaluated multiple sources of flooding and has evaluated that the western areas of the Solar Array Area are location in Flood Zone 1 (little or no risk) while the eastern areas are located in Flood Zone 3 high probability. The maximum depth of fluvial flooding within the Solar Array Area is estimated as being 0.69m within the fields south of Gashes Barn and adjacent to Hodge Dike. The risk of flooding within the Cable Route Corrider range between low to high. For example, the Bicker Fen Substation, which requires expansion as part of the development, is located within Flood Zone 3. The risk of fluvial flooding within the Bespoke Access Corridor is generally considered to be low with areas of high risk. No parts of the main solar array site are located in a Source Protection Zone.

18.15 Those parts of the site located in Flood Risk Zones 1 and 2, meet the Sequential Test, however, as there are some parts of the development which are not located in lower flood risk areas then the Sequential Test much be applied.

18.16 The submitted Flood Risk Assessment refers to the site selection process as the means by which potential development sites within 10km of Bicker Fen Substation were identified as suitable for a solar development of 400-600MW generation. Paragraph 2.2.6 of the FRA states that land around the Bicker Fen Substation is located within Flood Zone 3 and that owing to the size of the Solar Array Area, it would not be feasible to locate all panels and infrastructure solely within the areas of Flood Zone 1 and 2 to the west of the substation. Paragraph 2.2.8 of the FRA confirm that no parts of the development will be impacted by flooding from any source that would render it inoperable and therefore, that the Sequential Test is passed.

18.17 The site selection process is also presented as Appendix 2 of the Planning Statement, the Site Selection Report which is discussed at Section 10 of this LIR. It concludes that the three PASs did not present more favourably in terms of a lower risk of flooding when considered against other constraints such as proximity to heritage assets or land ownership consideration.

18.18 The Exception Test provides a method of allow necessary development to proceed in situations where suitable sites at lower risk of flooding are not available as demonstrated by the Sequential Test. EN-1 paragraph 5.8.10 states that:

'The Exception Test is only appropriate for use where the Sequential Test alone cannot deliver an acceptable site. It would only be appropriate to move onto the Exception Test when the Sequential Test has identified reasonably available, lower risk sites appropriate for the proposed development where, accounting for wider sustainable development objectives, application of relevant policies would provide a clear reason for refusing development in any alternative locations identified. Examples could include alternative site(s) that are subject to national designations such as landscape, heritage and nature conservation designations, for example Areas of Outstanding Natural Beauty, SSSIs and World Heritage Sites which would not usually be considered appropriate.'

18.19 The Council notes the conclusions of the FRA at paragraphs 2.1.8 and 2.2.8 and Site Selection Report at paragraph 5.1.7 that the Sequential Test has been passed. However, the Council notes that the applicant, in applying the Sequential Test, has discounted sites which are not contiguous in nature. This approach has not been fully justified since there are examples of other solar farms within North Kesteven which are not contiguous in nature such as Springwell Solar Farm and Fosse Green. The applicant has also ruled out sites where there is not a willing landowner thus discounting the use of Compulsory Acquisition procedures. The Council considers that this is a matter which the Examining Authority should examine further alongside the site selection process described in Chapter 3 of the ES.

18.20 As the development cannot fully be located within Flood Risk Zones 1 and 2, it requires to be assessed against the Exception Test.

18.21 It must demonstrate that:

- It would provide wider sustainability benefits to the community that outweigh the flood risk; and
- Will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and where possible, will reduce flood risk overall.

18.22 The FRA includes details on how the development would meet the Exception Test in paragraphs 2.2.11 to 2.2.16. This includes the significant contribution that the development will make providing a source of renewable energy, that the mitigation measures will ensure the development will remain operational at all times, that safe access and egress routes will be incorporated into the

development, that surface water runoff will be managed sustainably and that necessary fluvial floodplain compensation will be provided.

18.23 The FRA paragraphs 7.2.3 to 7.2.11 describe the mitigation to address the implications of the fluvial flooding within the solar array area. Transformers will be located on raised bunds extending to 600mm above the maximum depth of flooding. Based on the proposed layout plans, 74 transformers will be located within the flood extent and would need to be on raised bunds. The exact height of the bunds will be confirmed with the Environment Agency (EA). A small area in the north-east corner of the proposed BESS and onsite substation is also to be located within the extent of the flooding.

18.24 The construction of a plateau for the BESS and onsite substation will result in a minor loss of floodplain storage and will require mitigation at detailed design stage. This will comprise lowering areas of higher ground adjacent to the flood extent to create additional storage in continuity with the floodplain. The solar panel tables will have a maximum height of 3.5m with a minimum leading edge of 0.8m above ground level. Where flood depths are deeper than 0.2m, the panels will be taller with a maximum height of 3.9m and a minimum leading edge of 1.3m above ground level. This will allow for up to 600mm freeboard above the maximum modelled flood depth of 0.69m (figure 2.4 shows the variation in panel heights).

18.25 Further surface and foul water drainage details would be agreed as part of the draft DCO requirements via Requirement 10. In agreement with the EA, the Council considers that an additional Requirement should be provided to ensure that details of the proposed floodplain compensation measures are submitted and agreed with the relevant planning authority in consultation with the EA.

18.26 The Council notes that the ExA [document reference PE-009] has suggested an amendment to the draft DCO relating to the Springwell Solar Farm development that would remove solar panels from areas of Flood Zone 3B (EN010149-000883-ExA Schedule of Changes to dDCO.pdf) on the basis that the ExA is unconvinced that there is an operational need for solar PV panels within this area of high flood risk. The Council considers that the Examining Authority should adopt a similar approach in respect of the Beacon Fen development in satisfying himself that there is an operational need for locating solar panels outwith Flood Zones 1 and 2.

18.27 The Council considers the risk associated with flooding to be **negative**.

19 Climate

19.1 Section 4.10 of EN-1 addresses climate change adaptation in energy infrastructure development. It notes that the SOS should take the effects of climate change into account when developing and consenting infrastructure, referring also to the potential long-term impact of climate change.

19.2 EN-1 further states that new energy infrastructure will typically be a long-term investment and will need to remain operational over many decades, in the face of a changing climate. Consequently, applicants must consider the impacts of climate change when planning the location, design, build, operation and, where appropriate, decommissioning of new energy infrastructure (paragraph 4.10.8).

19.3 The SoS should be satisfied that applicants for new energy infrastructure have considered the potential impacts of climate change using the latest UK Climate Projections available at the time the ES was prepared to ensure they have identified appropriate mitigation or adaptation measures. This should cover the estimated lifetime of the new infrastructure (EN-1 paragraph 4.10.3).

19.4 EN-1 notes the energy NPSs should speed up the transition to a low carbon economy and thus help to realise UK climate change commitments sooner than continuation under the current planning system.

19.5 Paragraph 2.3.5 notes the UK economy is reliant on fossil fuels, and they are likely to play a significant role for some time to come. Most of our power stations are fuelled by coal and gas. The majority of homes have gas central heating, and on our roads, in the air and on the sea, our transport is almost wholly dependent on oil.

19.6 Paragraph 2.3.6 identifies that the UK needs to wean itself off such a high carbon energy mix; to reduce greenhouse gas emissions, and to improve the security, availability, and affordability of energy through diversification. EN-1 also notes that storage has a key role to play in achieving net zero and providing flexibility to the energy system.

19.7 Section 4.10 of EN-1 focuses on climate change adaptation and reiterates the need to minimise the most dangerous impacts of climate change.

19.8 EN-3 (paragraphs 2.10.65 and 3.10.149), requires the applicant to consider the design life of solar panel efficiency over time when determining the period for which consent is required. An upper limit of 40 years is typical, although applicants may seek consent without a time-period or for differing time-periods of operation.

19.9 CLLP Policy S11 ‘Embodied Carbon’ requires schemes to reduce the development’s embodied carbon content, through the careful choice, use and sourcing of materials. Policy S11 also requires applicants to demonstrate that they have considered options and opportunities for the use of lower embodied carbon materials; and which gains weight from 1 January 2025, with a further requirement to take opportunities to minimise embodied carbon.

19.10 CLLP policy S14 ‘Renewable Energy’ sets out the position that renewable energy schemes will be supported where the direct, indirect, individual and cumulative impacts on the following considerations are, or will be made, acceptable. The criteria-based sections of the policy, including under the sub-heading of ‘Additional matters for solar based energy proposals’ are considered elsewhere in this LIR.

19.11 The supporting text to policy S14, at paragraph 3.3.4 sets out that in Central Lincolnshire, ‘the aim of the Joint Committee that prepared this Plan is to maximise appropriately located renewable energy generated in Central Lincolnshire, as confirmed in Policy S14 below. The Policy sets no floor or cap on the scale of renewable energy targeted to be generated, preferring, instead,

an approach which supports all appropriate proposals that meet the policy requirements set out.'

19.12 In addition, and with particular relevance to the BESS, paragraph 3.3.19 sets out that 'in order to support a move to a zero carbon Central Lincolnshire there is a need to move away from fossil fuels (gas, petrol, diesel, oil) towards low carbon alternatives and this transition needs to take place with increasing momentum in order to stay within identified carbon saving targets'. Continuing, it sets out that 'Energy storage including battery storage, consideration of existing and new electricity substations and energy strategies for large developments are required to help support the future energy infrastructure needs for Central Lincolnshire'.

19.13 CLLP policy S16 'Wider Energy Infrastructure' notes that the Joint Committee is 'committed to supporting the transition to net zero carbon future and, in doing so, recognises and supports, in principle, the need for significant investment in new and upgraded energy infrastructure'. The policy offers support for proposals which are necessary for, or form part of, the transition to a net zero carbon sub-region, including energy storage facilities and upgraded or new electricity facilities (such as transmission facilities, sub-stations or other electricity infrastructure).

19.14 However, the policy caveats that any such proposals should take all reasonable opportunities to mitigate any harm arising, not only in terms of the appropriate locations for such facilities but also design solutions (cross referring to CLLP Policy S53) which minimises harm arising.

19.15 As set out above, the 'green thread' running through the NKDC the Climate Action Plan (CAP), the Climate Response Strategy, its Environment Policy, the NK Plan 24-27 and its Community Strategy is the Council's vision for a sustainable carbon reduction transition by 2030 for both North Kesteven District Council (NKDC) and the District of North Kesteven, supported by mitigation measures to reduce emissions and adaptation measures to improve resilience to the effects of climate change.

19.16 The Council's Climate Response Strategy is the corporate strategy for the Council's carbon reduction ambitions within North Kesteven. 'Aim 2' of the Climate Response Strategy is to 'support the district of North Kesteven to move towards a 95% reduction in carbon emissions from energy compared to 2005 levels, by 2030, with offsetting and/or negative emissions technologies to be used only for the final 5% of emissions from hard to eliminate sources'.

19.17 The ES states that while Beacon Fen Energy Park will produce some greenhouse gas emissions throughout its lifecycle (from construction, operational maintenance and repair, and decommissioning), a whole lifecycle greenhouse gas assessment has been carried out in order to assess the net greenhouse gas impact. This assessment considers the potential emissions caused by the development against the potential emissions savings by the renewable energy generated. The design of Beacon Fen Energy Park includes

embedded mitigation measures such as the reuse of materials onsite and recycling of waste materials. Furthermore, there will be strategy of landscape enhancement.

19.18 The nature of Beacon Fen Energy Park is to have a beneficial positive impact compared to the generating technology it is most intended to replace in terms of greenhouse gas emissions. The ES estimates that the Embodied Carbon for the proposed development amounts to 865,997 tonnes (CO2) (tCO2e) – including assumptions for the replacement of components. It is expected that it will take 4.33 years to offset this (through the displacement of fossil fuel generation) and that compared with a natural gas equivalent generation potential, it will save 7,993,168 tCO2e over the 40-year operational lifetime, which is a beneficial impact.

19.19 Paragraph 12.6.1 states that an annual panel replacement rate of 0.2% has been used in the ES. It is also assumed in paragraph 12.6.5 that the BESS would be replaced every 10 years.

19.20 The Council notes that its suggestion that the scheme should investigate methods to increase in-situ carbon sequestration over and above leaving the land under solar arrays in a fallow state has not been addressed in Table 12.2.

19.21 In terms of cumulative effects, the ES at Table 12.2 (in relation to consultee response 12.9) states that 'Emissions saving during the operational phase will also affect the global receptor, rather than specific local receptors, and generation exported to the grid is not a direct local benefit, as it could be used anywhere across the UK. Its generation effects are therefor in cumulation with all the other solar farms in the country rather than those within the list of local cumulative receptors addressed in the rest of the application. As a result, we take a slightly different stance to that discussed in the Heckington Fen application.' Despite this global and national view, it is still necessary to understand the impacts locally as this global/national view could ultimately see panels covering every open agricultural area in Lincolnshire and may not be considered cumulatively significant if compared to a national focus.

19.22 Within the ES, it is stated that no formal monitoring is required (paragraph 12.8.7) in relation to climate change matters. However, the Council strongly recommends ongoing monitoring as best practice to ensure transparency in regard to how this proposal helps the national net zero/carbon reduction agenda and how this would be contributing over the 40-year period. Specifically, the Council's view is that monitoring and reporting requirements should be imposed in relation to emissions data and renewable energy generation figures. This is especially relevant where it is recognised that the Greenhouse Gas assessments within the ES are dependent on the quality of data and in some cases have been estimated.

