Nationally Significant Infrastructure Project

Fosse Green Energy Project

Lincolnshire County Council Local Impact Report – January 2026

Contents

Appendix i: AAH Landscape and Visual Impact Assessment (LVIA) – AAH November 2025

Appendix ii: Review of Fosse Green Solar Project ES Chapter Soils and Agriculture – Landscope, October 2025

Appendix iii: Local Plan policies and supporting text referred to in LIR (for PINS submission only)

1. Terms of Reference

Introduction

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

Scope

1.2 This LIR relates to the impacts of the proposed development of Fosse Green Energy Project as it affects the administrative area of the Council.

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

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

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

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

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

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

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

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

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

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

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

2. Purpose of the LIR

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

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

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

3. Overview of the proposed development

3.1 A full description of the proposed development and various ancillary structures themselves is not detailed within this report, as this is set out in the DCO application documents. However, a summary of the proposal is provided below.

3.2 The scheme would comprise of the construction, operation (maintenance and repair) and decommissioning of ground-mounted solar PV panels, switchgear, inverters and transformers and associated development including battery storage (480MW hour capacity), onsite cabling, an Onsite Substation, and green infrastructure and environmental mitigation, with a grid connection export capacity of 240 megawatts (MW). The development would allow the generation and export of electricity to the proposed National Grid Navenby Substation. The Navenby Substation is to be the subject of a separate application being promoted by National Grid, and will be submitted by them to NKDC for determination under the Town and County Planning Act regime and does not form part of this DCO application.

3.3 Fosse Green Energy Project has a grid connection agreement with an agreed connection date of 30 May 2033. The DCO is seeking a time limited consent, if granted, the proposed development would be operational for an overall 60-year period with decommissioning to begin 60-years post commercial operational date. Encompassing the proposed construction (24 to 30 months) and decommissioning (between 12 and 24 months), the proposed Fosse Green Energy Project would total 64.5 years. The development would also include works to facilitate vehicular access to the site, landscaping, habitat creation, biodiversity enhancements and amenity improvements.

3.4 The Order Limits consist of a total area of 1,368 hectares (ha) of predominantly agricultural land located approximately 9km south and southwest of Lincoln City Centre, surrounded by the villages of Witham St Hughes, Bassingham, Thurlby and Thorpe on the Hill.

3.5 The site is made up of two main features, the principal site and the grid connection cable route corridor:

- Principal Site – approximately 1,070ha including the solar array area, solar stations, Battery Energy Storage System (BESS), onsite substation, planting and mitigation areas and interconnecting cable corridors consisting of the cables between solar array areas.

- Grid Connection Cable Route Corridor – approximately 351ha (with 53ha overlapping with the principal site). 10km cable route corridor consisting of underground electrical infrastructure connecting the principal site to the proposed National Grid substation near Navenby.

4. Description of Site and Surrounding Areas.

4.1 The proposed development has two main sections, the principal site and cable route corridor, as described above. The full Order Limits fall within the administrative boundaries of North Kesteven District and Lincolnshire County Council.

4.2 The proposed development Order Limits cover an approximate 1,368ha, the DCO Site comprises primarily of agricultural fields interspersed with individual trees, small woodland blocks, hedgerows, linear tree belts, farm access tracks, and local transport roads. The nature of the landscape is largely flat with open views. The area predominately consists of grade 3a and 3b agricultural land.

4.3 There are several villages in close proximity to the Order Limits including; Thorpe on the Hill, 0.4km north east of the principal site; Morton Hall and Morton, 0.4km adjacent to the west of the principal site; Witham St Hughes, adjacent to the west of the principal site; Norton Disney, 0.6km to west of principal site; Bassingham, adjacent to the east of the principal site; Thurlby, adjacent to the south of the principal site, Haddington, 0.3km east of the principal site and Aubourn, 0.6km north east of the principal site. The Cable Corridor is approximately 10km in length and passes largely through agricultural land between the villages of Bassingham, Boothby Graffoe and Coleby, extending towards Navenby.

4.4 The A46, part of the Strategic Road Network from Lincoln to Newark, intersects the principal site within the northern section. Roads forming the local highway network including Moor Lane, Bassingham Road, Clay Lane, Thurlby Road, Stone Lane, Fen Lane, The Avenue and Fosse Lane are located within or adjacent to the Principal Site.

4.5 The A607 intersects the Cable Corridor, with the A15 lying to the east of the Proposed Development. The Cable Corridor also crosses Broughton Lane, Heath Lane, Green Man Lane, Gorse Hill Lane and an unnamed road.

4.6 There are 36 Public Rights of Way (PRoW) within the principal site and five within the Cable route corridor, the Principal Site also includes several permissive paths and a claimed PRoW slightly encroaches on the Principal Site at the northeastern extent, connecting to Clay Lane at Thorpe on the Hill.

4.7 The River Brant is located in the Cable Corridor and passes through the Site to the northeast of Bassingham. The River Witham passes through the southeast of the Principal Site to the northeast of Thurlby and to the west of Bassingham. The majority of the Principal Site falls within flood zone 1, with areas of flood zone 2 located within the southeast of the Principal Site and central sections, associated with the River Brent and River Witham, respectively. The western extent of the Cable Corridor, west of Broughton Lane is located within areas of flood zones 2 and 3.

4.8 There are no Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SAC), or Special Protection Areas (SPA) within the Order Limits. There are two Local Wildlife Sites (LWS), The River Witham, Aubourn to Beckingham LWS and Navenby, Green Man Road Verges LWS, within the Order Limits. Within a 10km radius of the Order Limits there are several statutory designated nature conservation sites including Ashton's Meadow SSSI and Lea Marsh SSSI. There are

11 non-statutory sites designated for nature conservation within 2km of the DCO Site, all designated as LWSs.

4.9 There are no scheduled monuments, listed buildings, conservation areas, registered parks and gardens or battlefields within the Order Limits. However, there are four scheduled monuments within 3km of the principal site including, Churchyard Cross, St Germain's Churchyard, Remains of a Preceptory, Fishponds and Post-Medieval Gardens at Eagle Hall, Churchyard Cross, All Saints' Churchyard and Hall Close: A Medieval a Post-Medieval Hall Complex South of Dovecote Lane, with Dovecote, Gardens, Fishponds, Churchyard and Cultivation Remains.

4.10 Although there are no listed buildings within the Order Limits, there are 114 listed buildings within 3km, comprising seven Grade I, six Grade II* and 101 Grade II Listed Buildings. The listed buildings are largely located within the nearby settlements of Gate Burton, Lea, Upton, Brampton, Marton, Willingham, Stow and Torksey. Notably, the Grade II listed building, River Farmhouse (NHLE 1168186), is located within a land parcel excluded from, but surrounded by the Order Limits.

4.11 The nearest Conservation Area is 'Bassingham Conservation Area', which is located adjacent and to the southeast of the Principal Site. The 'Boothby Graffoe Conservation Area', is located approximately 100-200m south and west of the cable corridor and 'Coleby Conservation Area' the southern extent of which is located approximately 500m to the north of the cable corridor.

5. Policy Context

National Planning Policy

5.1 The Secretary of State (SoS) is required to have regard to any relevant National Policy Statement (NPS), amongst other matters, when deciding whether to grant a DCO. Where there is a relevant NPS in place DCO applications are determined in line with Section 104 of the Planning Act 2008 (as amended) (PA2008). However, where there is no relevant NPS in place then Section 105 of the PA2008 takes effect and provides the legal basis for determining DCO applications. In addition to any relevant NPS, Section 104 requires the SoS to also have regard to any LIR and any matters which the SoS thinks are both important and relevant to its decision.

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

EN-1 – Overarching National Policy Statement for Energy

5.3 EN-1 (Overarching National Policy Statement for Energy) confirms the Government's 2050 net zero ambitions and sets out that the government's objectives for the energy system to ensure energy supply remains secure, reliable, affordable, and is consistent with meeting the UK net zero target by 2050. It also

identifies the need to ensure the UK is more energy independent, resilient and secure and requires the smooth transition to abundant, low-carbon energy. The government has therefore concluded that there is a critical national priority (CNP) for the provision of nationally significant low carbon infrastructure. Renewable energy generation, such as solar, is considered to be CNP infrastructure.

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

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

EN-3 – National Policy Statement for renewable energy infrastructure

5.6 Solar is a key part of the government's strategy for low-cost decarbonisation of the energy sector and that the government has set a target of 45-47 GW of solar power deployment by 2030, as identified within the Clean Power 2030 Action Plan. It is also stated that solar farms can be built quickly and coupled with consistent reductions in the cost of materials and improvements in the efficiency of panels, large-scale solar is now viable in some cases to deploy subsidy free.

5.7 NPS EN-3 sets out key considerations and factors that will need to be taken into consideration when selecting sites and these include irradiance and site topography, proximity of site to dwellings, agricultural land classification and land type, accessibility, public rights of way, security and lighting and grid connectivity. The technical considerations are set in the NPS and include capacity of the site, site layout design and appearance, project lifetimes and flexibility. Impacts that will need to be considered are set out and include biodiversity, ecology, geological conservation, water management, landscape, visual and residential amenity, glint and glare, cultural heritage, construction including traffic and transport noise and vibration.

EN-5 – National Policy Statement for Electricity Networks Infrastructure

5.8 EN-5 is also relevant as it 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." This is therefore relevant in so far as it relates to the cable route corridor and proposed grid connection at Navenby.

5.9 On 24 April 2025 the Government published a consultation on revisions to EN-1, EN-3 and EN-5. On 13 November 2025 Government published its response to the consultation and updated draft versions of the NPS's which are, at the time of writing this report, laid in Parliament and will come into force following a 21 sitting day consideration period. Whilst this takes place the current suite of energy NPS's remain relevant and have effect for the purposes of the Planning Act 2008. Under the transitional arrangements the Fosse Green proposal will be considered under the November 2023 NPS's, as it was accepted for examination prior to the updated versions coming into force.

5.10 Where applicable, the Council further references the NPSs under the technical chapter sub-headings below insofar as they relate to matters which the ExA should have regard to.

Clean Power Action Plan

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

National Planning Policy Framework

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

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

5.14 The National Planning Policy Guidance (NPPG) outlines guidance on the specific planning considerations that relate to large scale ground-mounted solar PV farms. It encourages the effective use of previously developed land, and if a proposal does involve greenfield land, that it allows for continued agricultural use and/or encourages biodiversity improvements around arrays. It also states that local authorities should consider the effect of glint and glare on landscape, on

neighbouring uses and aircraft safety in addition to taking great care to ensure heritage assets are conserved in a manner appropriate to their significance.

Written Ministerial Statements

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

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

5.17 Notwithstanding, the NPSs provide the predominant policy context.

Development Plan

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

Central Lincolnshire Local Plan (2023)

5.19 The Central Lincolnshire Local Plan 2023-2043 (CLLP) was adopted April 2023, replacing the Central Lincolnshire Local Plan adopted in 2017. The relevant policies are:

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

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

commensurate with the proposed use and with the rural character of the location."

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

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

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

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

  Policy S16 states that the Joint Committee is committed to supporting the transition to a net zero carbon future and, in doing so, recognises and supports, in principle, the need for significant investment in new and upgraded energy infrastructure. Support will be given to proposals which are necessary for, or form part of, the transition to a net zero carbon sub-region, which could include energy storage facilities and upgraded or new electricity facilities or other electricity infrastructure. This policy however caveats that any such proposals should take all reasonable opportunities to mitigate any harm arising from such proposals and take care to select not only appropriate locations for such facilities but also design solutions (reference to policy S53) which minimises harm arising.

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

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

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

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

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

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

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

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

- **Policy S61: Biodiversity Opportunity and Delivering Measurable Net gains** – Reason: delivering at least a 10% BNG is an ambition that all DCO projects are working towards as it will become mandatory for projects of this size to be comply with BNG targets in 2025.

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

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

- **Policy S67: Best and Most Versatile Agricultural Land** – Reason: there is BMV land present within the Order Limits.

Neighbourhood Plans

5.20 There are three adopted Neighbourhood Plans (NP) within the proposed development area, namely Thorpe on the Hill NP (March 2018), Bassingham NP (November 2017) and Coleby NP (January 2018). Relevant policies from these NPs include:

Thorpe on the Hill NP (March 2018)

- **Policy 3: Biodiversity** – reason: impact of development on biodiversity and potential delivery of BNG.

- **Policy 4: Green Spaces and Green Infrastructure** – reason: the development will; have impacts on local Rights of Way network.

- **Policy 5: Landscape and Views** – reason: the development has potential to significantly impact landscape and visual amenity at local level.

- **Policy 6: Design and Character of Development** – reason: to ensure development proposals achieve high standard of design.

Bassingham NP (November 2017)

- **Policy T1: Transport considerations in new development** – Reason: proposed development impacts on traffic and transport, highway safety and walking and cycling routes.

- **Policy ES1: Achieving Design Quality** – Reason: to ensure development proposals achieve high standard of design.

- **Policy ES3: Heritage Assets** – reason: to conserve, maintain and where appropriate enhance heritage assets and their surroundings.

- **ES4: Landscape and Countryside Surrounding the Village** – reason: to maintain and enhance open space and green infrastructure (includes ref to BMV).

- **ES5: Renewable Energy Schemes** – Reason: to facilitate sustainable energy proposals without compromising the inherent landscape and countryside.

Coleby NP (January 2018)

- **Policy 3: Design and Character of Development** – Reason: to ensure proposed development has regard to the local countryside, landscape and natural features.

- **Policy 5: Access to the Countryside** – Reason: to maintain and enhance access to countryside through existing PRoW network.

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

5.21 The relevant policies from the LMWLP are:

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

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

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

- **Policy M11: Safeguarding of Mineral Resources** – Reason: Parts of the Fosse Green development lie within a Sand and Gravel Minerals Safeguarding Area (MSA) and Limestone MSA.

- **Policy M12: Safeguarding of Existing Mineral Sites and Associated Minerals Infrastructure** – Reason: There are a number of minerals sites in close proximity to the proposed development.

- **Policy W1: Future Requirements for New Waste Facilities** – Reason: the proposed development will generate solar infrastructure waste arisings during its lifetime, which impact on waste capacity considerations.

- **Policy W8: Safeguarding Waste Management sites** – Reason: Bassingham STW falls within the Order Limits. Swinderby STW is located immediately adjacent to the proposed Order Limits.

Lincolnshire County Council Energy Infrastructure Position Statement (December 2023)

5.22 The Council's Energy Infrastructure Position Statement[1] notes that NSIP's cover a range of potential developments including solar farms and cable routes.

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

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

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

[1] Energy Infrastructure Position (December 2023)

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

6. Assessment of Impacts and Adequacy of Response

6.1 The Fosse Green Energy Project aims to contribute to renewable energy generation, with a grid connection export capacity of 240MW. This aligns with the objectives of the NPS's and key national government commitments. While the project has the potential to deliver positive outcomes through the production of clean, renewable energy, support for the scheme is contingent upon demonstrating that any significant adverse environmental impacts can be effectively managed or mitigated through the DCO process.

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

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

- Site Selection and Alternatives
- Grid Connection and BESS
- Landscape and Visual
- Ecology
- Traffic and Transport
- PRoW
- Water resources and Flood Risk
- Cultural Heritage (Built Heritage and Archaeology)
- Soils and Agricultural Land
- Socioeconomics
- Public Health
- Minerals and Waste
- Cumulative Effects
- Fire Safety
- Other topics
- Draft DCO

7. Site Selection and Alternatives

7.1 Schedule 4, paragraph 2 of the EIA Regulations requires an Environmental Statement (ES) to include *"A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale)*

studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects."

7.2 NPS EN-1 paragraph 4.3.15 states *"Applicants are obliged to include in their ES, information about the reasonable alternatives they have studied. This should include an indication of the main reasons for the applicant's choice, taking into account the environmental, social and economic effects and including, where relevant, technical and commercial feasibility."*

7.3 Paragraph 4.3.16 states "*In some circumstances, the NPSs may impose a policy requirement to consider alternatives."* Paragraph 4.3.17 goes on to state "*Where there is a policy or legal requirement to consider alternatives, the applicant should describe the alternatives considered in compliance with these requirements."*

7.4 General factors influencing site selection are set out in Section 3.3 of NPS EN-3. Paragraph 3.3.5 states that "*It is for applicants to decide what applications to bring forward and the government does not seek to direct applicants to particular sites for renewable energy infrastructure other than in the specific circumstances.."*

7.5 Section 3.10 of NPS EN-3 sets out factors influencing site selection and design for Solar Photovoltaic Generation and includes irradiance and site topography, proximity to dwellings, agricultural land classification and land type, accessibility, PRoW, security and lighting and network connection.

7.6 The Council would highlight paragraph 3.10.14 as being of particular relevance *"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" agricultural land where possible)."*

7.7 Chapter 4 of the ES [APP-029] describes the consideration of alternatives and design evolution, including a summary of the site selection process in relation to the proposed development.

7.8 The Site Selection Report (SSR) (Appendix A of the Planning Statement (PS) [AS-098]) describes the applicant's assessment of reasonable alternative sites. The site identified for the Proposed development is stated as being driven by the availability of land and site suitability, as well as available capacity in the transmission network and a grid connection. The starting point however appears to have been the offer of land by a group of landowners in the locality which, following review by the applicant, was deemed to be a viable option (paragraph 2.3.1).

7.9 The site identified was assessed against other potential sites utilising a five-stage assessment methodology, as described in section 3 of Appendix A of the PS [AS-098]. Stage 1 is the identification of an area of search, based on the point of connection. Paragraph 3.2.2 states that the extent of the search area was informed by land secured by the Applicant at Morton Manor and Housham Grange. Paragraph 4.1.1 identifies a 15 km area of search from the point of connection at the proposed Navenby Substation.

7.10 Stage 2 sought to establish if there was an unconstrained alternative site that could deliver the proposed development by excluding planning and environmental constraints from the area of search. There was a particular focus on minimising the extent of Flood Zone 2 and 3 land and avoiding BMV agricultural land. For the latter, the SSR notes that this was done by excluding all land graded 1, 2 and 3 under the Provisional Agricultural Land Classification. However, there is no distinction in this dataset between grades 3a and 3b, and therefore it undoubtedly will include some 3b grade land, which falls outside the category of BMV. Contrary to the statement at 3.3.4, the post-1988 Survey datasets referred to in this stage of the site selection process do distinguish between Grades 3a and 3b, albeit at a site specific survey level, therefore it is not clear how any post-1988 detailed ALC survey data has been incorporated into this stage of the SSR process.

7.11 As a consequence, on the basis of the approach taken, Figure 4 in the SSR is not strictly correct in stating that it shows 'BMV Excluded Land' since some of that land will definitely fall within Grade 3b, non-BMV. At a national scale, Grade 3 land constitutes about half of the agricultural land in England and Wales[2]. The only 'Available Land' shown in Figure 4 is limited to Grade 4 and '*Non-agricultural*' land as defined in the Provisional ALC grading. The Council does accept that this approach reflects the 'coarseness' of the Provisional ALC grading mechanism, but it does mean the process will inherently limit the number of options going forward and significantly under-represents the amount of potentially available land that may fall outside the BMV category upon further investigation. However, in the absence of detailed ALC data for the whole search area showing the 3a/3b split, the approach taken is considered acceptable for this purpose.

7.12 Stage 3 identifies potential alternative sites by applying key assessment criteria for large scale solar development such as site size, land assembly, and topography. Previously Developed Land (PDL) was also considered. Whilst it is noted that the applicant did consider smaller sites of at least 40ha, the applicant's stated preference is for a contiguous site of approximately 1,000 ha. Commercial viability seems to have played a major role in shaping this preference.

7.13 The Council would like to highlight to the ExA that other solar projects in Lincolnshire have successfully combined smaller, non-contiguous sites, and these have been considered viable by their developers. Cottam for example consists of 4

[2] DEFRA and Welsh Government (2025)(updated from 1988) Agricultural Land Classification of England and Wales: Guidelines for grading the quality of agricultural land. Joint Publication 069

land parcels, Cottam 1 - a discontinuous ring of sub-sites (totalling 812.1ha), Cottam 2, 3a and 3b single sites of 168ha, 132ha and 73ha respectively.

7.14 Stage 4 then assessed the potential alternative sites identified at Stage 3 which were subject to a desktop assessment to further understand the constraints. Stage 5 re-introduced constraints into the area of search including Grade 3 agricultural land and land within Flood Zones 2 and 3, should it not have been possible to identify a site through stages 1-4. Willing landowners were also considered to be an important consideration at this stage which would avoid the need for compulsory acquisition. However, as raised earlier, the willing landowner factor appears to be the main driver in identifying alternative sites at Stage 5 of the SSR process, as opposed to being primarily policy-led. Whilst the Council accepts that landowner willingness will undoubtedly feature as an important consideration in deliverability terms, the point at which this factor enters the assessment process in the context of (or in advance of) weighing up land use policy considerations/interactions is something that we consider requires further explanation.

7.15 Having applied the five-stage assessment process, the applicant concluded that Site 9 (Fosse Green) represented the preferred location for the Proposed Development and was taken forward by the Applicant to the next stage of design development. The results of the applicant's site selection process are considered in further detail in relation to BMV agricultural land and flood risk under the relevant topic chapters below.

7.16 Chapter 4 of the ES [APP-029] considers alternatives and design evolution, including the key design decisions made and how the design has evolved in accordance with the design principles. This is captured in The Design Approach Document [APP-186] submitted with the DCO application.

7.17 Alternatives to the proposed development considered include:

- Alternative Solar Infrastructure Technologies and Storage Arrangements
- Alternative Layouts within the Principal Site
- Alternative Cable Corridors
- Alternative Cable Connections; and
- Alternatives proposed at Statutory Consultation

7.18 Relevant aspects of the consideration of alternatives and the design approach are addressed in relation to the development's impacts within the subsequent chapters of this LIR, as necessary.

7.19 In summary, the Council raises some general concerns regarding the Applicant's site selection process, as set out above, primarily the acknowledged starting point of landowner willingness, the preference for a contiguous site and a drive to avoid the need for compulsory purchase acquisition. The ExA will need to be satisfied that the site selection process is robust and in line with the EIA Regulations and

policy requirements, rather than being a 'retrofit' exercise to align with landowner aspirations.

8. Grid Connection and BESS

Grid Connection

8.1 The Council are of the view that a crucial aspect of this proposal is ensuring certainty about the grid connection. There is currently no existing grid connection available to the applicant for the Fosse Green Energy Park project and the development relies on connection to a new substation that is being promoted by National Grid at Navenby. The Applicant has received a grid connection offer from National Grid to connect to the proposed Navenby Substation with an export and import capacity of 240MW. However, the required infrastructure does not yet benefit from planning permission and hence is some years away from being available as a point of connection for the Fosse Green project. The proposed new Navenby Substation does not form part of the DCO application and will be subject to planning permission through the Town and Country Planning Act 1990, as amended, for which a planning application is to be submitted to NKDC. This presents potential concerns regarding the information available to inform the ES, the timing of the two related projects and the deliverability of the Fosse Green project.