19.23 Overall, the proposed methodology is reasonable and it is agreed that the proposal would have a **positive** impact in regard to the national net zero/carbon reduction targets and green energy agenda.

20 Glint and Glare

20.1 EN-1 does not contain specific guidance on glint and glare in respect of solar farms. Paragraph 5.5.55 of EN-1 refers to the design of lighting in such a way that it avoids glare or dazzle to pilots and/or ATC and prevention of confusion with aeronautical lighting. Paragraph 2.10.158 of EN-3 states that 'while there is some evidence that glint and glare from solar farms can be experienced by pilots and air traffic controllers in certain conditions, there is no significant evidence that glint and glare from solar farms results in significant impairment on aircraft safety'.

20.2 At 2.10.102 EN-1 states that 'solar panels are specifically designed to absorb, not reflect, irradiation. However, solar panels may reflect the sun's rays at certain angles, causing glint and glare. Glint is defined as a momentary flash of light that may be produced as a direct reflection of the sun in the solar panel. Glare is a continuous source of excessive brightness experienced by a stationary observer located in the path of reflected sunlight from the face of the panel. The effect occurs when the solar panel is stationed between or at an angle of the sun and the receptor'. The main likely impacts of glint and glare would be on nearby homes, motorist, public rights of way and aviation infrastructure.

20.3 Policy S53: Design and Amenity, sub-section 8 (d) sets out that development proposals 'should not result in harm to people's amenity either within the proposed development or neighbouring it through overlooking, overshadowing, loss of light or increase in artificial light or glare'.

20.4 Solar PV modules are specifically designed to absorb light rather than reflect it. Light reflecting from Solar PV modules results in the loss of energy output. Solar PV modules are dark in colour due to their antireflective coatings and are manufactured with low-iron, ultra-clear glass with specialised coatings and textures to enable maximum absorption. The combination of these factors significantly increases electrical energy production of the panels and at the same time significantly reduces reflected rays.

20.5 Chapter 13 of the ES addresses glint and glare. The assessment pertains to the possible impact upon key sensitive receptors comprising:

- Motorists: driving on local roads
- Railway line: effects on the train driver
- Aerodromes in the area: pilots and air traffic control; and
- Occupants of residential/commercial properties.

20.6 Embedded mitigation to reduce the glint and glare impacts, in the form of proposed new planting will help to screen the proposed development as is shown on the Landscape Strategy Plan (Figure 6.31). Currently, the combination of existing and proposed planting provides a high degree of screening around much of the solar array area. The choice of fixed panels and heights of the panel arrays are design decisions that affect the amount of glare

possible at specific receptors. The use of anti-reflective coating on the panels reduces their reflective properties.

20.7 **Aviation activity:** the Applicant has assessed the impact on a number of RAF and private airfields. Overall, the assessment demonstrated that no significant adverse effects were identified.

20.8 **Railway Operations and Infrastructure:** Grantham to Skegness line runs through the 5km buffer area. Some glare was predicted at the railway line, but no yellow glare was detected. Screening from trees, hedgerows and the village of Heckington will prevent visibility to any glare expected from the railway. No significant adverse effects were identified.

20.9 **Road Safety:** numerous roads and country lanes are located within the 5km buffer area. The A17 is the only road in the study are where cars might be travelling at higher speeds. The model predicts yellow glare being visible along several of the roads. Of the 12 routes identified within the study area no significant adverse effects were identified due to limited visibility.

20.10 **Residential Properties:** the ES assessed potential impact on 32 residential, 5 commercial and 2 church observational points. The receptors selected represented more than one property in the area. Further analysis was undertaken at 21 observational points. The results showed that no significant adverse effects were identified. Of the further analysis undertaken at those points, theoretical glint and glare periods of up to 5,945 minutes per property per year were estimated (i.e. 1.13% of the overall time) and generally during early morning periods of 04.30am to 06.00am or during the early evening between 18.00pm-19.30pm.

20.11 As no significant residual effects are predicted, no further mitigation for glint and glare is considered necessary in the ES.

20.12 The Council considers that the proposals would have a **neutral** impact in respect of glint and glare.

21 Soils and Agricultural Land

21.1 Paragraph 5.11.12 of EN-1 outlines that applicants should ‘seek to minimise impacts on the best and most versatile 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) except where this would be inconsistent with other sustainability considerations’.

21.2 Paragraph 5.11.34 of EN-1 states that the decision maker should ensure that ‘applicants do not site their scheme on the best and most versatile agricultural land without justification. Where schemes are to be sited on best and most versatile agricultural land, the Secretary of State should take into account the economic and other benefits of that land. Where development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality’.

21.3 Under the heading of 'Solar Photovoltaic Generation', paragraph 2.10.29 of 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 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" (BMV) agricultural land where possible'.

21.4 Paragraph 2.10.30 notes that 'Whilst the development of ground mounted solar arrays is not prohibited on BMV agricultural land, 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 - 92 and 2.10.107 – 2.10.126'.

21.5 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'.

21.6 Paragraph 3.10.32 states that where sited on agricultural land, consideration may be given as to whether the proposal allows for continued agricultural use and/or can be co-located with other functions (for example, onshore wind generation, storage, hydrogen electrolysers) to maximise the efficiency of land use.

21.7 Paragraph 3.10.145 of EN-3 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'.

21.8 Under the sub-heading of '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 (of approval) 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'.

21.9 CLLP policy S67 'Best and Most Versatile Agricultural Land' states that significant development resulting in the loss of the best and most versatile agricultural land will only be supported if:

- The need is clearly established;
- The benefits outweigh the need to protect such land, when taking into account the economic and other benefits of the best and most versatile agricultural land;

- The impacts of the proposal upon ongoing agricultural operations have been minimised through the use of appropriate design solutions; and
- Once the development has ceased its useful life then the land should be returned to its former use'.

21.10 The Written Ministerial Statement on solar infrastructure (15 May 2024), in recognition of geographical clustering of proposed solar developments in some rural areas such as Lincolnshire, highlights the importance of considering '*not just the impacts of individual proposals, but also whether there are cumulative impacts where several proposals come forward in the same locality'*.

21.11 In line with Policy S67 'Best and Most Versatile Agricultural Land' of the Central Lincolnshire Local Plan (CLLP), the Council wishes to ensure that the need for the proposed development has been clearly established and there is an insufficient availability of lower grade land; the benefits of the development outweigh the need to protect such land, when taking into account the economic and other benefits of BMV land; the impacts on ongoing agricultural operations have been minimised; and that the land will be restored to its former use.

21.12 The Council has appointed Landscope agricultural consultants to provide it with specialist advice on soils and agriculture. The full comments by Landscope are attached at Appendix D.

21.13 **Agricultural Land Classification:** the agricultural land surveyed represents a total of 529ha of Solar Array Area and 45ha of Bespoke Access Route Corridor. Landscope found that a detailed Agricultural Land Classification (ALC) survey has been undertaken by a professional team in agreement with Natural England and the results are considered reliable. The survey has informed the design of the development and the outline Soil Management Plan (oSMP).

21.14 The Cable Route Corridor has not been surveyed but the ES is based on higher grades of agricultural land (predominantly Grade 2 with some Grade 1 and Grade 3 land) and it would be unlikely that the impact would be worse after survey unless all the land is Grade 1 classification.

21.15 As shown in Table 14.13 of Chapter 14 of the ES, the predicted impact on agricultural land use will be as follows:

- **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. Of this, 191ha will comprise BMV land (ES paragraph 14.6.2) and is considered to be a temporary loss due to the fixed lifespan of the development for 45 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.

- **Bespoke Access Corridor:** this comprises 45 ha of agricultural land. The provisional ALC data show that it is comprised entirely of Grade 3 agricultural land i.e. showing a predominantly moderate likelihood of BMV land (ES paragraph 14.5.9). The area that would be utilised during construction will be 18.91ha. Within the Bespoke Access Corridor, there will be a permanent loss of 3.42ha of BMV land and temporary loss of 12.94ha of BMV land during the construction of the access road. During the operational phase, the road together with associated drainage ditches and verges will cover an area of 4.42ha. This land is considered to be permanently 'sealed over' for the duration of the solar farm given that the Bespoke Access Corridor is stated as likely being retained for the operational duration of the development. The remaining land within the Bespoke Access Corridor will be returned to agricultural use and it is assumed there will be no loss of agricultural land quality subject to the recommendations in the Appendix 14.4 Outline Soils Management Plan being adopted.

- **Cable Route Corridor:** this comprises 183ha of agricultural land. This land has not yet been surveyed but using provisional ALC data, it shows that 28.18ha would be Grade 1 and 145.73ha would be Grade 2 agricultural land i.e. showing a high and moderate BMV likelihood (ES paragraph 14.4.7). Table 14.13 of the ES estimates that 39ha of land would be utilised for the cable route, 13.71ha for construction compounds, 1.8ha for air insulated switchgear system and 0.90ha for cable sealing end. Of this, a permanent loss of BMV would equate to around 2.70ha using the provisional ALC data approach.

21.16 The amount of BMV land across the whole development likely to be permanently lost due to 'sealing over' as a result of the proposed development would therefore be in the region of 20.37ha. The total permanent loss of agricultural land (in general, across all 5 grades) would be 56ha. IEMA guidelines say that the permanent sealing of land above 20ha (including temporary development where there would be a reduction in soil quality) is a major adverse environmental impact. This threshold would be reached for the permanent 'sealing over' of land of BMV land assuming that the soil augering/sampling and subsequent ALC gradation has been carried out in line with industry standards, and it would also be reached for agricultural land across all grades. It is noted that paragraph 14.13.18 of the ES concludes that there would be a major and significant environmental effect for the solar array area due to the permanent loss of agricultural land based on a loss of >20ha of Grade 2, 3a and 3b land (23.31ha).

21.17 The ES acknowledges that the broader loss of agricultural land for built development within the proposed development would be a major adverse impact. However, the Council has 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.

21.18 Overall, Table 14.13 shows that the proposed development would lead to the loss of 493.27ha of agricultural land of which 277.3ha would be BMV land (56%). This can be broken down to 20.37ha permanent loss and 256.93ha temporary loss of BMV land (47%).

21.19 **Soil Management:** 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 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.

21.20 The oSMP includes the cable route in order to minimise the impact on soil structure, land drainage and ultimately on soil quality. This is covered in ES paragraphs 14.4.19-20 and 14.6.8. Landscope advise that the reality 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.

21.21 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 term when all infrastructure has been removed. If the soil is in a 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.

21.22 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 a s106 planning obligation, it remains to be seen whether it will be effective in leading to the land being returned to productive agriculture.

21.23 With reference to cumulative impacts at a District and County Level, the Council considers that the scale of the project and the amount of BMV land impacted, makes the impact significant at both District and County level. The ES argues that the area amounts to only 1% of the farmed area of Lincolnshire, however, the cumulative effect is assessed by the Council as being significant for both the District and across Lincolnshire. There are several other large solar schemes approved or proposed across the wider area that contribute to this impact.

21.24 For a project of this scale, there is an impact as the development will tie up the land for up to 45 years. The loss of such a large area of land would normally be considered significant at District level, even though the majority of the use by area is 'temporary' and reversible. Any permanent loss of land due to construction or through biodiversity enhancements may affect this assessment.

21.25 The ES acknowledges that the broader loss of agricultural land for built development within the 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.

21.26 As above, other NSIP projects (such as the Springwell Solar Farm) have assessed that certain element 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.

21.27 Across Lincolnshire, the estimated proportion of BMV is 71.2% while across North Kesteven the proportion of BMV is 67%, slightly lower than the Lincolnshire average. This still covers two-thirds of agricultural land and is well above the national average. The table of effects in ES Chapter 14 indicates that on a site specific level there will be a loss of 529ha of agricultural land associated with the Beacon Fen main solar array, of which 250ha will be BMV land – and as above comprised of areas of BMV which are variously classed as either temporary/reversible or where 'sealing over' is assumed.

21.28 The amount of BMV land lost on a permanent basis to green infrastructure is significant while the loss of BMV land on a temporary basis through 'sealing' the land under hardstanding is also considered to be significant in terms of its environmental impact (exceeding the 20ha IEMA guidance threshold) especially given the 45-year lifespan of the solar farm. The site is currently productive farmland which will be removed from mainly arable farming for 40 years at best and a lower intensity grass-based system will replace it.

21.29 Finally, as confirmed in the ES there is no current commitment to mitigation by grazing. The ES does not assume that grazing under the solar panels will be provided, instead it takes a worst case scenario where the land is removed from agricultural production during the operational phase (paragraph 14.7.18). The applicant advises that whilst the land within the Solar Array Area may be available for grazing during the operational phase, however, this has not been confirmed at this stage. The applicant therefore confirms that their assessment is 'based on a "worst case" assessment that approximately 529 ha of land within the Solar Array Area remains out of agricultural production for the duration of the operational phase'.