8.2 NPS EN1 paragraph 4.11.8 states that *"On some occasions it may not be possible to coordinate applications. For example, different elements of a project may have different lead-in times and be undertaken by different legal entities subject to different commercial and regulatory frameworks (for example grid companies operate within OFGEM controls) making it inefficient from a delivery perspective to submit one application. Applicants may therefore decide to submit separate applications for each element[160]. Where this is the case, the applicant should include information on the other elements and explain the reasons for the separate application confirming that there are no obvious reasons for why other elements are likely to be refused."*

8.3 Footnote 160 of NPS EN-1 acknowledges that different levels of information may be available at different times and as such applicants should take a proportionate approach to what information should be included.

8.4 Paragraph 4.11.9 of NPS EN-1 further advises applicant's that if this option is pursued, 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.

8.5 An explanation of the reasons for the separate applications is not evident to the Council in the DCO application and reasoning on why the application for the development should not be refused is also considered to be lacking. The

Applicant's statements at paragraph 3.4.3 of the Grid Connection Statement [APP-200] and paragraph 4.5.4 of the PS [AS-098] are acknowledged. The Applicant is of the view that the substation proposal would align with policy and, subject to the appropriate application of mitigation measures, is anticipated to be granted planning consent, with no identified reasons for refusal. However, these are high level comments and are not considered to provide sufficient evidence that there are no obvious reasons why the Navenby substation application would not be refused as required by paragraph 4.11.8 of NPS EN-1.

8.6 The Applicant has carried out an assessment of inter-project cumulative effects, the outcomes of which are detailed in Chapter 15 of the ES [APP-040] and under specific topic chapters of the ES. The proposed Navenby Substation is included on the short list of developments considered as part of this assessment. The ExA will need to be satisfied that a sufficient level of information is available for the Navenby substation and that a robust assessment of the inter-project effects has been undertaken in determining this application in order to comply with the EIA regulations, and paragraph 4.11.9 of EN-1. Further commentary on cumulative effects is provided in section 19 of this report below.

8.7 Regarding the timings of the two projects, construction of the Fosse Green Energy Park is anticipated to take from 2 to 2.5 years commencing in 2031. The Grid Connection Statement [APP-200], states that engagement with the National Energy System Operator (NESO) has resulted in a grid connection offer which provides a connection date of 30 May 2033. It goes on to state that the applicant intends to negotiate an advancement in the connection queue post consent. The National Grid project website indicates that a planning application for the new substation would be submitted to NKDC in early 2026 with construction intended to commence mid-late 2026 and construction being completed by late 2029. The Grid Connection Statement at 3.4.3 further states that NGET has stated to the applicant that should consent not be granted the fall back would be to appeal any such refusal to the Secretary of State and await determination. This would likely result in a delay to the construction of the Navenby substation development.

8.8 The Council considers the delivery of the Navenby substation to be a crucial element to the deliverability of the proposals. Whilst it is acknowledged that there is a significant time separation between the anticipated completion of the Navenby substation and commencement of construction of Fosse Green, uncertainty remains that the substation can be delivered within the indicated timescale or even not delivered at all, as it is still subject to consents being secured. As such there is a potential risk for negative environmental impacts to occur from the Fosse Green development commencing without the benefits of generation which would be relied upon for the grant of any consent being secured.

8.9 The Council would suggest that further contingency is applied to compensate for potential delays in the forthcoming Navenby Substation application. It is recommended, that should the SoS be minded to grant consent for Fosse Green,

that a requirement be imposed to restrict the commencement of the development, including any preparatory works, until such time planning permission has been secured for the Navenby Substation.

8.10 The Council would draw the ExA's attention to the following DCO's where similar scenarios relating to further consents being required have been considered and restrictions in the DCO have been applied.

- Requirement 20 of the Viking CCS Carbon Dioxide Pipeline Order 2025[3] which imposes a restriction on commencement until evidence that a permit for the offshore pipeline and storage works is in place and of any authorisation required by the Petroleum Act 1998 has been submitted and approved by the SoS;
- Requirement 33 of the Keadby 3 Carbon Capture Equipped Gas Fired Generating Station Order 2022[4] imposes a restriction on commencement until evidence that the following are in place and have been submitted and approved by the relevant planning authority:

    1. Development Consent for constructing the National Grid Carbon Gathering Network;

    2. A Carbon Dioxide Storage Licence for the intended storage site;

    3. An Environmental Permit for Work No. 1; and

    4. Any pipeline works authorisation required under section 14 of the Petroleum Act 1998 for offshore pipeline works.

- The Springwell Solar DCO application (currently at recommendation stage) is also seeking a point of connection at the Navenby Substation. The ExA's Schedule of Proposed Changes to the draft DCO[5] includes a requirement to restrict the commencement of development, including preliminary works, until planning permission for the Navenby Substation has been granted. The ExA acknowledged that in terms of commercial reality and the unlikelihood that the developer would proceed with the construction of the development until there was certainty that the Navenby Substation would be delivered. However, the ExA was mindful that it would be possible for the developer to undertake site preparation works (such as hedgerow and tree removal) prior to planning permission being granted for the Navenby Substation that would be at limited commercial cost, but which could result in adverse environmental effects. A decision on this application is expected May 2026.

[3] https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN070008-001535-Viking%20-%20DCO.pdf

[4] https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN010114-001190-20221207_EN010114_Keadby.pdf

[5] https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN010149-000883-ExA%20Schedule%20of%20Changes%20to%20dDCO.pdf

BESS

8.11 The Fosse Green proposals include the construction and operation of a BESS as part of the development. The BESS is expected to have a capacity of 480MWh, that would be charged by 2 hours of peak production. This would equate to approximately 328 batteries that would either be located in a single centralised facility or would be distributed in smaller units around the site alongside the solar stations. The battery containers would measure up to 6.5m x 2.5m, and 3m in height. If a centralised BESS is selected during detailed design, it would be positioned adjacent to the on-site substation compound in a dedicated area of approximately 315 m × 165 m.

8.12 NPS EN-3 paragraph 3.10.40 acknowledges that solar farm applications may also include associated infrastructure such as energy storage.

8.13 'Planning Act 2008: Guidance on associated development applications or major infrastructure projects' (April 2013) states that "*Associated development should be proportionate to the nature and scale of the principal development" and "The definition of associated development requires a direct relationship between associated development and the principal development. Associated development should therefore either support the construction or operation of the principal development, or help address its impacts… ii. Associated development should not be an aim in itself but should be subordinate to the principal development.*"

8.14 The Council recommends that additional information is sought to clarify the relationship between the 240MW grid connection offer, the 480MWh BESS capacity and a yet to be determined generating capacity of the solar arrays (stated as between 319 to 384MWdc depending on panel type and planting ratio). This is considered necessary to assess the assertion that the BESS development is 'associated development' and is proportionate to the nature and scale of the principal development, in accordance with the Planning Act 2008.

9. Landscape and Visual

9.1 NPS EN-1 at paragraph 5.10.37 states that the SoS should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to minimise harm to the landscape, including by appropriate mitigation.

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

adverse impact on the landscape will be capable of being reversed in a timescale that the Secretary of State considers reasonable'.

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

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

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

9.6 **Local Policies:**

- CLLP Policy S1: The Spatial Strategy and Settlement Hierarchy
- CLLP Policy S5: Development in the Countryside
- CLLP Policy S14: Renewable Energy
- CLLP Policy S53: Design and Amenity
- CLLP Policy S62: Area of Outstanding Natural Beauty and Areas of Great Landscape Value
- CLLP Policy S66: Trees, Woodland and Hedgerows

9.7 CLLP Policy 1 (The Spatial Strategy and Settlement Hierarchy) focuses on delivering sustainable growth for Central Lincolnshire to meet the needs for homes and jobs, regenerates places and communities, and supports necessary improvements to facilities, services and infrastructure. Development regarded as being in the countryside (unless supported by other policy) is restricted to agricultural, infrastructure renewable energy or minerals and waste.

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

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

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

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

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

9.13 The Council commissioned AAH Landscape Consultants to assist in the consideration and review of the landscape and visual elements of the Fosse Green proposal and have engaged and provided feedback and advice to the Applicant's design team on behalf of the Council throughout the pre-application stage. A full copy of the report prepared by AAH is attached as an Appendix i which has reviewed the DCO application documentation, and the following summary and conclusions is based on those comments and should be read in conjunction with the full document. It should also be noted that AAH Landscape Consultants are providing landscape and visual advice and support for NKDC in addition to the Council, as such the content of their response is substantially the same for each of these authorities.

9.14 The AAH consultant's report provides an overall summary and conclusion on the suitability of the Landscape and Visual elements of the DCO Application and whether they are sufficient to support an informed decision. This includes the adequacy of the Landscape and Visual Assessment (LVIA), which has been reviewed in accordance with the Landscape Institute Technical Guidance Note 1/20 (10 Jan 2020): 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.

9.15 The LVIA submitted as part of the DCO Application is considered comprehensive, well-presented and generally undertaken in accordance with current best practice, notably GLVIA3 and LI TGN-2024-01. The LVIA is proportionate to the scale of the Development and has been prepared by competent experts. It clearly identifies the main potential effects arising from construction, operation (Years 1 and 15) and decommissioning phases.

9.16 By reason of its mass and scale, the Development would lead to Significant adverse effects on landscape character and visual amenity at all main phases of the scheme (construction, operation year 1, operation year 15). The Development has the potential to transform the local landscape by altering its character on a large scale across an extensive area. This landscape change also has the potential to affect a wider landscape character, at a regional scale, by replacing large areas of agricultural or rural land with solar development, affecting the current openness, tranquillity and agricultural character that are identified as defining characteristics of the area. AAH also judges that this would likely be classed as a permanent project in regards to landscape and visual matters, spanning several generations.

9.17 Based on AAHs review, it is clear from the LVIA findings that the Development is of a scale that would introduce extensive change to the existing agricultural landscape, permanently altering the character and experience of the Site and its immediate context. Significant adverse effects on both landscape character and visual receptors are identified at all stages of the Development, even following the establishment of mitigation (Year 15). The assessment recognises that the Development would transform the Principal Site and areas within the Local Landscape Character Areas (LLCA), including LLCA 03: Tunman Hill and LLCA 08: Thurlby Fenland, resulting in direct and long-term impacts.

9.18 While mitigation would partially reduce effects over time, the predicted benefits are dependent on successful implementation, establishment and ongoing long-term management of new planting. The reliance on planted mitigation in a predominantly open landscape may introduce its own adverse effects, including changes to the perceived openness and rural qualities, and potential enclosure where currently absent. The key areas of disagreement have been identified with elements of the LVIA, primarily regarding:

- The extent and permanence of effects on directly affected landscape character areas, where reductions in significance are presented for certain sub-areas but would more appropriately remain Significant due to land-use change across the Order Limits;

- The treatment of LCT 4a: Unwooded Vales, which is judged in the LVIA as experiencing only Minor adverse effects despite clear direct alteration of its defining characteristics (openness, agricultural land use);

- The conclusion that some LLCA would reduce to non-significant levels by Year 15, which is inconsistent with other directly affected areas;

- The conceptual treatment of the Development's operational duration as temporary needs clarifying, whereas its 60-year lifespan is more akin to a permanent change in landscape terms.

9.19 The visual assessment identifies numerous receptors experiencing Significant adverse visual effects during construction and early operation, notably users of key PRoW networks and residents in proximity to the Development. Some residual significant effects would remain at Year 15 despite mitigation, indicating that full visual integration is not achievable due to the scheme's scale and proximity to these receptors.

9.20 The visual effect on recreational users is of particular concern. Several of the PRoW identified as experiencing Significant adverse effects form part of promoted walking routes in the local area, including the Stepping Out Walks at Thorpe on the Hill, and Morton and Tunman Wood, which attract increased levels of use due to their recreational value. In addition, while not specifically identified in the LVIA, the Bassingham and Villages Circular Trail passes alongside the southern Order Limits and would be subject to clear, close-range views of the Development, resulting in adverse visual effects that are not explicitly recognised in the assessment. The proposed permissive paths, while providing additional route connectivity, are located in close proximity to the solar infrastructure and would offer continuous sequential views of the scheme. As such, they would not serve to reduce or offset the adverse effects on users of existing PRoW and would not be considered as meaningful mitigation to visual effects.

9.21 Cumulative effects are acknowledged within the LVIA; however, the scale and extent of existing and potential future energy developments across the district and region are likely to lead to a more transformative combined impact than suggested. We consider regional landscape character may be fundamentally altered, and sequential visual effects across multiple solar schemes may be underplayed.

9.22 Residential Visual Amenity (RVAT) has been addressed within the LVIA, and although no properties are assessed as exceeding the RVAT, several are expected to experience Significant adverse effects, particularly in the early years of operation. This should be interrogated further during Examination, but we agree that the RVAT is unlikely to be met.

9.23 While the submission includes landscape proposals (as shown on *Figure 15-1: Landscape Mitigation Plan* within Appendix A of the Landscape and Ecological

Management Plan (LEMP), secured via Work No. 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 *Landscape Mitigation Plan* 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.

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

10. Ecology

10.1 Section 5.4 of NPS EN-1 covers biodiversity and geological conservation. The government's policy for biodiversity in England is set out in the Environmental Improvement Plan 2023, the National Pollinator Strategy and the UK Marine Strategy. The aim is to halt overall biodiversity loss in England by 2030 and then reverse loss by 2042, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people. Healthy, naturally functioning ecosystems and coherent ecological networks will be more resilient and adaptable to climate change effects. Failure to address this challenge will result in significant adverse impact on biodiversity and the ecosystem services it provides (paragraph 5.4.2).

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

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

10.4 **Local Policies:**

- CLLP Policy S14: Renewable Energy
- CLLP Policy S59: Green and Blue Infrastructure Network
- CLLP Policy S60: Protecting Biodiversity and Geodiversity
- CLLP Policy S61: Biodiversity Opportunity and Delivering Measurable Net Gains
- CLLP Policy S66: Trees, Woodland and Hedgerows

10.5 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. Where adverse impacts are likely, development will only be supported where the need for and benefits of the development clearly outweigh these impacts. In such cases, appropriate mitigation or compensatory measures will be required.

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

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

10.8 The Council has reviewed the submitted information concerning the assessment of potential ecological effects of the proposed development. APP-033 (6.1 Environmental Statement Chapter 8: Ecology and Nature Conservation) and associated appendices set out the biodiversity and ecological elements of the Applicant's Environmental Statement. The Council considers that information included in (APP-033) and its appendices provides a reasonable summary of ecological interest features and likely significant effects, mitigation, and residual effects of the proposed development.

Statutory Designated Sites

10.9 There are no internationally important sites designated for biodiversity within 10km of the proposal and two nationally important sites designated for biodiversity within 5km of the Order limits. The location of these sites is shown in

6.2 ES Figure 8-1 Sites Statutorily Designated for Biodiversity Value (Revision 2) [AS-042].

Non-Statutory Designated Sites

10.10 There are 29 non-statutory sites designated for biodiversity importance either within or within 2km of the Order limits. The locations of these non-statutory sites are set out in 6.2 ES Figure 8-2 Sites non-statutorily designated for their biodiversity value (Revision 2) [AS-043].

10.11 Sections of two Local Wildlife Sites (LWS) fall within the proposed DCO boundary and will therefore potentially be directly affected by the proposals. These are The River Witham, Aubourn to Beckingham LWS and Navenby, Green Man Road Verges LWS. Table 8-13 of APP-033 sets out proposed mitigation for potential impacts which includes using trenchless methods to cross the River Witham and soil storage and habitat restoration using locally sourced seed for the impacted length of road verge. These mitigation proposals are considered acceptable and are secured in the framework Construction Environmental Management Plan (CEMP) [APP-189]. Appropriate mitigation measures are also proposed for LWS which lie adjacent to the proposed DCO boundary.

10.12 When proposed mitigation measures are taken into account, no significant effects on LWS sites are predicted.

Habitats Regulations

10.13 A Habitats Regulations Assessment report [APP-181] has been prepared which assesses potential pathways for Likely Significant Effects on European sites. There are no European sites present within 10km of the DCO Site boundary, and no European sites are designated for birds (within 20km) or bats (within 30km). The Wash SPA/Ramsar and the Wash and North Norfolk Coast SAC are hydrologically connected to the Proposed Development via the River Witham, however they are approximately 70km downstream of the Proposed Development. APP-181 concludes that at this distance there are no potential impact pathways. APP-181 therefore concludes that there will be no significant effects on any European site.

10.14 The Council agrees with the Applicant's conclusion that a Habitats Regulations Assessment is not required however, The Planning Inspectorate will need to satisfy itself that sufficient information has been submitted by the Applicant to enable this conclusion to be reached.

Existing Biodiversity Value

10.15 A range of both desk-based studies and field surveys has been undertaken to establish the suite of habitats present within the DCO site boundary. These are described in APP-033 and associated appendices. A suite of habitat types of up to

national importance were identified. The Council is of the opinion that the level of survey effort, survey methods and desk-study research undertaken to identify important habitats and establish the baseline biodiversity value is appropriate.

10.16 APP-033 identifies a range of ecological impacts across all phases of the development. These potential impacts include both permanent and temporary or damage to habitats, species mortality and disturbance and the potential for causing the introduction or spread of invasive non-native species (INNS). If unmitigated these impacts have the potential to result in significant impacts on various elements of the site's ecological interest.

10.17 The Applicant has prepared a Framework CEMP [APP-189], a Framework Operational Environmental Management Plan [APP-190], a Framework LEMP [AS-101] and a Framework Decommissioning Environmental Management Plan (DEMP) [APP-191]. A Commitments Register [APP-183] has been prepared which provides a helpful summary of the how mitigation identified for the Project including embedded and additional mitigation measures are secured.

10.18 Overall, the Council agrees with the Applicant's approach and considers that the proposed impact avoidance and mitigation measures for construction, operational and decommissioning phases of the development are appropriate and will need to be secured in the DCO. The Council has the following specific comments to make in relation to impacts on the suite of habitats present on the site:

Ancient Woodland and Veteran and Ancient trees

10.19 The applicant's Arboricultural Assessment [APP-155] states that there are no areas of ancient woodland identified within the proposed DCO boundary however Tunman and Housham Woods are immediately adjacent to the DCO boundary, and these are identified on as Ancient Replanted Woodlands on Priority Habitat Mapping on the MAGIC website.

10.20 APP-155 identifies 126 trees considered likely to be veteran and two trees considered likely to be ancient. No veteran or ancient trees are proposed to be removed to facilitate the development, and appropriate buffers will be implemented to ensure their protection. Clarification is required however in relation to how trees have been classified as veteran or ancient as this will have an impact on the site's baseline biodiversity value as calculated by the Statutory Biodiversity Metric.

10.21 The Council considers that measures aimed at the protection of ancient woodlands and veteran or ancient trees set out in the Framework CEMP [APP-189] are appropriate.

Arable field margins and scarce arable flora

10.22 The Council notes that Field AF29 has been assessed as being of national importance for scarce arable flora and fields AF17 and AF72 are assessed as being of County Importance for scarce arable flora. Prior to construction, seed from these fields would be harvested and seeded in cultivated field margins within retained arable fields close to these fields. In addition to this following the cessation of arable farming these fields would be subject to the provision of disturbed field margin strips to ensure that suitable conditions remain for these species. The Council considers that this proposed mitigation is appropriate and is effectively secured within the Framework LEMP [AS-101] at 4.1.18 and 5.3.88.

Protected and priority species

10.23 A suite of both desk-based studies and field surveys has been undertaken to identify protected and priority species likely to occur within the DCO Site Boundary. These are described in APP-043 and associated appendices. The Council has reviewed the application in accordance with Natural England's standing advice for protected species. Having considered APP-043, the Council considers that the survey methods used, and the survey effort deployed were appropriate.

10.24 Without mitigation, the proposed development has the potential to result in **negative** effects on the populations of a number of species / species groups.

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

10.26 The Council has the following specific comments to make in relation to impacts on protected and priority species:

Terrestrial invertebrates

10.27 The Council notes that the presence of two notable butterfly species has been detected in the study area. Habitat mitigation and enhancement proposals should take account of the species presence and any opportunities to bolster their populations. An example of this could be ensuring that any elm present in the site are retained as far as possible and included in any planting which would benefit White-letter hairstreak.

Breeding birds

10.28 Breeding bird surveys described in APP-179 have detected an assemblage of breeding birds of County importance. The presence of three Schedule 1 breeding birds has also been detected.

10.29 The proposed development would result in the loss of considerable areas of arable habitats which are of value to ground nesting species such as lapwing and skylark.

Both species are recorded within the proposed DCO area. Without mitigation the development has the potential to have significant negative effects on populations of ground nesting farmland birds. This is particularly the case give the number of other developments within Lincolnshire that potentially have the same impacts.

10.30 At 8.12.19 to 8.12.26 of APP-033 and in Figure 8-5: Bird Mitigation Land Allocation [AS-046], the Applicant has set out proposed measures designed to reduce the effect of the proposed development on ground nesting farmland birds. Measures include the provision of areas of undeveloped grassland and retained arable within the development area. Within these areas, skylark plots will be established which will be managed to provide the species' favoured nesting conditions. The Council welcomes this approach, and the proposed measures are secured in the Framework LEMP (AS-101).

10.31 Subject to the above and measures relating avoiding vegetation clearance during the nesting season and undertaking pre-commencement ecological surveys set out in the CEMP (APP-189), the Council agrees that the proposed mitigation measures are appropriate and should ensure that significantly negative effects on breeding birds are avoided.

Bats

10.32 Surveys described in AS-088 have identified the presence of at least 10 species of bats. This includes the nationally rare barbastelle and serotine which is rare in Lincolnshire. The Council notes the Applicant's intention to avoid impacts to roosts or potential roost features and to undertake additional pre-construction surveys to update data on bats.

10.33 A recent study (Tinsley *et al.*, 2023[6]) has shown a decrease in levels of bat activity associated with the presence of solar developments, though reasons for this are not yet clearly understood. The Council recommends that monitoring of post-construction bat activity is undertaken to compare activity levels prior to construction and to assess mitigation efficacy in order to increase understanding of the impacts of solar developments on local bat populations.

Riparian mammals

10.34 AS-089 sets out the results of riparian mammal surveys. Populations of both otter and water vole have been detected with the proposed DCO boundary. The Council consider that mitigation measures set out in Table 3 of the Framework CEMP [APP-189] are appropriate in relation to both species.

10.35 The Council advises that the Greater Lincolnshire Partnership's 'Operation Water Vole' project may offer opportunities to deliver additional water vole mitigation.

Biodiversity Net Gain (BNG)

[6] https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/1365-2664.14474

10.36 The delivery of at least 10% BNG is not currently mandatory for NSIPs however it is considered best practice. Given the scale and nature of the proposed development, the Council will expect the project to deliver significantly more than 10% BNG. The applicant has set out their approach to BNG in APP-194. Based on current calculations the Proposed Development is predicted to result in a net gain of 30.64% for area habitat units, 50.62% for hedgerow units, and 11.83% for watercourse units. The Council welcomes this level of BNG delivery. Details of establishment and management required to achieve the predicted levels of BNG will need to be provided prior to construction.