21.30 The oSMP, however, includes guidance on how grazing could be incorporated into the operational phase to maintain agricultural production whilst also providing biodiversity benefits. The applicant has based the guidance on the BRE (2014) guidance document and the Solar Energy UK (2022) good-practice document.

21.31 As there is no guarantee of grazing as a means of managing the grassland below the solar panels, there will be a significant loss of agricultural land for 40 years as a result of the solar farm and the contribution that agriculture makes towards economic activity within North Kesteven and more widely across the County. The latter is recognised in paragraph 187(b) of the NPPF. The provision of conservation grazing beneath the solar panels would offer some continuation of agricultural use on the agricultural land including BMV land. The Council's position is that it should be provided in line with best practice guidance by BRE (2014) 'Agricultural Good Practice Guidance for Solar Farms'.

21.32 The Council considers that a Requirement to ensure that conservation grazing is provided would give more certainty that the land could continue in agricultural use both during operation and at the end of the decommissioning. A further option to enhance the value of the land while not in agricultural production would be planting to help with nitrification (e.g. non-edible legumes such as vetches).

21.33 The Council therefore concludes that the loss of arable production is locally significant and in view of other projects in the wider District and County, potentially cumulatively significant. The loss of BMV agricultural land is considered to be a **negative** impact and where is it noted that scope for mitigation by grazing has not yet been committed to.

22 Socio Economics

22.1 Paragraph 5.13.9 of EN-1 states that the decision maker 'should have regard to the potential socio-economic impacts of new energy infrastructure identified by the applicant and from any other sources that the IPC considers to be both relevant and important to its decision'. EN-1 goes on to say the decision maker 'should consider whether mitigation measures are necessary to mitigate any adverse socio-economic impacts of the development'.

22.2 EN-1 makes reference to an extended list of potential impacts to consider as relevant, including (at paragraph 5.13.4) creation of jobs and training opportunities, contribution to low-carbon industries, provision of additional local services and improvements to local infrastructure, any indirect beneficial impacts for the region, effects on tourism, impact of a changing influx of workers, and cumulative effects.

22.3 Furthermore, EN-1 also makes reference to the need to consider development of accommodation strategies, if appropriate, to address any potential impacts during the construction and decommissioning phases. In addition, it also refers to the potential for the SoS to require the approval of an employment and skills

plan detailing arrangements to promote local employment and skills development opportunities, and additionally consideration of solar and potential for associated socio-economic effects is referenced in respect of the potential for socio-economic benefits of the site infrastructure being retained after the operational life of solar photovoltaic generation.

22.4 CLLP policy S10 'Supporting a Circular Economy' recognises the high energy and material use consumed on a daily basis, and, consequently, is fully supportive of the principles of a circular economy. As such, proposals will be supported, in principle, which demonstrate their compatibility with, or the furthering of, a strong circular economy in the local area.

22.5 CLLP policy S20 'Resilient and Adaptable Design' requires design proposals to be adaptable to future social, economic, technological and environmental requirements in order to make buildings both fit for purpose in the long term and to minimise future resource consumption.

22.6 CLLP policy S28 'Spatial Strategy for Employment' requires employment related proposals to be consistent with meeting the overall spatial strategy for employment. The strategy is to strengthen the Central Lincolnshire economy offering a wide range of employment opportunities focused mainly in and around the Lincoln urban area and the towns of Gainsborough and Sleaford, with proportionate employment provision further down the Settlement Hierarchy.

22.7 The preface to the CLLP 'employment' policies notes at paragraph 5.1.2 that Central Lincolnshire is located within the Greater Lincolnshire Local Enterprise Partnership (GLLEP) area and represents roughly 30% of the GLLEP area's population, employment and business base. Greater Lincolnshire has an economy of £20.7bn with an ambition to grow the Gross Value Added (GVA) by £3.2bn by 2030, and boasts a mix of traditional manufacturing, a comprehensive agri-food sector, energy and services, and is strong in health and care and the visitor economy.

22.8 The ES states that the net number of additional construction jobs associated with Beacon Fen Energy Park is estimated to be around 373 full time equivalent jobs per year within the North Kesteven District area and 44 full time equivalent jobs within a 60-minute travel area from the site. The operation phase (including maintenance) of Beacon Fen Energy Park is estimated to create 4-5 net full time equivalent jobs in North Kesteven District Area and 8-9 within a 60-minute travel area from the site.

22.9 By way of additional mitigation and enhancement measures, to help maximise the positive gain for the local economy from the beneficial effect arising from employment generation during the construction, operational (including maintenance) and decommissioning phase, an outline Employment, Skills and Supply Chain Plan (ESSCP) has been submitted and would be provided under draft DCO Requirement 17. As described in paragraph 15.7.2, the plan is proposed to include measures such as:

- Prioritising local employment
- Reskilling of temporary farm workers to avoid economic displacement or support in finding alternative agricultural work
- Reskilling of workers after the operational phase
- Potential upskilling of local residents through apprenticeships

22.10 The production of the outline Employment, Skills and Supply Chain Plan (ESSCP) is seen to be critical to minimise some of the adverse impacts of the solar farm, particularly given that numerous NSIP solar farms are consented or planned within the District (Heckington Fen, Beacon Fen, Fosse Green and Leoda with others to follow) and more within the wider Lincolnshire county. The Council will raise further points regarding the outline ESSCP in its Written Representations.

22.11 The Council considers that the outline ESSCP requires a financial contribution to enable its delivery. The relatively recently consented Longfield and Heckington Fen DCOs were subject to s106 Agreements which provide for a £50,000 index-linked payment per annum (in the case of the latter) for increasing employment, education and skills opportunities in the local areas for individuals in the renewable energy, sustainable farming/agricultural diversification, ecology and sustainable development sector and which may include the provision of training and apprenticeships and education bursary payments.

22.12 The Council broadly agrees with the assessment provided in the ES Chapter on Socio Economic effects. It is agreed that the economic impact of the construction phases in terms of direct employment will be minimal and that the jobs created will be temporary, the majority imported due to low levels of unemployment in North Kesteven albeit a proportion may come from Boston as suggested.

22.13 The cumulative impacts of a number of NSIP and other TCPA solar projects is of concern. Tourism is a key growth sector for the District and a significant net contributor to the local economy worth £201m and growing just over 5% in 2023. One of the Council's Tourism Strategy's aims is to continue to increase the length of visitor stay and thereby expenditure, while at the same time reducing emissions by cutting the volume of day trips. In order for this goal to be achieved there is a need to increase the volume of serviced accommodation in the District, which both STEAM (a tourism economic modelling tool) and the Council's own recent Hotel Study (2024) show are insufficient to meet current, let alone future, levels of demand. There are shortages at key times of the year.

22.14 The cumulative impacts of a number of large scale NSIP developments on the availability of serviced visitor accommodation across the District is a cause for concern. Any upside in construction worker spend will potentially be cancelled out by loss of visitor numbers and therefore visitor spend in the District with additional direct impacts on visitor attractions.

22.15 The cumulative impacts of a large number of NSIP developments over a prolonged period on the visitor economy, PROW network, access to the countryside, walking and cycling activities etc will need to be monitored. The Council regularly monitors the footfall on the Stepping Out Network while visitor numbers are captured by STEAM. While there may be some local displacement in the short-term, longer-term impacts on the attractiveness of significantly changed rural landscapes to visitors will need to be captured.

22.16 The Council has further key areas of concern for the local economy, specifically:

- **The cumulative impact of land take on the Agri food sector locally both in terms of Food Security and land use:** It is possible that a significant proportion of land in the District (up to 10% of the total area of NK - roughly 100,000ha) will be given over to NSIP solar energy production. Agriculture accounts for 90% of land use in the District and so the impact will be proportionately greater. Impacts on the agri-food sector and its supply chains are considered relevant here. The de facto replacement of agricultural production with energy generation may have far-reaching impacts on the local economy, GVA, skills, future land values as well as more generally countywide in the construction and agri-food sectors. The move towards the 'monetisation' of the environment and biodiversity suggested by subsidy regimes and Biodiversity Net Gain legislation will allow the value of land and its potential outputs to be measured in different ways. Solar energy generation (in lieu of agricultural production) to drive profitability, productivity, or resilience both alongside and instead of primary agricultural production should therefore be considered.
- **Aggregating direct economic benefits:** North Kesteven has a nationally significant role in feeding and defending the nation. In the future, mindful of the number of projects being proposed, it may have a similarly significant role in powering the nation. The value of the electricity produced could be of considerable direct economic benefit over time to impacted businesses and communities, the wider District and Greater Lincolnshire. Given that the Council is concerned with measuring the cumulative impacts of NSIP developments, it is logical to explore the case for aggregating the cumulative financial benefits of a large number of such schemes in order to assess the potential to contribute to strategic economic and socio-economic goals, particularly in respect of green infrastructure growth, carbon reduction and the building of green capital in the rural economy.
- **Future Energy needs:** Solar Farms have a lifespan of 25-40 years. This raises questions about how decommissioning could be staggered across the Grid and how energy produced will be replaced if output is to be maintained and what will the land take be in 40-100 years' time given that energy demands are likely to increase.

22.17 Finally, the Council considers that the temporary closure of several footpaths during construction will adversely impact on the use of the PROW network generally and the use of the Heckington Fen Stepping Out walk, which utilises footpath Heck/12/1.

22.18 In conjunction with the cumulative impacts on footpaths across North Kesteven from other large scale solar farm developments, the Council considers that there is potential for the change in the landscape from predominantly agricultural to solar energy generation which will have an unforeseen effect on the attractiveness of the District for walking and hence on the tourism economy, as well as the health of local residents.

22.19 The provision of an extension to footpath Ewer/12/1 which will run through the Solar Array Area is welcomed as it offers the potential to link with existing PROWs to the north of the site along the River Slea to create a circular walking loop. The Council recommends that the potential to create a new Stepping Out Walks route is explored during the Examination as there is a lack of these routes within this part of the District, with the Heckington Fen route being the only route in place. The Stepping Out Walks are a well-used resource by the local community for exercise and public health purposes. They also form an important part of the Council's tourism offer for easy leisure walking within the District as described in the Council's Tourism Strategy. The walks are well publicised via the website: Stepping Out - Hill Holt Wood and via the AllTrails app. The Council actively monitors their usage via footfall counters with usage statistics provided on a monthly basis. The quarterly and annual monitoring reports demonstrate their popularity. The creation of a designated Stepping Out Walk would require the provision of a small car park, bins, signage along the route, footfall counters and creation of a pdf route map for publication on the Stepping Out Walks and AllTrails website.

22.20 Given the commitment to improving skills, employment and the local supply chain and provision of a new permissive path but potential adverse cumulative impacts on the tourism economy and visitor accommodation, the Council considers the impacts on socio-economics to be **neutral**.

23 Air Quality

23.1 Paragraph 5.2.9 of EN-1 states that the decision maker 'should generally give air quality considerations substantial weight where a project would lead to a deterioration in air quality in an area or leads to a new area where air quality breaches any national air quality limits.' In all cases the decision maker must take account of any relevant statutory air quality limits.

23.2 The UK Air Quality Strategy (AQS) identifies nine ambient air pollutants that have the potential to cause harm to human health and two for the protection of vegetation and ecosystems. The AQS defines objectives for these pollutants that aim to reduce the impacts of these pollutants to negligible levels. The objectives are not mandatory but rather targets that local authorities should try to achieve.

23.3 CLLP Policy S14 'Renewable Energy' states that whilst renewable energy scheme will be supported, this is subject to an assessment as to whether the impacts are acceptable on the amenity of sensitive neighbouring uses (including local residents) by virtue of matters including dust and air quality.

23.4 CLLP Policy S53 ‘Design and Amenity’ requires that all development will not result in adverse noise and vibration taking into account surrounding uses nor result in adverse impacts upon air quality from odour, fumes, smoke, dust and other sources.

23.5 The quality of the air at the site is generally good, based on the review of North Kesteven District Council air quality monitoring data, and there is not a designated Air Quality Management Area declared within the District.

23.6 The NKDC Air Quality Strategy 2024 to 2029 confirms that historically, air quality within North Kesteven has complied with the AQS objectives, with no exceedances of the NO_2 annual mean reported in the last five years. Therefore, due to this consistent compliance, no AQMA’s have been declared and no AQAP has been published. The Strategy does however confirm the Council’s commitment to taking actions that improve air quality to further reduce, and mitigate, pollution concentrations to ensure that no exceedances arise within the District in the future. Therefore, impacts of road traffic emissions associated with the construction phase following the implementation of mitigation measures are expected to be not significant. No additional mitigation is proposed for construction or operation phase traffic generation.

23.7 The ES states at paragraph 16.7.4 that Beacon Fen Energy Park will incorporate a range of site-specific dust mitigation measures during construction which will be implemented via a Dust Management Plan and/or as part of the oCEMP. No specific requirements for mitigation in the operational phase have been identified.

23.8 Any effects on air quality experienced during decommissioning will be controlled through the implementation of mitigation measures, which are detailed in and secured by the Outline Decommissioning Environmental Management Plan.

23.9 The Council’s position is that there are no positive construction, operation and decommissioning impacts in relation to air quality and that overall, the construction and operational impacts are **neutral**.