10.37 In addition to comments made in the Council's Relevant Representation, there are further areas of the applicant's BNG assessment that require additional information or clarification:

10.38 At APP-194, 2.33, the applicant states "*Where habitat condition data was not recorded on-site, for example due to access restrictions, habitat conditions were assumed to be 'good' as a precautionary, 'worst-case' measure*." This does not appear to be the case in all instances of assumed condition e.g. Metric sheet A1 rows 28, 31, 34 etc. The Applicant should review the metric and clarify the position in relation to assumed habitat condition where field surveys were not undertaken. Where condition has been assumed the Applicant should adhere to the precautionary principle by assuming the highest possible condition where uncertainty exists.

10.39 Confirmation is required that the habitat baseline reflects habitat condition prior to any degradation since January 2020 (or August 2023 for extant permissions).

10.40 In the Applicant's Biodiversity Metric, for on-site area habitats, the total area of lost habitat was found to be 680.27 ha, and the total area of created habitat was found to be 680.29 ha. These areas should be equal.

10.41 Clarification is required on the implications of using either fixed or tracker panels. If habitat loss or shading implications are higher for one system type than the other, a precautionary approach using the most impactful scenario should be adopted.

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

Cumulative Effects

10.43 There are a number of development proposals of varying scales in the vicinity of this proposal. These range from small scale housing developments to NSIP scale energy developments. Details of the approach to the assessment of cumulative

effects and a list of projects considered are presented in APP-040 and section 8.15 of APP-033.

10.44 Cumulative effects on sensitive ecological receptors are considered for sensitive ecological receptors including Navenby Green Man Road Verges LWS, rivers and ditches, ground nesting birds and bats. The Council notes however that Table 8-19 of APP-033 includes an empty row relating to impacts on Veteran and Ancient Trees.

10.45 The assessment concludes that given mitigation proposed for this development and likely standard / good practice mitigation proposed for other nearby developments there will be no significant adverse effects on these receptors arising from cumulative impacts. Assuming that proposed mitigation for this proposal is adequately secured in the DCO, the Council agrees with the applicant's conclusions in relation to cumulative effects on ecology.

Ecology Steering Group

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

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

Overall impact of the development on ecology and biodiversity

10.48 The Applicant's ES identifies a series of potential impacts on ecology arising from the development. These range from minor adverse impacts to significant adverse impacts depending on the species, habitat or site concerned. Measures to address these impacts are proposed and should be secured in the DCO. If the mitigation measures are secured and delivered as proposed the Council considers that the development would have a minor, temporary, **negative** impact on ecology during the construction phase.

10.49 The Applicant has also signalled an intention to deliver BNG. Levels currently being predicted are subject to confirmation of final scheme designs, however, if these levels are delivered, the Council considers that overall, the development could have a **positive** impact on ecology and biodiversity. Commitments to deliver a

minimum of 10% BNG should be secured with a specific requirement in the DCO if BNG is to be given positive weight in the planning balance.

11. Traffic and Transport

11.1 Paragraph 5.14.18 of EN-1 sets out that the SoS should consider the substantial impacts of traffic and therefore should ensure 'that the applicant has sought to mitigate these impacts, including during the construction phase of the development'. Where the proposed mitigation measures are insufficient to reduce the impact on the transport infrastructure to acceptable levels, the SoS should consider requirements to mitigate adverse impacts on the transport networks arising from the development. Development consent should not be withheld where applicants are willing to enter planning obligations for funding infrastructure or where requirements can be imposed mitigating adverse impacts (paragraph 5.14.20).

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

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

11.4 **Local Policies:**

- CLLP Policy S47: Accessibility and Transport

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

11.6 The Applicant's assessment of the likely effect of the proposed development on traffic and transport are set out in ES Chapter 13 (Traffic and Transport) [APP-038]. This document considers the potential for likely significant effects of Severance Pedestrian Delay, Non-Motorised User Amenity, Fear and Intimidation, Driver

Delay, Road Safety, Large Loads and PRoW Diversions and Closures. The assessment considers the impact of the proposed development on traffic and transport during the construction, operation, and decommissioning phases, the greatest impacts are likely to occur during the construction and decommissioning phase.

11.7 The Principal Site would have 13 different access points and the Cable Corridor would be served by 7 access points from the public highway. For access to the Principal Site, all HGVs would be expected to travel via the A46 and via the A15 for the Cable Corridor, and would then utilise the local highway network to reach the access points.

11.8 The construction phase assessment is based on a daily peak of 600 construction workers, as a maximum daily figure, and includes total workers associated with both the Principal Site and the Cable Corridor. A shuttle bus service is proposed to be utilised to transport construction workers from the Principal Site to the Cable Corridor (and vice-versa) to reduce vehicular trips on the surrounding highway network.

11.9 In addition, there would be a daily peak of 25 LGVs deliveries (50 movements per day) and 50 HGVs deliveries (100 movements per day) associated with the Principal Site as well as 12 LGVs and 16 HGVs associated with the Cable Corridor works.

11.10 The Applicant has incorporated mitigation measures into the design of the scheme, described in Section 13.6 of APP-008 and these would be set out in the detailed Construction Traffic Management Plan (CTMP) that would be secured through a requirement and subject to approval by the County Council; an outline Framework CTMP [APP-199] has been submitted with the DCO application. Similar measures are proposed to be included in Framework Decommissioning Environmental Management Plan (DEMP) to mitigate decommissioning-related effects.

11.11 Taking into account the embedded mitigation measures the applicant's assessment concludes that there would be no residual significant effects of the Proposed Development on any of the Traffic and Transport receptors in the construction and decommissioning phase. All effects are minor or negligible significance.

11.12 The Applicant has also provided an assessment of the potential cumulative effects of traffic and transport with other projects. Cumulative effects expected on Traffic and Transport receptors within the Study Area are assessed as likely to be Slight Adverse or Neutral (Not Significant).

11.13 The Council in its capacity as Local Highway Authority has reviewed the application documents and has been involved in discussions with the Applicant pre-

submission of the DCO application. In general, the Council's position on highway matters remains as stated in our relevant representation [RR-157].

11.14 In summary, the methodology and assessment of traffic impact is generally agreed with the Council. It provides a reasonable estimate of construction traffic that would be associated with the development. The Local Highway Authority do not expect capacity issues on the highway network as result of this development provided the mitigation measures included in Section 13.6 of APP-008 are undertaken and delivered. This would mostly be achieved through the Framework CTMP. The Framework CTMP provides sufficient details at this stage for all proposed access locations. It also outlines proposals for site working hours, HGV routes, security, compound parking, wheel washing, delivery management, and traffic monitoring. These elements must be detailed in the final CTMP and be monitored, controlled, and be enforceable to ensure highway safety and that traffic impacts align with the ES assessment.

11.15 The technical and construction details of the accesses will need to be approved by the Council under its Section 184 Vehicle Access Crossing Procedure. This is acknowledged at paragraph 1.3.1 of the Framework CTMP which states "*The draft DCO includes a requirement for the Framework CTMP to be developed into a detailed CTMP that would be submitted for the approval of the relevant authorities before construction commences. The DCO would, therefore, include a Requirement to secure compliance with the measures set out in the detailed CTMP.*"

11.16 However, in addition the CTMP should reference the need for future technical approvals. The Council would wish to see specific wording included in the framework CTMP, along the lines of that agreed to be included in the CTMP for the Tillbridge Solar DCO and the Springwell DCO, as follows:

"5.4. Delivery of Road Modifications

5.4.1. Prior to any construction works being undertaken within the limits of highway adoption, the detailed design of these works must be submitted to the Lincolnshire County Council for approval. These submissions will include:

- *A programme for the works, details of the construction method and traffic management requirements;*
- *A detailed design pack of drawings and specifications detailing the works and any service / utility works that may need to be accommodated;*
- *The necessary health and safety information required under the Construction, (Design & Maintenance) Regulations, or their equivalent at the point of submission;*

Details of the proposed contractor, including their insurance provisions;

- *If required by the local road authorities, a Road Safety Audit (RSA) to a combined Stage 1 and Stage 2 standard;*

- *Details of any necessary road signage and road markings; and*

- *Details of any proposed remediation proposals should the works not be permanent.*

5.4.2. The Applicant will reimburse the highway authorities for the technical approval process at the time the applications are made, in line with costs for similar Section 278 or Section 184 applications made under the Highways Act.

5.4.3. The finalised CTMP will detail the exact process for these technical approvals."[7]

11.17 It is noted that the draft DCO [APP-016] contains a specific Article (9) regarding the application of the Lincolnshire Scheme for Road Works and Street Works, which is welcomed. The wording of Article 9 is acceptable to the Council.

11.18 Subject to the necessary mitigations being secured and implemented, the Council concludes that traffic and transport impacts of this development during all phases of the development would be **neutral.**

11.19 Regarding cumulative effects, in terms of highway capacity and traffic, the Highway Authority does not consider that the development would result any significant issues at key junctions in the area in combination with other developments.

12. PRoW

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

[7] Springwell Solar Farm Outline Construction Traffic Management Plan https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN010149-000926-Springwell%20Energy%20Farm%20Limited%20-%20Outline%20Construction%20Traffic%20Management%20Plan%20(Clean).pdf

12.2 **Local Policies:**

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

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

General Impact Comments

12.4 The application details have been reviewed by the Council's Public Rights of Way and Access officers. In general, the proposal would significantly impact the PRoW network, particularly in terms of visual impact and the "look and feel" of the routes. The area is a popular spot for people to access the countryside and contains promoted routes and permitted paths established by NKDC, and the Council would echo and support the comments from NKDC on these points, that there is likely to be adverse impacts from the development which would make the routes less attractive to use.

12.5 Whilst the inclusion of permitted paths is in general supported, they are not protected routes and remain temporary whilst the proposed development is active. It is recommended that the routes are dedicated as PRoW instead, which would allow them to be protected in perpetuity, recorded on Ordnance Survey plans, and provide a permanent betterment as an outcome of the proposal.

Betterment suggestions

12.6 There exists a significant residential area to the south of the A46 to the south of this development. It is suggested that the applicant consider options for installing a footbridge or underpass to allow pedestrians to cross the A46 safely, as a betterment offering to the proposed solar farm.

Comments on the specific path changes

12.7 A number of path changes, both permanent and temporary, are proposed. Comments on each of these proposed changes are tabulated below:

Path reference	Proposal	Comments
Toth/12		This route has a long history of vehicle issues and the surface is not suitable for sustained vehicle use. This route should be upgraded to cater for any site traffic. Any

		surface laid must be suitable for equestrian use so sealed surfaces would not necessarily be appropriate. Further consultation with the PRoW team should be undertaken when detailed proposals for surfacing are being explored.
Toth/13	Permanent diversion	No objections. The permanent diversion at this point is considered acceptable.
Toth/15	Temporary diversion during construction	No objections.
Toth/6	Temporary diversion during construction	No objections. The temporary diversion does appear that it will require the installation of a temporary bridge.
Toth/11	Temporary diversion during construction	No objections. It is recommended the permitted path that follows from this route is dedicated as a permanent PRoW.
Aubo/12	Temporary diversion during construction	No objections. This route is a well-used path by the public
Aubo/11	Temporary diversion during construction	No objections.
Aubo/10	Temporary diversion during construction	No objections.
Aubo/10	Permanent diversion	No objections. The permanent diversion at this point is considered acceptable in principle but there will need to be consideration as to whether the corner of this field will flood. Any diversion must be as substantially convenient for the public.
Aubo/8	Temporary diversion during construction	No objections.
ThuN/2	Temporary diversion during construction	No objections.
ThuN/2	Permanent diversion	No objections. The permanent diversion at this

		point is considered acceptable.
Bass/23	Temporary diversion during construction	No objections.
Cole/4	Temporary diversion during construction	No objections. This is not a very well used path.
BooG/5	Temporary diversion during construction	No objections.
BooG/2	Temporary diversion during construction	No objections.

Comments on the Framework PRoW Management Plan

12.8 Comments on the Framework PRoW Management plan [APP-195] are tabulated below:

Paragraph	**Comment**
3.1.6a	The approach to ensure rights of way users have priority over construction traffic is supported. The surfacing of this path should be upgraded to handle construction traffic, and the surface should be designed to cater for equestrian use as well as pedestrians and cycles.
3.1.7	Agree with the approach under this section.
3.1.8a	We note that the document states that existing widths will be retained, however later on in 3.5.2 it states that there will be increased width, with a 5 metre spacing either side of the centreline, leading to 10 metres minimum. These two paragraphs should align. If only the existing path width is retained, and if the routes are then further enclosed by fencing or hedges when prior to development they were open routes, this would lead to a significant detrimental impact. This would not just be relating to the look and feel of the route and the view from the route and thus public enjoyment of the route, but also would cause problems in practical terms as to how the public can get past each other when using the route. Narrow enclosed paths will also not allow for sufficient sunlight and wind to reach the surface and enable it to dry out after periods of rain. As these routes are popular a fenced off and narrow route through the development would quickly lead to problems. The existing path width of any route should be confirmed with the public rights of way and access team as it may not be apparent on the ground.

3.1.8b	Temporary routes should also consider the surface of the path. Some surface treatment may be required at certain sites depending on the ground conditions.
3.8.1d	The approach detailed here is supported.
3.8.1e	The approach detailed here is supported.
3.8.1f	The communication strategy should include details and proposals as to how the public will be kept informed about the progress, and in particular about any upcoming temporary or permanent path changes. It should also include details about communication with the public right of way and access team.
3.2.3a	No new gates should be erected across the public rights of way. Instead the construction roads should be gated, with the right of way unhindered.
3.2.8	The approach to have as limited time for diversions as possible is supported.
3.5.2	Other NSIP proposals have allowed for a wide route, 15 metres either side of the centreline, to mitigate against the impact of the development. We note the inclusion of a 10 metre route however but a wider width would be more beneficial to the public and help to mitigate the impact of the development further. Details of the fencing is needed which would be erected either side of the public right of way. Electric fencing for example would not be acceptable

General Comments

12.9 We have some further questions that we were unable to determine from the documentation:

- Clarification on how the panels be visually shielded.

- Clarification on the layout plans, which do not show the routes of the existing public right of way – it would be helpful if these can be updated so that we are able to determine the space given for each route etc.

12.10 The Council does have concerns about the wording of Article 15 in the draft DCO [APP-016] which appears to give blanket powers for the undertaker to "temporarily close, prohibit the use of, restrict the use of, authorise the use of, alter or divert any street or public right of way", noting that this cannot be done without consulting the street authority (subsection 4). Further comments are provided below in section 22 – Draft Development Consent Order.

12.11 In consideration of the application documents concerning rights of way, the Council maintains that the temporary closure of multiple footpaths during the

construction phase is likely to result in a detrimental impact on the accessibility and functionality of the wider PRoW network. Consequently, the overall effect on PRoW is considered to be **negative**.

13. Water Resources and Flood Risk

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

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

13.3 Paragraph 5.8.7 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.

13.4 Paragraphs 5.8.9 and 5.8.10 confirm the requirement for the flood risk Sequential and (where applicable) Exception tests to be applied. Further, paragraph 5.8.23 states that all projects should apply the Sequential Test to locating development within the site. Vulnerable aspects of the development should be located on parts of the site at lower risk and residual risk of flooding (paragraph 5.8.29).

13.5 NPS EN-3 sets out that applicants for solar generating stations will need to consider several factors when considering the design and layout of sites, including *inter alia* the ability to mitigate environmental impacts and flood risk (paragraph 2.10.60). Paragraph 2.10.154 advises that *'Water management is a critical component of site design for ground mount solar plants. Where previous management of the site has involved intensive agricultural practice, solar sites can deliver significant ecosystem services value in the form of drainage, flood attenuation, natural wetland habitat, and water quality management'*.

13.6 Paragraph 2.10.76 of EN-3 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.

13.7 **Local Policies:**

- CLLP Policy S12: Water Efficiency and Sustainable Water Management
- CLLP Policy S21: Flood Risk and Water Resources
- CLLP Policy S59: Green and blue infrastructure network
- North Kesteven Strategic Flood Risk Assessment (SFRA) (2009)

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

13.9 CLLP Policy S21 (Flood Risk and Water Resources) states that all development proposals will be considered against the NPPF, including application of the sequential and, if necessary, the exception test. Proposals should demonstrate that they are informed by and take account of the best available information from all sources of flood risk and by site specific flood risk assessment where appropriate; that the development will be safe during its lifetime taking into account the impacts of climate change; how the wider scope for flood risk reduction has been positively considered; and that they have incorporated Sustainable Drainage Systems (SuDS)/Integrated Water Management into the proposals, unless they can be shown to be inappropriate.

13.10 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 and adverse impacts.

Baseline flood risk

13.11 The ES, at Chapter 9 (Water Environment)[APP-034], alongside Appendix 9-C Flood Risk Assessment (FRA) [APP-146), Appendix 9-D Framework Surface Water Drainage Strategy [APP-147] and the PS [AS-098], consider the likely effects generated by the proposed development during construction, operation (including maintenance), and decommissioning in relation to potential impacts of the development on water resources and flood risk. The documents distinguish between the Principal Site (comprising solar arrays and mounting, BESS, inverters, transformers and other associated infrastructure, equating to around 1,070 ha) and the Cable Corridor (covering approximately 351 ha), comprising the underground electrical cables required to connect the Principal Site to the National Electricity Transmission System.

13.12 The submitted FRA has considered the following points: the potential sources of flooding; the established risk of flooding in relation to the proposed development; the effects of the development on flooding elsewhere either through displacement of floodwaters or increased runoff; and puts forward mitigation requirements for the design and any residual risk. The impact of climate change is also considered as part of the assessments.

13.13 The site comprises mostly greenfield agricultural land, with some local roads connecting rural dwellings to villages adjacent to the DCO boundary. The majority of the Order Limits are located in areas at low risk of flooding from rivers (Flood Zone 1), although there are areas of Flood Zone 2 and 3 associated with the River Brant and the River Witham within the central and eastern parts of the Principal Site, linked to the flood storage area west of the River Witham (Witham Washlands Flood Storage Area). The Cable Corridor does intersect Flood Zones 2 and 3, but as it progresses east towards Navenby the route moves into Flood Zone 1.

13.14 The risk of surface water flooding varies from very low to high, mainly connected to risk associated with fluvial flood risk and low-lying topography. Risk of groundwater flooding is considered low, based on NKDC Strategic Flood Risk Assessment (SFRA) that indicates no recorded groundwater flood events.

13.15 The application states that the FRA [APP-146] is primarily focused on assessing flood risk to and from the Proposed Development within the Principal Site. The Cable Corridor consists of similar land use to the Principal Site, with the additional feature near Fen Lane, where the Route overlaps with the Witham Washlands Flood Storage Area (FSA) associated with the Main Rivers Brant and Witham.

13.16 The FRA [APP-146] states that the development infrastructure within the Cable Corridor is inherently protected from flood risk to the proposed development and increasing flood risk elsewhere, since all infrastructure is buried below ground during the operational phase. As such, there is no permanent, above-ground infrastructure proposed along the Cable Corridor and there will be no change to permeable / impermeable areas following construction. On this basis therefore, only the Principal Site has been assessed in detail to ensure the proposed development remains safe from future flood risk, does not increase flood risk elsewhere, and fulfils the Government's wider criteria for sustainable development. The Council agrees with this approach in principle.

Site selection and flooding

13.17 The Applicant's SSR (Appendix A of the PS [AS-098]) sets out the range of assessment criteria that were used in evaluating alternative sites, which include flood risk as a key constraint. The availability of deliverable land (through willing landowners) and site suitability, including proximity to grid connection and other operational factors, were underlying considerations in the initial identification of potential alternative sites. Other factors influencing site selection and design

included site topography, proximity to dwellings, agricultural land classification, accessibility and rights of way. Commentary of the wider aspects of site selection and assessment of alternatives is provided in this report at section 7. However, further discussion here is confined to how this process links to flood risk.

13.18 As part of the five-stage approach to identify suitable sites, after defining the area of search based on point of connection (POC) and availability of land secured by the applicant at Morton Manor and Housham Grange (Stage 1), the second stage established whether there were any alternative unconstrained sites that could deliver the proposed development by excluding planning and environmental constraints – these constraints included flood risk (excluding Flood Zones 2 and 3) and (what the Applicant describes as) 'Best and Most Versatile (BMV) land' (excluding Grades 1, 2 and 3 of Provisional Agricultural Land Classification data), alongside other considerations. No sites were identified that would meet the main criteria for development solely being within Flood Zone 1.

13.19 Stages 3 and 4 of the assessment resulted in the identification of five potential sites over 40ha in area, on lower grade agricultural land and lying outside Flood Zones 2 and 3. These sites were progressively discounted owing to *inter alia* proximity to operational airbases, irregular configurations affecting feasibility, presence of Ancient Woodland and existing or planned alternative land uses.

13.20 Upon the re-introduction of Grade 3 agricultural land and Flood Zones 2 and 3 back into the search criteria (Stage 5), the SSA looked at four potential sites, including the proposed development site. All four sites were rated against several criteria including flood risk. In selecting these four sites, the applicant states that since the area of 'unconstrained land' at this stage is much bigger, it is necessary also to consider the availability of willing landowners in identifying potential sites. Their stated preference is to seek a contiguous site, with relatively few land ownerships, thereby reducing the need to rely upon Compulsory Acquisition powers (paragraphs 4.5.25 and 4.5.26 of Appendix A (SSR) to PS [AS-098]. The four sites are as follows:

- Site 6: Harmston – a cluster of four flat land parcels totalling 650ha. Mainly Flood Zone 1 but NW section extends into Flood Zones 2 and 3 reducing amount of land available for solar infrastructure. Other constraints: size and fragmented ownership; landscape; heritage; and shading.

- Site 7: Bassingham Fen – site comprising a cluster of ten flat land parcels totalling 790 ha. Majority of the site sits within Flood Zones 2 and 3, limiting area available for solar infrastructure, especially more vulnerable aspects such as batteries and substations. Other constraints: size and fragmented ownership; heritage.

- Site 8: Scopwick Heath – site comprising a cluster of four flat land parcels totalling 1,920ha, located in close proximity to the proposed National Grid connection point at Navenby. Mainly located in Flood Zone 1. Overlaps with

proposed solar farms at Leoda and Springwell. Main constraint is that site lies almost entirely within ALC Grade 2 land (BMV land), therefore conflicting with policy to use poorer quality land in preference. Other constraints: proximity to operational airfield; fragmented land ownership.

- Site 9: Fosse Green – site comprising one large parcel of land totalling 1,070ha, sitting the furthest from the point of connection at Navenby. Vast majority of land ALC Grade 3 (Provisional mapping) with majority of site in Flood Zone 1, with some areas in Flood Zones 2 and 3 (but comparatively less than remaining three sites).

13.21 In light of the above assessment, the applicant considered the Fosse Green option to be the most suitable to deliver the proposed development, taking into account the various operational, planning and environmental constraints combined.

Sequential and Exceptions Test

13.22 The aim of the Sequential Test is to steer new development to areas with the lowest risk of flooding from any source. Development should not be allocated or permitted if there are reasonably available sites appropriate for the development in areas with a lower risk of flooding. Development should not be allocated or permitted if there are reasonably available sites appropriate for the development in areas with lower risk of flooding.