24 Other Environmental Topics

24.1 ES Chapter 17 over other topics including Arboriculture, Ground Conditions, Waste, Major Accidents and Disasters, Utilities Telecommunications and Television Reception, Human Health, Electromagnetic Fields (EMF) and the Health and Safety Executive (HSE). These topics were agreed not to be included as individual chapters but which warranted further consideration or a standalone assessment.

24.2 **Arboriculture**: from the Arboricultural Impact Assessment (AIA), the Council notes that six trees will be removed in the solar array area and that a number of high value trees, including Veteran Tree T1124, located within the cable corridor are close to an access track for construction purposes. The Council has concerns that the impact on these trees may be greater than anticipated in

the ES due to increased usage of the access track for construction purposes e.g. causing compaction. The Arboricultural Impact Assessment identifies that some trees may need to be removed within the cable route corridor depending on the final design. It is not clear from the AIA what impact is likely on the six veteran trees identified within the Bespoke Route Corridor. It would be helpful if the applicant could confirm that (as they are not referred to in Table 9 of the AIA) they would not be impacted by any construction works.

24.3 The Council will seek the replacement of retained trees that are at risk of removal from development once the detailed design is known. This will be in addition to the mitigation measures set out in the oCEMP, and to compensate for trees likely to be lost from ash dieback during the life of the development as a high number of ash trees have been identified within the tree survey as being present within the site.

24.4 **Ground Conditions**: section 17.3 of ES chapter 17 covers ground conditions noting that significant effects on ground conditions during construction and operation are unlikely (paragraph 17.3.1) and that due to the agricultural nature of the site, there is a low risk from past land use, surrounding land use, ground instability and contamination (paragraph 17.3.3).

24.5 The ES does not address potential contamination that may arise from the decommissioning stage. The Council raises a concern regarding potential contamination from solar panels during decommissioning particularly if they are damaged and stored during this phase.

25.6 The Council recommends that a schedule of the condition of the land is prepared prior to decommissioning works being commenced. This should include some soil testing comprising a Phase II contaminated land assessment after decommissioning is completed and before the site is returned to agricultural use. Intrusive sampling can be carried out to determine the risk, from which remediation and verification (if needed) can be carried out to address any concerns.

24.7 **Waste**: the Council defers to the views of Lincolnshire County Council as the relevant Waste Planning Authority. The Council requests that the outline Decommissioning Management Plan includes a protocol for the disposal of solar panels. The Council would support an additional Requirement to fix the replacement rate of solar panels and other equipment to that set out in the DCO application.

24.8 **Major Accidents and Disasters**: the Council is principally concerns with the BESS and fire safety. 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.

24.9 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.

24.10 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.

24.11 Part (7) of CLLP policy S53 'Design and Amenity' requires development to avoid adverse impacts associated with noise, dust and air quality, and part (9) requires schemes to minimise the need for resources both in construction and operation of buildings and be easily adaptable to avoid unnecessary waste production.

24.12 CLLP 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.

24.13 In light of the rapidly growing volume of BESS facilities across the country, it has been recognised that appropriate health and safety standards are required and in recent years, new guidance has been emerging. In April 2024, the Department for Energy Security and Net Zero produced Health and Safety in Grid Scale Electrical Energy Storage Systems guidance which is applicable to this application. In addition, the National Fire Chiefs Council has produced Grid Scale Battery Energy Storage System planning – Guidance for Fire and Rescue Services in 2023, with an update (still in draft) that was due in 2024.

24.14 Notwithstanding the isolated location of the BESS relative to centres of population and noting a separation distance of over 800m to the closest residential properties at Ewerby Thorpe Farm and Ewerby Lodge, the Council has strong concerns about the potential risk to human health arising from fire related accidents at BESS developments.

24.15 The ES notes that there are several battery storage technologies available to system designers, and while it is likely that the chosen BESS design at Beacon Fen will be based on a lithium-ion battery cell type, the exact technology and system will be determined at the detailed design stage. The applicant notes though that it has been assumed that Lithium Iron Phosphate (LFP) cells, a popular type of chemistry within the lithium-ion battery type, and used on other sites being developed in the UK market, will be utilised. The applicant suggests that this is a 'reasonable worst-case' scenario for the purposes of evaluating fire risks and outlining safety provisions.

24.16 The degree to which the Planning Act (2008) can compel what is essentially and ultimately a matter of customer choice is unclear. However, research suggests that LFP cells have an advantage over other lithium-ion chemistries in relation to thermal and chemical stability, which improves battery safety, as well as having a higher charge/discharge cycle life. The Council's view is that the ExA should consider this matter through the Examination.

24.17 Section 105 of the Planning Act (2008) requires SoS decisions to have regard both to ‘any local impact report’ and ‘any other matters which the Secretary of State thinks are both important and relevant to the Secretary of State’s decision’. The scope of material planning considerations is wide and must have a planning purpose that relates to the character and use of the land, and it must fairly and reasonably relate to the proposed development under consideration.

24.18 In that regard the Council’s view is that the ‘perception of harm’ to public amenity, safety and wellbeing associated with an incident at the BESS is capable of being a material planning consideration and we note that DEFRA planned to open a consultation on integrating grid-scale battery energy storage systems into the Environmental Permitting Regulations by June this year, in order to determine whether more robust regulatory and operational oversight is required. As such the Council consider that there is a need to agree the battery type proposed within the BESS as part of the requirement to agree the BSMP in view of the changing market trends and the need to minimise the impact on human health following any major accident or disaster, and the ‘perception of harm’ to public amenity, safety and wellbeing as a material planning consideration.

24.19 Table 17.3 of the ES briefly explains that the main potential hazard of BESS failure is thermal runaway and, if not controlled, fire. The Council notes that Lincolnshire Fire and Rescue Service have been consulted and the relevant legislation has influenced the proposal design. ES paragraph 17.5.6 also describes the fire safety precautions that will be taken and makes reference to the outline Battery Safety Management Plan (oBSMP)

24.20 As above the Council notes from the outline Battery Safety Management Plan (oBSMP) that it has been assumed the BESS would utilise Lithium Iron Phosphate (LFP) lithium-ion battery technology. The oBSMP includes at Appendix 1, an Assessment of Unplanned Atmospheric Emissions from BESSs which concludes that the overall impact of unplanned emissions on existing sensitive human receptors would not be significant. The Appendix, Table 4.2 ‘Modelled Human Health Sensitive Receptor Locations’ considers 14 sensitive receptor locations, meteorological and land topography data, and assesses the location and size/composition of the proposed BESS as shown on the submitted site layout plan.

24.21 Dispersion modelling was undertaken and for the purposes of assessing impacts on sensitive human receptors, short term emissions from nitrogen dioxide, carbon monoxide, hydrogen fluoride and methane were included in the dispersion modelling. The modelling states that the concentrations of these substances associated with an unplanned atmospheric emission from a potential fire at the BESS are less than 10% of the relevant National Air Quality Objectives and Workplace Exposure Limits.

24.22 The oBSMP describes the proposed BESS layout, fire service access and provision of firefighting water and equipment. Further fire risk-focussed studies will be undertaken to inform the overall design solution at detailed design stage

in consultation with the Lincolnshire Fire and Rescue Service (LFRS) and in accordance with the National Fire Chiefs Council guidance. It is not clear whether a further Assessment of Unplanned Atmospheric Emissions will be undertaken at detailed design stage.

24.23 Notwithstanding the isolated location of the BESS relative to centres of population and noting a separation distance of over 800m to the closest residential property, the Council still maintains concerns about the potential risk to human health arising from fire related accidents at BESS developments.

24.24 The Council will defer to comments from LFRS to be provided as part of LCC's LIR and also advise the ExA to have regard to advice from the UK Health Security Agency (UKHSA).

24.25 In that regard the Council's view is that the 'perception of harm' to public amenity, safety and wellbeing associated with an incident at the BESS is capable of being a material planning consideration. As such the Council consider that there is a need to agree the battery type proposed within the BESS as part of the requirement to agree the BSMP in view of the changing market trends and the need to minimise the impact on human health following any major accident or disaster, and the 'perception of harm' to public amenity, safety and wellbeing as a material planning consideration.

24.26 The Council considers that there would be a **negative** impact as a result of fire safety risk on human health until the LFRS's requirements are agreed; including securing a monitoring contribution through the DCO.

24.27 **Utilities Telecommunications and Television Reception**: no comments

24.28 **Human Health**: comments have been made in respect of air quality, noise and vibration, climate change and socio-economics above. The Council would also defer to the views of Lincolnshire County Council in respect of public health.

24.29 **Electromagnetic Fields**: no comment

24.30 **Health and Safety Executive (HSE)**: no comment on presence of Major Accident Hazard Pipeline and defer to the views of the HSE.

24.31 **Extended Period of Outage**: In line with another DCO decision in North Kesteven (Heckington Fen solar farm) and a DCO that is under examination (Springwell Solar Farm), the Council suggests that provision is made for periods of extended outage. In line with the provision made within Heckington Fen solar farm outline Operational Environmental Management Plan (oOEMP), the Council suggests that such a provision would cover a situation whereby the development should stop generating electricity for a continuous period of 12 months for non-maintenance reasons and would enable the applicant to provide details on the steps it is taking to rectify the issue along with an expected timeframe for when generation is predicted to re-commence operation.

24.32 The Council does not anticipate that the provision would be triggered by a force majeure event or if the outage occurred as a result of the National Grid

undertaking any activities to the connection substation and/or transmission network. The Council would welcome discussions with the applicant on this matter as to whether this should be included in the outline Decommissioning Management Plan or as an additional Requirement in the DCO as it is noted that there is no oOEMP submitted with the application.

24.33 The Council also notes that no provision is made within the applicant's Funding Statement for decommissioning nor an extended period of outage. The Council consider that funding for decommissioning is not suitably addressed within the draft DCO. The Council notes that the submitted Funding Statement, while it may be adequate for compulsory acquisition purposes, does not include evidence for the funding of decommissioning. The scheme thus does not provide sufficient security that decommissioning could be funded by the applicant. Consequently, the Council would support an additional Requirement requiring the provision for funding (by way of a bond or other form of security) for decommissioning both as a result of an extended period of outage and at the end of the lifespan of the development.

24.34 The Council would draw the ExA's attention to two NSIP examples where this matter has been considered:

- **Helios Renewable Energy Project (under Recommendation**): p37 of the draft DCO, Requirement 5(3) includes provision for notification to the local planning authority that the undertaker has put in place the requisite decommissioning security. This was required as the Funding Statement did not include provision for decommissioning funding.

  Requirement 5(3) states 'No later than year 15 of operation the undertaker must notify the local planning authority that the undertaker has put in place the requisite decommissioning security in the form as required by the landowners.'
  EN010140-001078-3.1 Draft Development Consent Order (Clean).pdf

- **Oaklands Farm Solar Park (determined):** p8 paragraph 4.22 of the SOS's decision letter 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.

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24.35 The Council considers that there would be a **negative** impact on the landscape until the provisions are made for unexpected cessation of energy generation are made as part of the DCO; including through an amendment to the Funding Statement.

25 Cumulative Effects

25.1 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 affect or the use of natural resources.'*

25.2 EN-1 states at paragraph 4.1.5 '*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.'*

25.3 CLLP policy S14 supports proposals for renewable energy schemes where the direct, indirect and cumulative impacts on the following consideration are met 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.

25.4 The ES has considered intra-project combined effects and inter-project cumulative effects. 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 and 4.2).

25.5 The short list of cumulative sites included 21 NSIP projects and 47 other existing or proposed developments such as residential developments, solar parks, quarry extensions, industrial and employment parks and infrastructure.

25.6 The ES considered the inter-project cumulative effects on landscape and visual, ecology, cultural heritage, access and transport, noise and vibration, water resources and flood risk, climate change, soils and agriculture, socio-economic and air quality. At paragraph 18.5.3 it identifies 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 ES calculates that when all the considered developments within the administrative boundaries of LCC are taken into account, they equate to 2% (11,962.85ha) of which 0.82% (4,927ha) is BMV land.

25.7 The Council disagrees with the conclusion set out in Table 18.3, Summary of Inter-Cumulative Effects, on Landscape and Visual impacts. As stated in paragraphs 13.44-49 and summarised at 13.53 of the LIR, '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.'

25.8 The Council disagrees with the conclusion set out in Table 18.3, Summary of Inter-Cumulative Effects, on Ecology. The Council refers to the comments by AECOM (attached at Appendix B) which state that;

'There is insufficient clarity on the mitigation for ground nesting birds (wintering birds may also have relevance) so it is not possible to agree there would be no cumulative impacts. Some of the other schemes assessed are in development or at Examination and their mitigation is yet to be confirmed as sufficient. These birds cannot be discounted unless it is agreed that the Beacon Fen mitigation is sufficient to address the project-specific impact on ground nesting birds. My reading of Chapter 7 (7.6.53) is that an impact is predicted but it is not considered significant in isolation. It is also not stated that mitigation will be provided, and the Outline LEMP does not appear to include mitigation for ground nesting birds. Therefore the assessment in Chapter 7 does not preclude potential for cumulative impacts and effects. Further assessment and information is required.'

25.9 The Council also disagrees with the conclusion set out in Table 18.3, Summary of Inter-Cumulative Effects, on Socio-economics. The Council refers to its commentary above which express concerns about cumulative effects in respect of serviced visitor accommodation, on the visitor economy and the agri-food sector.

25.10 The Council considers that there is potential for significant inter-project effects to arise and that this would lead to a **negative** impact.

26 Draft Development Consent Order and Planning Obligation

26.1 With reference to the Draft Development Consent Order, in addition to the comments provided above, the Council wishes to raise the following points on a without prejudice basis.

a. Part 1 (Interpretation)

26.2 The Council considers that the definition of 'maintain' is too broad in that it would allow for the wholesale replacement of up to 99% of solar panels over the life of the development which would bring potential incremental environmental effects. It would be difficult for the relevant authority to monitor ongoing panel replacements unless provisions were put into place within the DCO such as an additional requirement to limit the replacement of panels to the percentage stated in the ES and a replacement panel monitoring reporting scheme where deviations from the approved plans are reported to the relevant planning authority on an annual basis.

b. Part 6 (Miscellaneous and General), Article 43 and 45

26.3 Article 43 provides a blanket approval to remove hedgerows and protected trees without the need to notify the relevant 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.

26.4 Article 45 provides for a time period of 8 weeks for determination of any consent, agreement or approval required (save for applications made pursuant to Part 2 of Schedule 2). The Council considers that a time period of 10 weeks would be more consistent with the timeframe for the discharge of requirements.

c. Schedule 2 – Requirements

26.5 The Council provides comments on the draft requirements in the table below:

No.	Requirement	NKDC Suggested Amendment
6	Battery Safety Management	NKDC suggest that the UKHSA is added as a consultee
8	Biodiversity Net Gain	NKDC 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.
15	Permissive Path	NKDC would be agreeable for the discharging Relevant Planning Authority to be changed to LCC
16	Soil Management	NKDC suggests that the Relevant Planning Authority is changed to NKDC
18	Decommissioning and Restoration	NKDC 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 also paragraphs 24.31 and 24.32 above.
New	Replacement Panels	NKDC suggest an additional Requirement to limit the replacement of panels to the percentage stated in the ES and a replacement panel monitoring reporting regime should be agreed with the Relevant Planning Authority

d. Schedule 16 Procedure for Discharging Requirements, Article 19-22

26.6 No suggested amendments.

e. Schedule 16 Procedure for Discharging Requirements, Article 23 – Fees

26.7 The Council considers that the proposed fee structure is overly complicated and would not cover the Council's reasonable costs in discharging Requirements. The Council recommends that the fee structure provided within a number of recent Lincolnshire NSIPs, allowing for a corresponding increase in line with the increase in national planning fees introduced in April 2025, is followed. An example of the most up-to-date fee structure and amounts can be found within the Springwell solar farm draft DCO. The latest version was submitted at Deadline 3, referenced REP 3-005 (schedule 16). The Council has been advised informally by the applicant that they are willing to amend the fee structure and fee amounts to reflect the schedule provided in the Springwell solar farm DCO.

26.8 **Proposed s106 Planning Obligation**:

26.9 The Council would welcome further discussions with the applicant to progress a s106 planning obligation to secure funding for BNG monitoring and the skills and education package and to set up an Ecology Steering Group. With reference to BNG monitoring the Council will provide an indicative BNG monitoring fee based on the broad principles contained in the adopted Central Lincolnshire BNG monitoring fee schedule at part of its Written Representation.

26.10 With reference to skills and education funding, the Council would recommend that an annual funding contribution of £50,000, for the lifetime of the development, is made to assist the delivery and implementation of the outline Skills, Supply Chain and Employment Plan (oSSCEP). A similar contribution has been provided by way of a s106 agreement in relation to the Longfield and Heckington Fen solar farms and has been agreed, in principle, as part of the Springwell solar farm examination. The purpose of the funding would be help support the initiatives identified within the oSSCEP such as the implementation and provision of apprenticeships, training workshops, bursaries, courses and qualifications.

26.11 With reference to the formation of an Ecological Steering Group, the Council, alongside LCC, would welcome the formation of such a group to, amongst

other things, monitor progress of the oLEMP and to consider and recommend remedial measures where objectives are not being met, especially in the initial years of establishment. The group would enable cross-referencing with other large scale solar farms where similar species or habitats are impacted, or mitigation is being provided. Such a group has been provided by way of a s106 agreement as part of the consent for the Outer Dowsing Offshore Wind (Generating Station). The Council sees the benefit of such a group given the large number and clustered nature of solar farms and associated BESSs that have recently been proposed or approved within North Kesteven.

27 Summary and Conclusion

27.1 The Beacon Fen Energy Park will have several impacts on the North Kesteven District Council area. This report has highlighted the positive, neutral and negative impacts of the scheme that have been identified in the Environmental Statement (ES), within the context of its knowledge and understanding of the area.

27.2 It provides a summary of those impacts, an identification of relevant policies, plans and guidance applicable to this project and where relevant the degree to which the project aligns with those documents. The LIR also considers the cumulative effects of other proposed schemes (primarily NSIP-scale solar projects) in the North Kesteven but also those in the surrounding parts of Lincolnshire.

27.3 It is noted that the delivery of renewable energy of this nature and of this scale is in accordance with the strategic policies of the Central Lincolnshire Local Plan (2023); most notably CLLP policies S14 ‘renewable energy’ and S16 ‘wider energy infrastructure’. Underpinning the Plan is the overarching vision and strategy, and a series of policies, to address the challenges relating to climate change to ensure that the District and Central Lincolnshire is fit for a zero-carbon future, contributes to the transition to a net-zero carbon society, and is responsive to a changing climate.

27.4 These golden and green threads also run through the NKDC Climate Response Strategy (CES) and Framework, the Climate Action Plan (CAP), its Environment Policy, the NK Plan 24-27 and its Community Strategy. Together these also comprise the Council’s vision and strategy for a sustainable transition to meeting its carbon reduction goals by 2030, supported by mitigation measures to reduce emissions and adaptation measures to improve resilience to the effects of climate change.

27.5 The Council therefore supports the principle of the development, however, notes that (not unexpectedly for a project of this scale and nature) there are negative impacts identified for the majority of the ES topics. This creates a degree of tension, of varying degrees, with elements of EN-1 and EN-3 along with the associated policies contained in the CLLP. The Council does not ‘weight’ those negative impacts on a sliding scale and we reserve the right to make further Written Representations submissions in relation to all matters set

out in this LIR. The five topic areas and associated impacts of greatest concern are in relation to:

- Impacts on Best and Most Versatile (BMV) agricultural land
- Landscape and Visual Impact including Residential Visual Amenity
- Cultural Heritage impacts (above ground)
- Battery Energy Storage System (BESS) and Fire Safety
- Ecology, Biodiversity and Biodiversity Net Gain

27.6 The table below provides a tabulated form of all the impacts by topic, also taking account of any cumulative impacts related with that topic. The Council requests that the Secretary of State for Energy Security and Net Zero has regard to this Local Impact Report when making his decision.

High Level Summary of Positive, Negative and Neutral Impacts

ES Chapter	Positive	Neutral	Negative	CLLP Policy
6 Landscape and Visual			x	S14, S53, S66
7 Ecology	x	x	x	S14, S59, S60, S61, S66
8 Cultural Heritage			x	S14, S53, S57
9 Access and Traffic		x	x	S14, S47, S53
10 Noise and Vibration		x		S14, S53
11 Water Resources and Flood Risk			x	S12, S14, S20, S21
12 Climate Change	x			S11, S14, S16
13 Glint and Glare		x		S14, S53
14 Soils and Agricultural Land			x	S14, S67
15 Socio-economics		x	x	S10, S20, S28
16 Air Quality		x		S14, S53
17 BESS/Fire Safety Extended Period of Outage			x	S14, S53, S54, S66
18 Cumulative Effect		x	x	Various

Appendix A

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
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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: [redacted]

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

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Document history
Edited for publication by Simon Odell CMLI 10 Jan 2020

Appendix B

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22 May 2025

Our Reference 60468641 Beacon Fen DCO

Dear [redacted]

Beacon Fen Energy Park DCO – Ecology Review (updated 22/05/2025)

The ecological information and assessments accompanying the DCO application contain a number of omissions and/or lack clarity on relevant points. These include matters relating to how prior advice (e.g. at Scoping and PEI Report stages) has been addressed, clarity on the methods used, and the data underpinning the conclusions reached.

It is likely that most points can be suitably resolved, but clarifications and further information will be required to achieve this.

I have reviewed all of the documents that I consider relevant to agreement of the ecological impact assessment and provide comments for each within the table appended below.

The BNG Strategy cannot be agreed until the Applicant provides the BNG Metric for examination, and the good practice requirements for evidence are met. The Metric is one of the primary documents necessary for agreement of the BNG Strategy.

Yours sincerely

[redacted]
MCIEEM
Associate Ecologist
AECOM Limited

Report	Section/paragraph	Comment
Chapter 7 Ecology	Table 7.1 – Summary of Consultations	Not all of the responses provided address the prior comments, and some comments cannot be verified. As noted elsewhere, the botanical survey results do not evidence attention to scarce arable flora, with implications for the impact assessment. The response on the approach to aquatic surveys references the terrestrial invertebrate survey approach. It also cannot be verified from the method and results that the botanical report specifically addressed aquatic plants. The response to survey effort for quail (a Schedule 1 bird species) is incorrect. The survey dates given in the breeding bird survey report clearly identify (Table 3-2) four phases of survey in the period mid-May to the end of July which is the survey period for quail. Therefore the required six surveys in this period (as fully referenced in the prior advice) were not completed. **Supplementary information should be provided that addresses the above points and the original comments.**
Chapter 7 Ecology	General (birds)	The assessment of birds within the chapter and appendices is not consistent. The solar array in isolation is stated to be of local value for wintering birds, whilst the data for the Cable Route and Bespoke Access (two geographically discrete areas connected via the land in the solar array) appears to have been aggregated and county value has been concluded for this combined area. **This approach needs to be explained given the solar array is also likely to have an elevated value if the data is aggregated with that for other areas.** Potential impacts on barn owl have not been assessed despite the identification of nesting habitat at the southeast corner of the solar array near Carr Dyke. **What are the implications for this protected species?**

Report	Section/paragraph	Comment
		No attempt appears to have been made to update the baseline on Schedule 1 birds (barn owl, quail and other species that could occur) since the 2022 survey of the solar array. This could be overlooked if a more precautionary approach had been taken. However, no clear attention is given to such species in the Chapter and no mitigation provision is identified for Schedule 1 birds, either in terms of the embedded mitigation or the additional mitigation. **What would the approach be to reconfirming the status of such species prior to construction and protecting them, and how will this be secured?** The impact assessment of birds is rather weak given the limited coverage and the decision to assess wintering and breeding birds together. The relevant considerations in relation to wintering and breeding birds are not fully comparable, and the consequences for species dependent on arable farmland are different from those dependent on other habitats. While the consequences for skylark is covered, the consequences for the long term suitability of the site for wintering birds of open farmland is not clearly assessed. This also has potential relevance for the cumulative impact assessment. **A more robust, evidence based assessment should be provided for this diverse assemblage of species with divergent habitat requirements and sensitivities.**
Chapter 7 Ecology	7.5.16-7.5.17 (baseline)	Scarce arable flora are discussed within a section on grassland. Such species would not be expected in grassland, so it is not surprising that none were found. It is also noted that the underpinning Appendix contains no methods or results to demonstrate attention to this specialist group of plants dependent on cultivated land. **Further explanation is required to explain why these species were surveyed for within unsuitable habitats rather than within cultivated land**.
Chapter 7 Ecology	Table 7.7	It is stated that most hedgerows are species-poor which is not supported by the habitat map in the botanical survey report for the solar array. It is also

Report	Section/paragraph	Comment
		stated that none are of LWS quality, which again is not supported by the botanical survey report for the solar array (paragraph 4.1.14). Hedgerows of LWS quality would have a county nature conservation value, not local as stated. **Supplementary data should be provided to allow review and verification of the status and value of individual hedgerows.** This data is also required to support agreement of the BNG baseline.
Chapter 7 Ecology	Table 7.8	It is stated that no trees suitable for roosting bats will be removed or affected. This statement requires review (given the incorrect assumption elsewhere that all trees will be retained and protected) with reference to the schedule of Tree Works given in the Arboricultural Impact Assessment. **Clarification is required on this point.**
Chapter 7 Ecology	Section 7.4	It is not explained how the Rochdale Envelope has been applied in relation to ecology to ensure a robust worst case (pending detailed design post-determination) assessment of potential impacts and effects. For example, the works at the Bicker Fen substation, and the potential tree and woodland losses identified in the Arboricultural Impact Assessment do not appear to have been considered. Further, the assumptions on retention of habitats after decommissioning (e.g. 7.6.92) seem (without further explanation) unreasonable and not securable. **Clarification is required on this point.**
Chapter 7 Ecology	7.6.55 CONFIDENTIAL	CONFIDENTIAL The assessment of badger is not adequate, particularly given the baseline is incomplete. I identify no baseline data to understand the impact on badger from the Bespoke Access and Cable Route. The number of setts that would be affected by the Proposed Development is not stated, and it is not identified whether a development licence would be needed. Standing advice states “Where possible development proposals should avoid negative effects on badgers. Where this is not possible, the developer will