13.23 If it is not possible for development to be located within areas of lower risk of flooding (taking into account wider sustainable development objectives), the Exception Test may have to be applied. The need for the Exception Test will depend on the potential vulnerability of the site and of the development proposed, in line with the Flood Risk Vulnerability Classification set out in Annex 3: "Flood Risk vulnerability classification" of the NPPF. Solar farms sit within the '*Essential infrastructure*' category. For such development, the NPPG (Table 2: Flood Risk Vulnerability and Flood Zone Incompatibility) (Paragraph 079 Reference ID: 7-079-20220825) requires the Exception test to be applied where development falls within Flood Zone 3a.

13.24 Where it is engaged, for the Exception Test to be met, both of the following points need to be satisfied for the development to be allocated or permitted:

a. The development would provide wider sustainability benefits to the community that outweigh the flood risk; and

b. The development 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.

13.25 The two sites with a 'red' rating for flooding (Site 6: Hamston and Site 7: Bassingham Fen) have been excluded. While Site 8 (Scopwick Heath) presents an

overall lower flood risk compared to Fosse Green ('amber' rating), the land within this area sits almost entirely within higher grade agricultural land (Provisional ALC Grade 2) and therefore would be in conflict with policies that seek to direct development to poor quality land in preference. The Scopwick site also sits alongside/overlaps two other solar schemes (Springwell – awaiting decision from SoS) and Leoda (to be submitted to SoS), thereby also raising potentially significant issues in terms of adverse cumulative effects. Balancing these criteria alongside other factors, the applicant considers Fosse Green to offer the most suitable site for the proposed development.

13.26 The Council does have concerns over the main drivers influencing the original area of search and choice of sites to be included in the selection process (being largely centred around the availability of willing landowners and avoidance of compulsory acquisition, and to deliver on as few land parcels as possible) (reference para 3.4.5 of PS [AS-098]). These concerns are addressed at section 7 of this LIR. Notwithstanding this position, in terms of the actual analysis to assessing the four 'Stage 5' sites, in flood risk and sequential test terms, the approach is satisfactory, representing a reasonable and proportionate methodology to site selection.

13.27 Having established Fosse Green as the chosen site through the five-stage Site Selection process, at a site-specific level the Flood Risk Assessment [APP-146] identifies areas where there is overlap between some elements of the proposed solar panel fields within the Principal Site and Flood Zones 2 and 3, associated with the River Brant, West Brant Syke, River Witham and Mill Dam Dyke. These areas are referred to as the 'Interaction Zones' in the FRA.

13.28 For the field adjacent to Mill Dam Dyke (field 8) modelling shows that the flood depth would not reach the topographical height of the solar panels and therefore no mitigation is required.

13.29 For the areas associated with the River Brant, West Brant Syke and the River Witham, there are three fields (45, 54 and 57) proposed to contain solar PV panels that interact with Flood Zones 2 and 3. The solar PV panel heights are to be a minimum 800mm above ground. The applicant states that whilst fields 54 and 57 do lie partially within Flood Zone 3, the height of the panels above ground surface will ensure that a minimum freeboard depth of 300mm can always be achieved below the bottom of the panel. Therefore, for the design storm event including climate change, no mitigation is proposed.

13.30 Whilst the Council do not disagree with the technical assessment that the applicant has undertaken with regard to fluvial flood risk and solar PV panels, it is noteworthy that as part of the discussions around flood risk for the adjoining Springwell Solar Farm NSIP, the ExA is seeking the removal of areas of panels that intersect with areas of higher flood risk. Whilst the areas in question as part of the proposed Fosse Green development are limited in scope, there is a question around consistency in approach across NSIP projects that the ExA may want to consider further.

13.31 Surface water flood risk is generally low across the Principal Site, with some areas of higher risk associated with natural topography and proximity to surrounding watercourses. Increases in impermeable areas are envisaged to be localised and relate to the establishment of BESS compounds (or singular BESS compound if the 'centralised BESS option is chosen) and the on-site substation.

13.32 The projected increase in runoff is proposed to be managed via sustainable drainage techniques designed to temporarily attenuate increased surface water flows before discharging to surrounding watercourses at restricted rates. These techniques are set out in the applicant's Framework Surface Water Drainage Strategy (FSWDS), FRA Appendix 9-D [APP-147]. The applicant states that solar PV panels and mounting structures will not increase post-development surface water flood risk as they are not considered to alter the existing drainage regime.

13.33 The application identifies a specific area adjacent to fields 25, 30 and 34 which are known to experience surface water flooding from natural overland runoff, presenting a medium flood risk to properties in the vicinity. As part of the FSWDS, mitigation includes edge swales, which are able to capture excess runoff from PV fields. Voluntary enhancement, through the establishment of swales in fields 24, 30 and 34, is proposed to provide betterment and reduce existing surface water runoff to nearby properties.

13.34 In line with the sequential approach, all proposed buildings/compound areas, substation / transformers stations and BESS and the majority of the solar PV panels (excepting those described above) will be located outside of Flood Zones 2 and 3. At paragraph 6.1.6 of the FRA [APP-146], the Applicant states that '*where required, embedded mitigation within the design has been included to remain in operation in times of flood. East-west tracking panels <u>may</u> be used enabling them to be tilted and as such provide greater resilience to instances of flooding in specific areas*' [Council's emphasis]. Although it is not clear from this statement whether such mitigation will definitely be employed, the applicant indicates that, given the solar panels sit at 0.8m above existing ground elevation, providing sufficient minimum freeboard of 300mm between the bottom of panels and maximum flood height in all circumstances, no mitigation is technically necessary. The Council notes that the Environment Agency has indicated that this is a sensible assumption and aligns with the freeboard used for other solar farms (Appendix C of FRA).

13.35 In terms of compliance with the Exception Test, the applicant relies on the provision of wider sustainability benefits including habitat creation and enhancement, with some areas of the site at higher risk of flooding excluded from solar panel development but used instead for ecological enhancement. The Framework Surface Water Drainage Strategy, to be secured in the DCO, is proposed to ensure the proposed development is safe for its lifetime and that there will be no increases in flooding elsewhere.

13.36 The application also states that the Main Rivers and other Ordinary Watercourses within and surrounding the DCO Site will not be impacted by a change in flood risk level within the Cable Corridor, since no permanent above ground installations are proposed for the operational phase of the Proposed Development The seven temporary construction compounds to facilitate construction in the Cable Corridor are outside Flood Zones 2 and 3. The two proposed Horizontal Directional Drilling camp areas are small and very temporary, to be set up, used and demobilised within 2 – 4 days.

13.37 The FRA and associated documents have been reviewed by the Council in its capacity as Lead Local Flood Authority (LLFA). The LLFA considers these documents provide, at this stage, a suitable assessment of the surface water flood risk and how it will be mitigated by the development. The details of the measures will need to be approved at the detailed design stage and the LLFA would expect these mitigation measures to be secured within the draft DCO.

13.38 In terms of water quality and resources, Chapter 9 of the ES [APP-034] presents an assessment of the potential impacts of construction, operation and decommissioning phases of the proposed development on surface water features, including impacts on water quality and hydromorphology, as well as flood risk and drainage. Reference is made in the application to the drainage attenuation measures, which the applicant states will ensure no increase in surface water discharge and facilitate improvements in water quality through filter strips and swales. Measures to prevent pollution and flooding are also included in the approach to ensure no adverse impacts on water quality, which can be embedded into the CEMP, the OEMP and the DEMP, supplemented with a Water Management Plan (WMP). Providing these documents are adequately secured through the DCO, then the Council would agree that this approach is proportionate and appropriate to control potential impacts of the development on water resources and quality.

13.39 In conclusion, notwithstanding the comments regarding the placement of solar PV panels on Flood Risk Zones 2 and 3 land, the Council considers that the effects of the development on flood risk and water resources have been adequately addressed and that the impacts of the development on water quality, resources and flooding would be **Neutral**.

14. Cultural Heritage (Built Heritage and Archaeology)

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

14.2 The NPPF Chapter 16 (Conserving and enhancing the historic environment) places a requirement on applicants to describe the significance of any heritage assets

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

14.3 **Local Policies:**

- CLLP Policy S57: The Historic Environment
- LMWLP Policy DM4: Historic Environment

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

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

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

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

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

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

Built Heritage

Study Area and approach to assessment

14.10 The Council is broadly satisfied that the ES adopts a structured approach; however, key elements of the assessment remain incomplete. In particular, the current tiered study area which is highly selective and risks excluding assets whose settings and wider landscape relationships may extend well beyond the Order Limits. For clarity, the Applicant's agreement with Historic England on study areas (APP-032, p7-28) does not constitute agreement with Lincolnshire County Council, nor does it bind the Council. The Council is a separate statutory consultee with responsibilities covering all built heritage assets, not only those of the highest significance. In Lincolnshire's rural context, many designated assets, including Grade II listed buildings, derive a material part of their significance from wider settings. The Council therefore considers that a single, consistent study area should be applied to all designated above-ground heritage assets, set at either 3km or 5km, to ensure that potential setting and cumulative effects are properly captured. At the very least, a schedule of all above-ground heritage assets within 5km should be provided as an appendix.

14.11 While embedded mitigation is acknowledged, insufficient weight has been applied to several designated and non-designated receptors, particularly those whose significance derives from their rural, open settings. The assessment also treats

many historic assets in isolation and the absence of a group-value farmsteads assessment is a substantive methodological omission (see below).

Change to Setting and Potential Harm to Receptors

14.12 The ES underestimates harm to River Farmhouse (Grade II, NHLE 1168186) and Grange Cottage (Grade II, NHLE 1061951). Both rely on their surrounding agricultural landscape to articulate their historic function and significance. The introduction of large-scale solar arrays would materially alter those settings and the "lower end less than substantial harm" judgement is not sufficiently evidenced. A number of designated assets located on or near the site boundary require further assessment. These include:

- Hill Cottage (Grade II, NHLE 1360507)
- Corner Farmhouse (Grade II, NHLE 1061953)
- Church of St Germain (Grade II, NHLE 1061972) and the Rectory (Grade II, NHLE 1061973)
- Churchyard Cross (Scheduled Monument, NHLE 1013082)
- Morton Manor (Grade II, NHLE 1061930) and Morton Grange (Grade II*, NHLE 1317323)
- Hall Close (Scheduled Monument, NHLE 1021080)
- Thurlby Hall and outbuildings (Grade II*, NHLE 1317332

14.13 The same issue arises for several non-designated heritage assets, including Tonge's Farm (MLI119774) and other historic farmsteads in the area. In the case of Tonge's Farm, the ES concludes that there would be "very limited harm" but this does not reflect its intact agrarian setting or its wider associative relationships with neighbouring farmsteads.

14.14 For Somerton Castle (Grade I, NHLE 1061974), we support Historic England's view that the assessment lacks sufficient consideration of the Castle's long-distance associative links, including with the Roman road corridor. These relationships contribute materially to its significance and require fuller evaluation.

Historic Farmsteads: Need for a Group-Value Assessment

14.15 Historic farmsteads form a coherent rural heritage network across the Lincolnshire landscape. Following the Springwell and Beacon Fen examinations, the use of a designation-neutral group-value assessment has become an established and proportionate approach to understanding the collective significance of dispersed farmsteads within NSIPs in the county. The absence of such an assessment in the ES means that the current understanding of historic landscape character and cumulative setting effects is incomplete.

14.16 Farmsteads should be considered collectively where they display shared agricultural history, spatial patterning, or intervisibility within an open rural landscape. Without a group-value assessment, the ES cannot fully evaluate how

the proposed development may diminish coherence, weaken historic relationships, or erode appreciation of the wider farmed landscape.