Report	Section/paragraph	Comment
		need to include adequate mitigation or, as a last resort, compensation measures in their development proposal to allow you to make a planning decision." As a transparent assessment has not been provided it is not possible to verify that these requirements have been met. It is not clear if any mitigation or compensation strategies need to be secured. **Additional information and assessment should be provided.** The relevant impact pathways to address are given in the standing advice.
Chapter 7 Ecology	7.6.58-7.6.60	Insufficient assessment has been provided to understand the worst case implications for water vole. The number of crossings of occupied habitat, and the number of animals likely to be affected is not clearly defined. The impact assessment does not address the extensive impacts on ditch habitats stated in Section 7.7 i.e. 30m of habitat disturbance on each ditch crossed by the Cable Route and up to 50m (motorway width!) for the Bespoke Access. **Supplementary assessment should be provided to address the need for a robust, evidence-based assessment of potential impacts.**
Chapter 7 Ecology	Section 7.6 (impact assessment)	A number of significant adverse effects on the conservation status of ecological receptors are predicted during construction. The mitigation for these impacts is not confirmed or demonstrated to be adequate so significant residual effects cannot be discounted. This includes significant effects on the: - Qualifying bird species of The Wash SPA and Ramsar site; - The qualifying otter population of The Wash and North Norfolk Coast SAC; - Great crested newt – a European Protected Species; - Barbastelle bat – a protected and threatened species; and - Water vole – a protected and threatened species. The impact on LWSs appears to worse at decommissioning than at construction, which merits review. The decommissioning effect is stated to be significant as the conservation status of LWS would be adversely affected. Significant effects on conservation status are also predicted for:

Report	Section/paragraph	Comment
		- Qualifying bird species of The Wash SPA and Ramsar site; - Great crested newt – a European Protected Species; - Wintering birds; and - Barbastelle bat – a threatened species. **This assessment, if correct and unmitigated (see below for comment on this), would indicate a development that conflicts with legislation and planning policy**.
Chapter 7 Ecology	Section 7.7 (Additional Mitigation):	This links with the above points on Section 7.6. It is agreed that where licences are needed these would only be granted if conservation status can be maintained. However, confidence is needed that licences are likely to be granted. In relation to the species named above (Section 7.6): - The mitigation for the impact on qualifying birds (gadwall) is not confirmed as agreed with the Appropriate Nature Conservation Body (Natural England). Based on my prior experience, the 70dB threshold for impact would seem rather high and further assessment and mitigation may be required before it is agreed that there is no likely effect on conservation status. This is primarily a matter for Natural England to resolve/ agree in relation to the HRA, but the EcIA cannot be agreed without confirmation that the mitigation is sufficient. **Further information is required.** - It is not confirmed what mitigation is required for great crested newt or that Natural England has provided a Letter of No Impediment. So, it is not demonstrated that favourable conservation status can be maintained. **Further information is required.** - As the preceding impact assessment should have been made with regard to the embedded mitigation that is integral to the development, it is assumed that additional mitigation is necessary for wintering birds to

Report	Section/paragraph	Comment
		address the significant effect. No mitigation is identified to address this. - The only mitigation for bats is the proposed 'temporary crossings'. It is not clear that this addresses the impacts on bats leading to the conclusion of a significant effect. The Bespoke Access will result in permanent breaches of habitat that will not be resolved by temporary crossings during construction, and it needs to be confirmed that it will be possible to adequately reinstate suitable habitat over the Cable Route after construction. A **clearer impact assessment is required to permit agreement that the mitigation is sufficient.** - It is stated that a licence may be needed for water vole. Given the scale of habitat loss indicated in 7.7.11 (which seems unnecessarily large for watercourse crossings), a development licence may be needed. Such licences require enhancement as well as mitigation, but it has not been demonstrated that enhancement is deliverable and securable. **Insufficient information is provided** to understand the magnitude of impact and consequently demonstrate the predicted impact and significant effect can be adequately addressed.
Chapter 7 Ecology	Section 7.7.12	This identifies habitat losses for works within Bicker Fen substation that do not appear to have been addressed within the impact assessment (Section 7.6) or mitigated e.g. woodland loss. It is stated that worst-case habitat compensation for this may need to be provided within the solar array, it is not demonstrated that this can be accommodated. It is not allowed for in the BNG Strategy. **Supplementary assessment should be provided.**
Chapter 7 Ecology	Section 7.8 (Enhancement)	Measures should only be presented as enhancement if they are certain to be successful. In the case of the waterbody enhancement in 7.8.2 it is not demonstrated that de-silting dry waterbodies will result in ponds that will hold water. The reasons for the current lack of water are not given and there appears to be no corroborating assessment from an appropriate specialist (e.g. a hydrologist). Given this, I would expect Natural England to make similar observations should this be relied on for purposes of a great crested

Report	Section/paragraph	Comment
		newt licence application. **Further information is required.** No enhancement is offered for water vole. As noted above, this could be necessary to secure a licence. **Further information is required.**
Chapter 11 Cumulative	General	There is insufficient clarity on the mitigation for ground nesting birds (wintering birds may also have relevance, see the comment above), so it is not possible to agree there would be no cumulative impacts. Some of the other schemes assessed are in development or at Examination and their mitigation is yet to be confirmed as sufficient. These birds cannot be discounted unless it is agreed that the Beacon Fen mitigation is sufficient to address the project-specific impact on ground nesting birds. My reading of Chapter 7 (7.6.53) is that an impact is predicted but it is not considered significant in isolation. It is also not stated that mitigation will be provided, and the Outline LEMP does not appear to include mitigation for ground nesting birds. Therefore the assessment in Chapter 7 does not preclude potential for cumulative impacts and effects. **Further assessment and information is required.**
Appendices – Energy Park or Whole Development		
Appendix 2.3 Embedded Mitigation	EM2	The statement on retention/protection of all woodlands and trees **should be reviewed** (see related comments below and above).
Appendix 2.4 Outline CEMP	6.7	The details are largely sufficient for current purposes. More precision, e.g. in relation to the locations and coverage of habitat buffers, will be expected from the final CEMP.
Appendix 2.4 Outline CEMP	General	**A commitment should be included** for the provision of a Fish Management Plan to demonstrate suitable mitigation and legislative compliance. This commitment will need to be carried into other documents.
Appendix 2.4 Outline CEMP	6.7.6	The referenced HRA needs to be completed and agreed pre-determination. It is not a matter for agreement post-determination.

Report	Section/paragraph	Comment
Appendix 2.4 Outline CEMP	6.7.11	Specifications for bird and bat boxes are matters to be agreed with the relevant planning authority rather than Natural England, unless they form part of the mitigation strategy for a protected species licence.
Appendix 6.6 Arboricultural Impact Assessment		Three veteran trees were identified within the solar array area, and an additional tree is almost veteran. Nine veteran trees/tree groups occur on the cable route corridor. Six veteran trees occur in the access route corridor. Protective buffers have been applied in accordance with good practice (paragraph 11.1.9), so the requirements of planning policy have been met in relation to the identified trees. The status and level of protection of the veteran trees identified by ecologists in Fox Covert is not stated. **Supplementary information should be provided.** There are some trees that **merit further review and agreement with the NKDC Tree Officer in relation to veteran status**. The recorded sizes and descriptions merit a second opinion to provide confidence that all veteran trees are protected. The relevant trees are T76, T1124 and T1125. The latter two trees are black poplars so are otherwise notable.
Appendix 7.1 Legislation	-	This refers to the relevance of the Hedgerow Regulations and indicates that important hedgerows are addressed in Chapter 7. I can identify no mention of important hedgerows in the chapter or the Heritage chapter, and there is no method statement or data within Appendix 7.11 to indicate that a Hedgerow Regulations survey was completed to identify important hedgerows. **Supplementary information should be provided to explain the approach taken and to clarify the relevance of the Hedgerow Regulations.**
Appendix 7.2 Planning policy	-	No comments.

Report	Section/paragraph	Comment
Appendix 7.3 PEA	-	This document was provided with the PEI Report. The comments made at that time are still applicable. **The habitat information remains limited as a baseline suitable to support a BNG assessment**.
Appendix 7.4 Great crested newt survey	-	This document was provided with the PEI Report. The survey data is now 3 years old. Updated information has been provided as Appendix 7.12. No further comment.
Appendix 7.5 Wintering bird survey	-	This document was provided with the PEI Report. No comments.
Appendix 7.6 Breeding bird survey	-	This document was provided with the PEI Report. The comments made at that time are still applicable. The approach in relation to Schedule 1 birds is not sufficiently defined, and the survey effort for quail was not sufficient to conclude likely absence or determine the extent of habitat usage.
Appendix 7.7 Bat survey	-	This document was provided with the PEI Report. No comments.
Appendix 7.8 Badger survey (CONFIDENTIAL)	-	CONFIDENTIAL The report identifies a number of badger setts within the solar array site including at least four main setts. Buffers have been applied to protect main setts, but there does not seem to be consistent protection of other sett types. Therefore it is not certain setts will not be affected and a badger licence will not be needed. I can identify no comparable baseline data for the Bespoke Access and the Cable Route. This information is not in Appendix 7.20 (Document Ref: 6.3 ES Vol 2 6.3.42), despite a statement to this effect in Chapter 7. **Supplementary information should be provided to provide a full baseline for badger.**
Appendix 7.9 Riparian mammal survey	-	This document was provided with the PEI Report. No comments.

Report	Section/paragraph	Comment
Appendix 7.10 Reptile survey		I agree with the survey approach. No reptiles were found. No further comment.
Appendix 7.11 Botanical survey	Section 2	No suitable methods are described for appraising the status and value of scarce arable flora. Appropriate considerations and methods were identified in the North Kesteven District Council response at PEI Report stage. The relevance of this was first raised in the Council's response to the Scoping Report in 2023. Late July is not an appropriate time to be surveying for arable flora given this period is during or just after the typical period of harvest (as supported by some of the photos within Table 3 of the report) for the cited crops of wheat, oats, field beans and oilseed rape. A post-harvest flush of arable flora (which may not be representative of the assemblage) in fields disturbed by harvest would not reasonably be expected until after early autumn rainfall to stimulate germination. Any conclusions reached in relation to the presence/absence of scarce arable flora are therefore not valid. Late July is also not optimal for appraising grassland and woodland habitats, but there is no reason to expect that any of these habitats will be of county or higher nature conservation value. There remains scope to address comments on arable flora in May and June 2025 so that data can be considered during Examination. **Supplementary information should be provided.**
Appendix 7.11 Botanical survey	Table 2	The habitat identified as 'arable field margins – tussocky' and 'arable field margins – pollen and nectar' would seem to be permanent grassland habitats based on the species lists and photographs provided. In contrast the priority arable field margin habitats apply to temporary habitats sown and managed for biodiversity. Further evidence should be provided to support the habitat classification. Where grassland habitats have been mis-classification then this has implications for agreement of the BNG assessment, which will need to be

Report	Section/paragraph	Comment
		revised. **Supplementary information should be provided.**
Appendix 7.11 Botanical survey	Table 2	The method statement does not explain how the named hedgerows were surveyed and therefore does not demonstrate beyond reasonable doubt that the necessary methods and species lists have been applied to correctly classify the hedgerows. This has implications for agreement of the BNG baseline. A number of hedgerows appear, with reference to the information on Figure 1, to have been incorrectly delimited with reference to standard methods. For example, H9 would appear to border 4 fields so would be 4 hedgerows, H1, H2, H4, H8 are each along two fields and should have been split. Other hedgerows are not clearly labelled and is not clear how these have been delimited. This means has implications for the number of survey sections needed and the data gathered to baseline the hedgerows . For example, two connected 300m hedgerows would each require three survey sections to gather data i.e. six sections in aggregate. If they are treated as one 600m hedgerow then the surveyor would have (if following standard methods) gathered data for just three survey sections. **A supplementary method statement should be provided to clarify the above points.**
Appendix 7.11 Botanical survey	Table 3	Woodland 3 – the description and species list indicates this is lowland mixed deciduous woodland, a priority habitat, not ‘other woodland’. This woodland is shown on the 1st Edition Ordnance Survey map, indicating a long history that would be inconsistent with the current habitat type assigned. Further, it is mapped as the priority habitat within the MAGIC website, and on the Applicant’s Figure 7.4. Mis-classification has implications for agreement of the BNG assessment, which will need to be revised. **Supplementary information**

Report	Section/paragraph	Comment
		should be provided. Figure 7.4 and MAGIC also identify Woodlands 4 and 5 as priority habitat. Woodland 3 may also include irreplaceable habitats. Confirmation is needed that the mentioned trees with veteran features have been appropriately assessed to determine veteran/ancient status, and whether they are relevant to the Proposed Development. **Supplementary information should be provided. If veteran trees are present this had implications for the management actions given in the Outline LEMP.**
Appendix 7.11 Botanical survey	Section 4	There is nothing to indicate specific regard to scarce arable plant species and, as noted above, the survey timing and the indicated target habitats were not appropriate for such species. The narrative strongly implies that the focus of the survey was identification of arable field margin priority habitats. The examples of this habitat given would not be locations where scarce arable flora would reasonably be expected. Appendix 1 indicates a clear focus in sampling towards areas supporting perennial flora rather than cultivated ground supporting annual plant species. Insufficient attention has been given to scarce arable flora and the related advice given by North Kesteven District Council at PEI Report stage in early 2024. **Supplementary information should be provided, see comment above.**
Appendix 7.11 Botanical survey	4.1.14	Hedgerows meeting LWS criteria will be of county value, not local value as stated in Table 2.
Appendix 7.11 Botanical survey	4.1.16/17	This aligns with my position in relation to the woodlands identified in Table 3 i.e. three woodlands are priority habitats. However, this is not reflected by the habitat map provided with the report. **It should be confirmed that the correct habitat type has been used in the BNG assessment.**

Report	Section/paragraph	Comment
		The results of the LWS assessment (which can only be a partial assessment given the timing of the survey could not address ground flora or fungi robustly) identifies that Woodland 3 meets the LWS criteria. It is therefore of county value not local as stated in Table 2.
Appendix 7.12 Great crested newt survey	-	I agree with the survey approach. No further comment.
Appendix 7.13 Bat roost assessment	-	Further survey is needed to confirm the relative suitability of trees for bats. PRF-I and PRF-M cannot be confirmed for features at height based on ground level appraisal alone. However, if all potentially suitable trees are retained no further action would be required and the Proposed Development would align with good practice (impact avoidance). **However, clarification is needed of any implications arising from the tree removal identified in the Arboricultural Impact Assessment.**
Appendix 7.14 Invertebrate survey	-	No comments.
Appendices – Cable Route and Access Road		
Appendix 7.15 Botanical survey	-	The survey was optimally time for early to mid-June. The survey is subject to the same limitations and the same requirements for clarifications as Appendix 7.11. Scarce arable flora is not a relevant consideration where land take is temporary and arable fields will be reinstated back to their baseline state. **Supplementary information should be provided in relation to permanent habitat losses.**
Appendix 7.16 Bat roost assessment	-	All potentially suitable trees are stated to be retained, so no further action would be required and the Proposed Development would align with good practice (impact avoidance). **However, clarification is needed of any implications arising from the tree removal identified in the Arboricultural Impact Assessment.**

Report	Section/paragraph	Comment
Appendix 7.17 Wintering bird survey	-	I agree with the survey approach. No further comment.
Appendix 7.18 Bat activity survey	-	I agree with the survey approach. No further comment.
Appendix 7.19 Riparian mammal survey	-	I agree with the survey approach. The presence of otter and water vole was confirmed, with the latter occurring widely. No further comment.
Appendix 7.20 PEA	Page 33	Grassland at Bicker Substation with Galium verum and Primula veris is not consistent with poor semi-improved grassland. The data was gathered in March which is not an appropriate time of year for grassland survey. This grassland requires re-survey at an appropriate time of year to verify the grassland type given the potential for impact from the development. **Supplementary information should be provided.**
Appendix 7.21 Great crested newt survey	-	I agree with the survey approach. I agree the unsurveyed ponds are low risk given their positions and the types of works proposed. No further comment.
Appendix 7.22 Breeding bird survey	-	Only four of the six survey visits was within the survey period for quail (mid-May to end of July), a Schedule 1 and Endangered bird species. So, the survey effort was less than appropriate to conclude the absence of this species or the extent of habitat usage. Consistent with the preceding solar projects in the District, quail is **a relevant consideration that needs further attention**. Precautionary working methods can be agreed in relation to the cable route given this involves temporary land take.
Figure 6.31 Landscape Strategy Plan	Part B	This seems to be a series of bird survey Figures, is this correct? If not, **the correct Figures should be provided.**
Biodiversity Net Gain and Outline Landscape and Ecological Management Plan (Outline LEMP)		
Biodiversity Net Gain Strategy (Document	General	The metric has not been provided for review and this prevents agreement of the Strategy. **Supplementary information should be provided. The metric**

Report	Section/paragraph	Comment
Ref. 7.3)		**and report also require further review by the Applicant in relation to the observations made below.**
Biodiversity Net Gain Strategy (Document Ref. 7.3)	1.3.14	Reference has not been made to the Central Lincolnshire BNG Guidance. **Confirmation is needed that the Strategy aligns with this**, including the guidance for assigning Strategic Significance, and determining the programme for monitoring. Monitoring should align with the Outline LEMP.
Biodiversity Net Gain Strategy (Document Ref. 7.3)	General	The baseline information provided with the report does not account for all habitats, certain habitats have been mistranslated, and the habitat mapping does not appear sufficiently accurate. Specifically: - The priority woodland habitat identified in Appendix 7.11 is not included. - Examination of aerial imagery shows more grassland within the solar array, on field boundaries and in association with ditches, than appears to have been mapped. - The previously (see above) queried distinction between grassland and arable habitats has relevance to the BNG assessment. I note that some of the arable habitats have been treated as grassland in the Strategy. The inconsistencies between reports needs to be addressed – there can be only one habitat baseline for assessment purposes. - I do not agree with the translation of marshy grassland as cropland. This should be reviewed against the relevant habitat definitions and further explanation provided. - The tall ruderal habitat has been mis-translated for BNG purposes. However, I believe the metric weightings are comparable. - Rural trees are not accounted for. The Arboricultural Impact Assessment identifies at least one hedgerow tree (T81) and two tree groups (G11, G56) that are of sufficient size to need accounting for. The vegetation removal plans indicate that there are other trees that may need to be removed and that should be accounted for on a precautionary basis (in accordance with the Rochdale Envelope

Report	Section/paragraph	Comment
		approach). These are T001 and T019, although others may also have relevance. - Habitats mentioned in Chapter 7 are not covered (or are mistranslated). Specifically, coastal and floodplain grazing marsh. - The length of species-rich hedgerow within the solar array site (30m) given in Table 5 seems way below the extent mapped on the Figure provided in Appendix 7.11. **Supplementary information should be provided.**
Biodiversity Net Gain Strategy (Document Ref. 7.3)	Table 5	The accounting of habitat losses does not appear correct: - There are hedgerow losses identified on the vegetation removal plans that have not been recorded. Where the design is subject to change worst case precautionary assumptions should be made in accordance with the Rochdale Envelope approach so that the impacts of the development are adequately assessed. This can be revised later if this changes at detailed design. - The woodland losses on the bespoke access and cable route corridors recorded in the Arboricultural Impact Assessment do not appear to have not been accounted for. **Supplementary information should be provided.**
Biodiversity Net Gain Strategy (Document Ref. 7.3)	General	The post-development proposals provided within the report do not account for all habitats, certain habitats have been mistranslated, and the habitat mapping does not appear sufficiently accurate: - The proposed habitat plan does not account for all land within the Order Limits. For example, the bespoke access road is not accounted for. - The plan is hard to interpret as it covers the entire site (potentially there are some sheets missing from the document given the plan is not consistent with the baseline plans).

Report	Section/paragraph	Comment
		- Confirmation is required that the calculation of habitat areas e.g. grassland is correct and not over-estimated. The Landscape Strategy Plans (Figure 6.31) appears to show grassland drawn over tracks e.g. the track to Gashes Barn. - It is not clear from the Landscape Strategy Plans (Figure 6.31) if habitat is proposed to be created in the On-site Substation compound and if this is realistic. The colouring of this area is green which could indicate grassland. - Further explanation is needed for the proposed creation of floodplain grazing marsh. There is no record of this habitat at the proposed location north of Gashes Barn within MAGIC so habitat restoration is not possible. Further explanation is needed for how the habitat definition is met, including the hydrological requirements, and how it can function as floodplain grazing marsh for relevant species (which is integral to the definition) given the presence of solar panels. - Use of lowland meadows as a proxy for floodplain grazing marsh (Table 2) needs to be explained, particularly given the emphasis placed on restoration of the latter habitat elsewhere e.g. within Chapter 7 (paragraph 7.6.68). If the latter habitat is proposed then it needs to be demonstrated that the definition for this habitat can be met, as queried above. - It needs to be clarified how the proposed wildflower meadows align with the definition of lowland meadow and that it is reasonably certain (given the definition and practicalities) that this habitat can be delivered. The seed mixture referred to on the Landscape Strategy Plan (EM2) does not meet the species requirements. - There does not appear to be compensation for impacts on woodland and trees. - New culverts over ditches do no not appear to have been accounted for within the watercourse element.

Report	Section/paragraph	Comment
		Supplementary information should be provided.
Biodiversity Net Gain Strategy (Document Ref. 7.3)	2.5.6	The approach detailed is not correct where there are losses of hedgerow trees. **All tree loss should be accounted for in the BNG assessment**.
Biodiversity Net Gain Strategy (Document Ref. 7.3)	General	Insufficient information has been provided to demonstrate that the assumed post-development habitats and condition weightings are reasonably certain and securable e.g. good condition Lowland Meadow, how hedgerows are to be enhanced to species-rich status, and ditch enhancement. **Supplementary information should be provided.** Enhancement of ditches could arise from conversion of arable farmland to grassland but, before agreeing this, confidence is needed that all pre-existing grass headlands have been accounted for (see comment above) as these could influence this assessment. **Supplementary information should be provided.**
Outline LEMP	General	The Outline LEMP needs to be considered within the framework of inter-related documents and there are comparable issues to those raised in relation to Chapter 7 and the BNG Strategy. There are omissions of commitments made elsewhere (e.g. pond enhancement/reinstatement within Chapter 7 – if this is viable (see related comments)). It does not achieve the purpose set out in 2.3.3 to “demonstrate that the broad landscape and ecological mitigation measures … are achievable.” **More detail is required to support the statements and commitments made elsewhere in the Application.**
Outline LEMP	2.2.3	Woodland stand-offs are not consistent with the 15m stand-offs set elsewhere. **Minor amendment is required.** There are no clear proposals within the application for floodplain grazing marsh creation that demonstrate this is deliverable and conforms with

Report	Section/paragraph	Comment
		standard habitat definitions. **Supplementary information should be provided.**
Outline LEMP	2.4.4	The clear statement here is welcome. It does not appear to be reflected in the assessment in Chapter 7 or the BNG assessment.
Outline LEMP	2.4.9-2.4.10	The clear Rochdale Envelope parameters set here are welcome. It is not clear elsewhere in the application that this is what has been assessed and mitigated.
Outline LEMP	2.5.5	Why is the target for native hedgerow creation not 100% native? **Minor amendment is required.**
Outline LEMP	2.5.10	Further review and explanation is needed to demonstrate the ability to provide long term management of hedgerows (and any other habitat) on land within the Site that is outside the Applicant's long term control e.g. within the Cable Route. Where management and monitoring is not certain to be possible long-term this will need to be factored into the BNG assessment. **Supplementary information should be provided.**
Outline LEMP	Table 1.2	I estimate a combined cover of trees species in the order of 50% based on the proportions given. This is not consistent with the definition for scrub habitat. **The habitat type should be reviewed.**
Outline LEMP	2.5.3 onwards	This refers to and provides management prescriptions for woodland, despite this section being indicated as covering scrub habitat. No woodland is allowed for in the BNG Strategy. **The habitat type should be reviewed.**
Outline LEMP	2.5.10	The seed mixture proposed, a grass only EG1 mixture, is not consistent with the definition for neutral grassland. Therefore the Outline LEMP does not match the commitment made on the BNG Strategy or the details provided on the Landscape Plan. **The habitat type should be reviewed.**
Outline LEMP	2.5.12	Noting the above, the reference to conservation grazing seems erroneous in a grassland type of minimal biodiversity value.
Outline LEMP	2.5.14	The management here is not consistent with grassland completely lacking in a

Report	Section/paragraph	Comment
		wildflower component.
Outline LEMP	2.5.17	**Evidence needs to be provided** to demonstrate that the area for floodplain grazing marsh is prone to flooding and therefore suitable. This is not obviously supported by the assessment in Appendix 11.1 Flood Risk Assessment. See comments elsewhere on this proposed habitat.
Outline LEMP	2.5.19	It is not acceptable to provide a lengthy list of plant species and state that species will be chosen from this list. What species and how many are needed to achieve conformity with the target habitat? I would question whether seed is available for a substantial proportion of these species, even if it can be evidenced that the site is suitable for them. **An unambiguous specification should be provided.**
Outline LEMP	2.6	This is stated to be section on habitat enhancement. Much of the content relates to habitat protection and retention not enhancement. Proposals for enhancement must be clearly linked to addressing issues with the baseline status, the evidence for this (e.g. in relation to hedgerows) is weak at present. **This section should be reviewed and supplementary information provided.**
Outline LEMP	2.6.19 onwards	There is little here that is clearly additional and therefore agreeable as substantive enhancement. Low intervention management of woodland is not obviously enhancement and, in all likelihood, reflects the status quo. Pruning trees, retention of existing deadwood, and felling of senescent and diseased trees is not obviously management for landscape and biodiversity. The latter would seem to be a valuable biodiversity resource (and is encouraged elsewhere in the Outline LEMP e.g. creation of veteran features). Why would they need felling on a site with no public access? If felling is necessary for the development (e.g. to protect solar panels) then this tree loss should be accounted for in the BNG assessment. Confidence is also needed that this does not apply to veteran trees. **Supplementary information should be provided.**

Report	Section/paragraph	Comment
Outline LEMP	2.6.21	**Please confirm** that the proposed management of ditches does not conflict with the requirements of the Internal Drainage Board.
Outline LEMP	2.6.22 onwards	This section is stated to be protected species enhancement. Very little is actually enhancement, the majority of the content is maintenance of existing habitats and protection measures. **This section should be reviewed and supplementary information provided.**
Outline LEMP	2.6.30	Contrary to the statement in Chapter 7, no provisions are made for ground nesting birds such as skylark. **Supplementary information should be provided.**

Appendix C

Sylvia Bland

From: Broughton, David [redacted]
Sent: 28 May 2025 18:08
To: Sylvia Bland
Subject: RE: Beacon Fen - additional ecology documents

Categories: Consultee comments

Hi Sylvia

I have given the pdf copy of the Metric a high level review. Comprehensive review is not appropriate without provision of the Excel workbook so that all data is visible (some columns are hidden). The Metric workbook is intended to be the basis for review and agreement of BNG calculations.

My review of the pdf is consistent with my prior comments on the report. I identify nothing that resolves my prior comments.

Specific points that constrain my ability to verify and agree the calculations are as follows:

- Parts of the solar array are covered by the Central Lincolnshire Biodiversity Opportunity Mapping which needs to be taken into account for application of strategic significance. The current weightings applied to baseline and post-development habitats do not appear consistent with the Central Lincolnshire guidance. This should be reviewed as a matter of compliance. Some of the necessary edits to address the guidance might benefit the Applicant.
- I confirm that the priority woodland habitat is not covered in the metric. So there is a discrepancy with the baseline habitat descriptions.
- I remain concerned by the lack of explanation for how good condition lowland meadow, a priority habitat of very high distinctiveness, will be created and the level of confidence in this. This would be a significant on-site gain (67.74 habitat units c. 4% of the total to be created) and therefore confidence is needed the habitat is realistic and securable.
- Not all columns are visible in the pdf, but from those that are it does not look like a delay (between habitat loss and creation) has been applied. This means that habitats would need to be created the same year they are lost, this is an important commitment influencing the calculation and confidence is need that this is realistic/precautionary as an assumption and is securable.
- Culverts have not been included in the calculation.
- The ditch enhancement proposals rely on raising condition through meeting condition assessment criteria A, B and C all of which seem too far outside the Applicant's control to be certain. Criterion A relates to water quality - I have seen no clear evidence to demonstrate this is currently failing. Without clarity on the causes for failure (which may not be restricted to land and activities in the Applicant's control) it is not certain water quality can be improved or how long this will take. Criterion B relates to increasing plant species diversity, in part this relates to water quality but also confidence is needed that the Applicant has full control over how these ditches are managed. It needs to be demonstrated that this is a realistic and securable target for improvement. Criterion C relates to the level of coverage of algae and duckweed -species that proliferate to unfavourable levels with nutrient enrichment. Therefore this links to Criterion A and I don't see how it can be demonstrated with certainty that this can be addressed. Further, I identify no structured aquatic habitat survey data to demonstrate the baseline conditions and therefore inform agreement on the ability to improve and meet Criteria B and C. The ditches are scarcely mentioned in the PEA Report and are not covered in the Botanical Report.
- I identify no data suitable to verify that 1.38km of hedgerows can be converted from the species-poor native type to the species-rich type. How will this be delivered in practice? This is important given hedgerow enhancement represents a third of the length of hedgerows to be created and enhanced, and provides 59% of the hedgerow units.

- There appears to be far more neutral grassland in the metric than has been condition assessed within the Botanical Report. I could not find condition assessments for other habitats e.g. ponds, and there is an absence of evidence to support the condition assessments. Evidence is a requirement of good practice. I emphasis that this does not mean the weightings are not correct, only that the requirements for evidence have not been met.

Regards

David Broughton BSc MSc MPhil CEnv MCIEEM

Associate Ecologist, Nature, UK & Ireland
[redacted]

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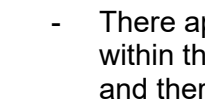

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Appendix D

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.

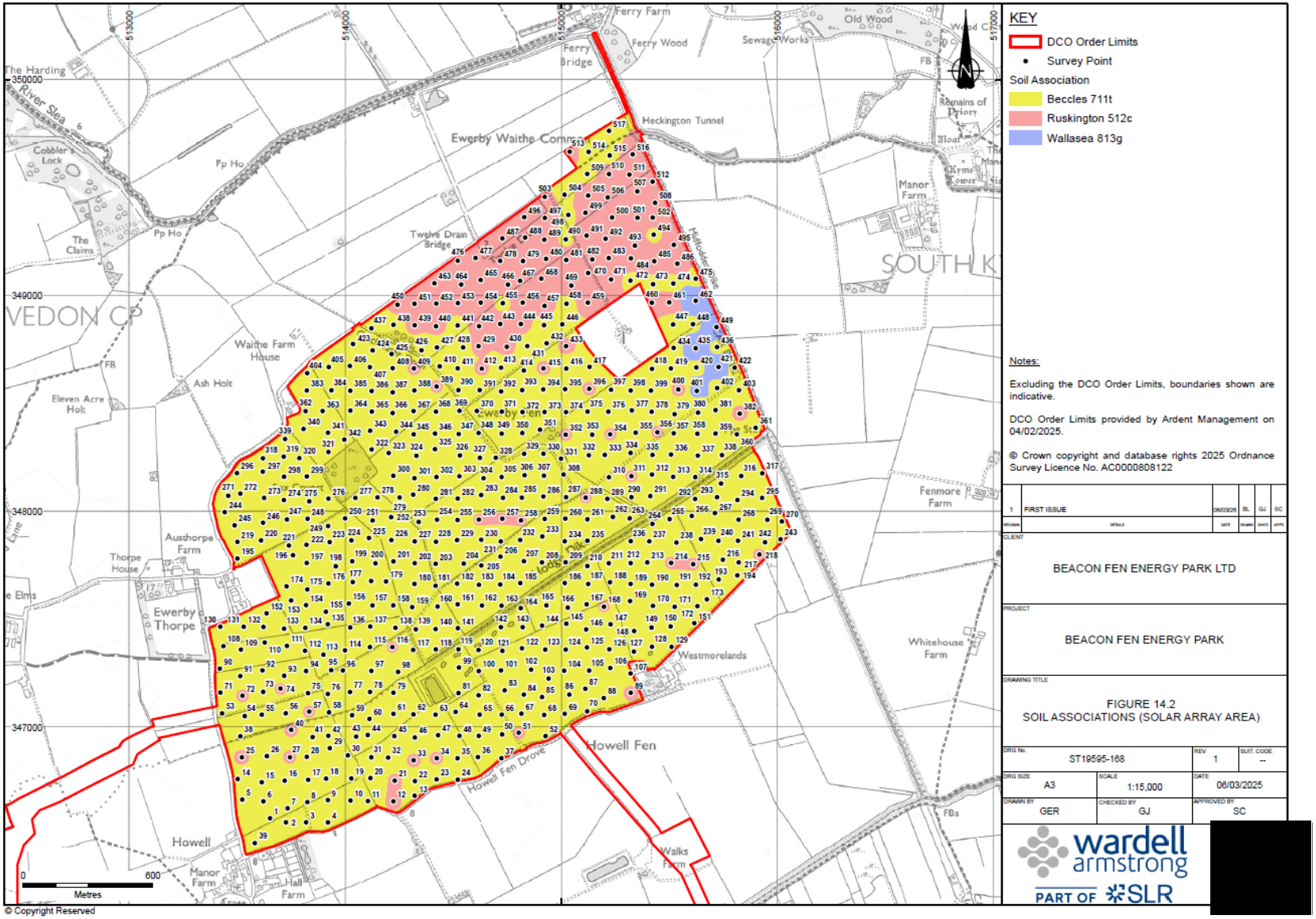
Nevertheless, the whole area is productive farmland, which will be removed from mainly arable farming for 40+ years and at best, a lower intensity grass based system will replace it. The loss of arable production is I consider locally significant and in view of other projects in the wider District and 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
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PROJECT
BEACON FEN ENERGY PARK
DRAWING TITLE
FIGURE 14.2
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REV 1
SUIT. CODE --
DRG SIZE A3
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DATE 06/03/2025
DRAWN BY GER
CHECKED BY GJ
APPROVED BY SC
wardell armstrong
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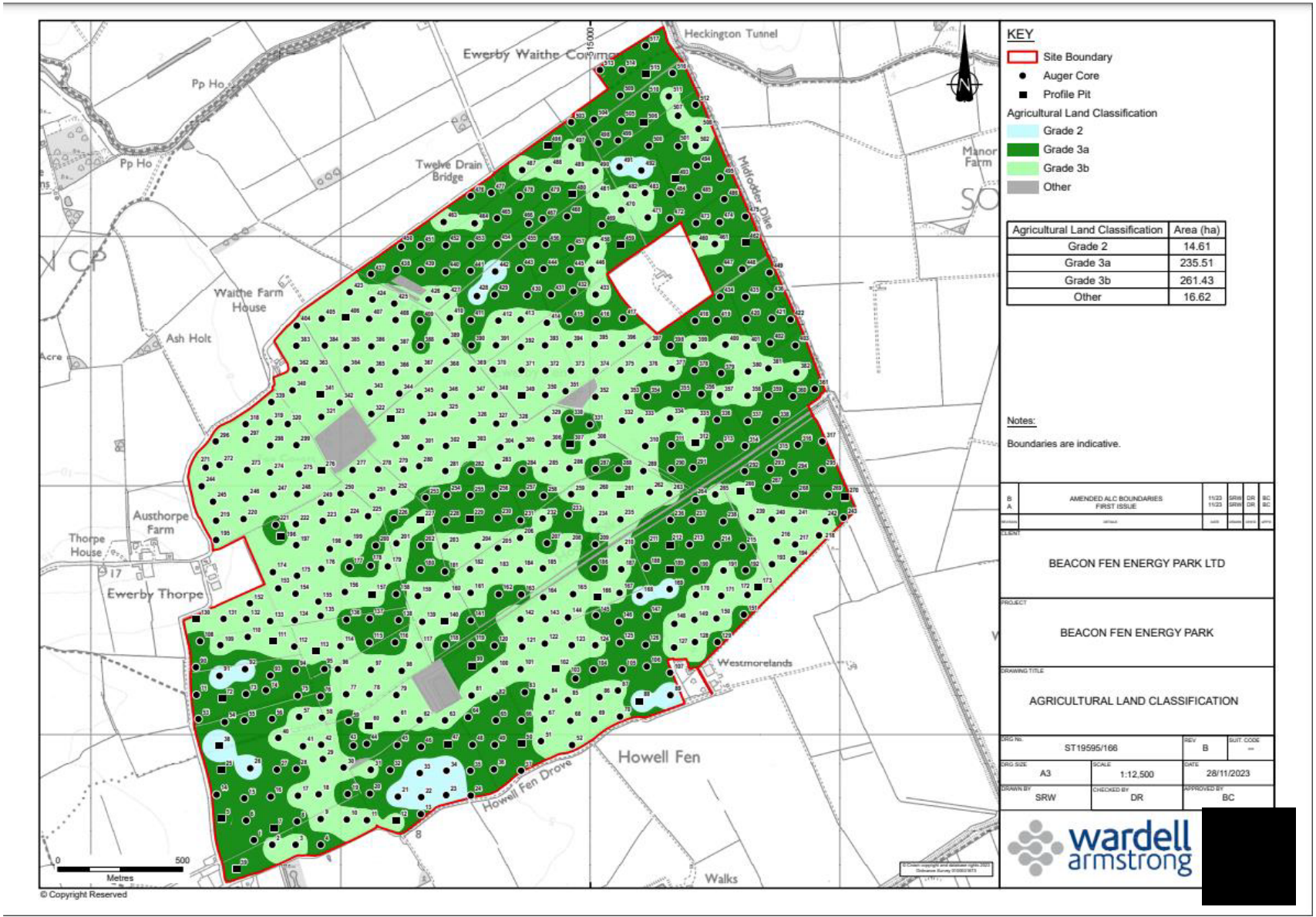
Appendix 2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Ewerby Thorpe
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KEY
Site Boundary
Auger Core
Profile Pit
Agricultural Land Classification
Grade 2
Grade 3a
Grade 3b
Other
Agricultural Land Classification | Area (ha)
Grade 2 | 14.61
Grade 3a | 235.51
Grade 3b | 261.43
Other | 16.62
Notes:
Boundaries are indicative.
B AMENDED ALC BOUNDARIES FIRST ISSUE 11/23 11/23 SRW SRW DR DR BC BC
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PROJECT
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DRAWING TITLE
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