14.17 A supplementary assessment is therefore required to:

- identify the farmstead group(s) and their contribution to local historic landscape character;
- assess how changes to rural setting may affect the ability to understand historic-functional and spatial relationships between farmsteads; and
- Ensure consistency of method with other recent NSIPs within rural Lincolnshire

14.18 Lincolnshire County Council would welcome working with the Applicant to agree the baseline and methodology for this assessment, ensuring that effect judgements and mitigation proposals are underpinned by a complete and proportionate evidence base.

Cumulative effects

14.19 Cumulative assessment is limited. The ES does not fully address how multiple solar schemes are incrementally eroding the rural historic landscape, particularly the legibility of dispersed settlement patterns, farmsteads and rural churches. This requires further work to ensure that landscape-scale change and the collective effects of multiple NSIPs are properly captured.

Overall Assessment

14.20 The development will result in harmful effects on the significance of several designated and non-designated heritage assets. The study area for designated assets is too narrow; harm to certain receptors is understated; the cumulative assessment is incomplete and critically the absence of a group-value farmstead assessment means the baseline is not yet sufficiently developed. Further assessment and bespoke mitigation are required to ensure compliance with NPPF paragraphs 212–216, EN-1 (5.9.1–5.9.36) and EN-3 (2.10.118, 2.10.157), all of which require great weight to be given to the conservation of heritage assets and clear, convincing justification for any harm. On this basis, the effects of the proposed development on built heritage interests are considered to be **negative**.

Archaeology

14.21 Having reviewed the submitted documents, the Council continues to have concerns regarding the level of archaeological assessment undertaken to inform the Applicant's DCO application, particularly given the lack of site-specific assessments for a range of developmental stages which will have extensive ground impacts including: drainage, engineering works, the amount and layout of cabling

and landscaping, as well as the potential for impacts in ecological mitigation areas such as soil inversion.

14.22 The Planning Inspectorate, in their Scoping Opinion, stated that '*The ES should contain information on how the results of the desk based and field-based assessments and surveys have informed the ongoing design development and supported the design of an appropriate mitigation strategy.'* (6.3 ES Appendix 1-B EIA Scoping Opinion, APP-119, section 3.1 Cultural Heritage).

14.23 We acknowledge the applicant's assessment work to date, including a desk-based assessment (DBA) and geophysical survey (magnetometry). Some targeted evaluation trenching is currently ongoing. The agreed trenching WSI is for the first phase of trenching (6.3 ES Appendix 7-H Written Scheme of Investigation for an Archaeological Evaluation, APP-131, Section 1.1).

14.24 There is currently then a limited data set from trenching results for identifying the presence, depth, date, character, location, state of preservation and significance of archaeology which currently survives across the redline boundary. The current programme of trenching does not include trenches to test areas where these previous techniques have not been successful in identifying archaeological remains.

14.25 Some areas have not been subject to geophysical survey and while we appreciate there will be access issues, there must at some point be access so that the scheme can be built. These unsurveyed areas will need higher levels of evaluation to compensate for the lack of information or else be subject to stronger archaeological mitigation, as their potential has not been determined.

14.26 Any areas of unknown potential will need adequate levels of evaluation in advance of any works, including plant movement which may damage or destroy currently surviving but unknown archaeology, otherwise mitigation measures will be required to allow the archaeology to be planned, investigated and recorded before the groundworks can commence. It is therefore much preferred that sufficient trenching is undertaken across the full Order Limits to provide the essential baseline evidence to design a reasonable and fit for purpose mitigation strategy.

14.27 Some habitat creation requires ground preparation which would damage or destroy surviving archaeology, particularly in land previously in agricultural use where surviving archaeology may be close to the current ground surface. These areas therefore need to be included in the evaluation work and the results can be used to inform the design process effectively.

14.28 Other significant groundwork impacts from developmental activities will need to inform what further evaluation may be required in order to provide sufficient baseline evidence for a reasonable, fit for purpose agreed mitigation strategy to effectively deal with the impact on currently surviving archaeology.

14.29 Examples of such major impacts are available in a number of the submitted documents. 7.10 Framework Soil Management Plan(SMP) (Rev 1) [APP-192] for example lists the potential uses for soil including **'***General use within cut/fill proposals.*(section 6.2.3) as well as use *'within the creation of wetlands or SuDS features'* (section 6.4.1*).* There's also the preliminary works in advance of soil placement: '*The receiving surface (in-situ layer of soil) must be de-compacted first prior to placement and spreading. In some instances this receiving layer may require deep ripping.'* (section 6.8.2).

14.30 The Council notes that this document also states that there will be a '*Topographic survey – determine site levels, changes in elevation, earmark cut and fill locations.'*(section 7.2.2) This type of information is critically useful for understanding the site-specific developmental impacts across the scheme, we recommend such technical information be shared as soon as available in order to inform the archaeological evaluation and mitigation process.

14.31 Table 7-2: Statutory Consultation Responses (Cultural Heritage) pp7-31 to 7-56 in 6.1 ES Chapter 7 Cultural Heritage (APP-32) lists the concerns expressed by Lincolnshire County Council and while some of these issues have been noted we remain concerned. The Council maintains that the applicant's submission for buried heritage and the proposed developmental impacts upon it lacks consistency and necessary detail in some areas.

14.32 The following comments are made with specific reference to the scheme's submission documents.

14.33 2.2 Works Plans [APP-008] states that Works no 9 includes *'landscaping, biodiversity and ancillary works.*' We are seeing proposed amendments to draft DCO wording from Applicants on other Lincolnshire solar NSIPs for similar works they wish to undertake, in advance of the main work programme, to be specifically excluded from the Archaeological Requirements. We would strongly oppose any proposed DCO wording which excludes any such works.

14.34 6.1 ES Chapter 9 Water Environment [APP-034] lists a variety of developmental impacts during decommissioning as well as construction phases for this scheme: *'Construction activities such as earthworks, excavations, site preparation, levelling, and grading operations result in the disturbance of soils'* (section 9.7.4) and also *'Potential impacts from the decommissioning of the Principal Site are similar in nature to those during construction, as some ground works would be required to remove infrastructure installed.'* (section 9.7.140).

14.35 This would of course destroy any currently surviving archaeology in the areas of these works. This is contrary to statements elsewhere in the submission documents that there will be no decommissioning impacts or even construction impacts to archaeology.

14.36 6.1 ES Chapter 16 Summary of Environmental Effects, [APP-041] states there will be *'No significant residual effects on Cultural Heritage are predicted during the construction of the Proposed Development.'* (Table 16-1: Summary of significant effects during the construction phase of the Proposed Development, and again in Table 16.2 of the operation phase). This single line is inadequate and incorrect. This proposed development may be for a long-term temporary scheme, but any developmental impacts across the Order Limits on currently surviving archaeology will be permanent impacts on the non-renewable archaeological resource.

14.37 6.3 ES Appendix 9-D Framework Surface Water Drainage Strategy [APP-147] makes reference to lined swales, **'***infiltration swales lining the boundaries of these seven fields'* (section 4.1.10), edge swales which *'will be sized and located accordingly to capture as much excess overland surface water runoff that can be reasonably accommodated'* (section 4.1.12) and *'a new open green ditch.'* (section 4.1.13).

14.38 There will be over 6ha *of 'the proposed impermeable areas'* (Section 4.2.2), swales will be approximately 0.6m deep (section 4.4.8) and for the seven fields which will need edge swales there are spaces *'suitable for up to 300m, 6m wide and 0.6m deep.*' (section 4.5.5).

14.39 Archaeology survives across this scheme at less than half that depth. These, and all the other substantial ground impacts from proposed development works, will need reasonable evaluation and where necessary appropriate mitigation measures to effectively deal with impacts on surviving archaeology.

14.40 6.4 ES Non-Technical Summary (Rev 1) [APP-180] states that **'***The significance of the potential effects on known and potential buried archaeological remains (including late prehistoric/Roman remains, medieval remains and agricultural features) before additional mitigation ranged from neutral to moderate adverse. However, following the implementation of the embedded and additional mitigation measures, it is considered that in the worst-case scenario, the residual effect on buried archaeological remains would be a neutral (not significant).* (section 6.3.10).

14.41 The Council do not agree with this statement. Trenching evaluation is ongoing and the full report on the findings has yet to be produced. Some mitigation options have been listed but there is no site-specific fit for purpose mitigation strategy. Having undertaken site monitoring visits during the trenching fieldwork, certainly there are areas of significant surviving archaeology within the Order Limits of this scheme. The potential effects cannot be said to be '*neutral to moderate'* when *'potential buried archaeological remains'* have yet to be located, identified or characterised. This is a reductive assumption and, until there is sufficient baseline evidence for an informed understanding of the significance of surviving archaeology within the Order Limits, we recommend that potential effects be 'high' until proven otherwise.

14.42 The worst-case scenario would not be *'neutral'* as stated above, rather it would be that currently unknown significant archaeology is destroyed by development works without recording. This is contrary to national policy and guidance including the Central Lincolnshire Local Plan which states that '*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 S57 The Historic Environment, p126).

14.43 Section 6.3.10 of the Non-Technical Summary [AS-097] goes on to state that: *'Additional mitigation comprising a programme of archaeological investigation and recording would deliver benefits which would offset the loss of remains and allow for this already non-significant adverse effect to be further reduced or potentially avoided completely.'*

14.44 The ability to record archaeology which is destroyed by development is not a 'benefit', it is simply preservation by record rather than preservation in situ of archaeological remains. NPPF states that *'the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.*' (para 218). National policy and guidance and professional standards have a presumption in favour of preservation in situ. The CLLP for example states that '*Wherever possible and appropriate, mitigation strategies should ensure the preservation of archaeological remains in-situ.'* (p125).

14.45 Sections 6.3.14 and 6.3.15 of the Non-Technical Summary state there will be no impacts to below ground archaeological remains during the operational and maintenance phases of the development, nor during decommissioning activities. This does not align with a number of the submission documents which list specific impacts for every phase of this scheme, examples of which are included in this response.

14.46 6.5 Environmental Commitments Register (Rev 1), [APP-183], Cultural Heritage makes reference to *'low level piling and avoidance of archaeology from key areas of impact within Solar PV Areas (such as Solar stations or access tracks)' and 'small exclusion zones (around remains of particular significance) or no-dig solutions such as ballast footings (to be discussed with the archaeological advisor) to avoid piling completely, or areas where cabling is excluded (to reduce any impacts to the low level piling only).'* (pp9-10).

14.47 These measures are insufficient. The use of low level piling will make similar detrimental impacts to standard piling in archaeology that is within 30 - 50cm from the current ground surface, for example on burials and structured deposition in discrete features. Any proposed mitigation measure must be informed by an understanding of the state of preservation and the nature of the surviving archaeology. On another Lincolnshire solar NSIP, unexpected Saxon burials were found 20cm from the ground surface in a very delicate state of preservation. Use

of any of these proposed measures would destroy them without identification or recording.

14.48 In the event of preservation in situ mitigation, the full extent of the archaeological areas must be determined and each area must be fenced off and subject to a programme of monitoring throughout the construction and the decommissioning phases. There will be no ground disturbance whatsoever which may disturb or affect the archaeological remains, including plant movement or storage. The proposal for 'no-dig solutions' requires a full understanding of the depth, extent, importance and significance of archaeology. Any proposal in archaeologically sensitive areas will require a firm evidence base proving that any proposed work, including decommissioning, will have no impact upon the archaeology including not only direct destructive impact through groundworks, compaction or reduction in the depth of soil necessary for protecting the archaeology, but also through environmental changes which would be detrimental to the surviving archaeology.

14.49 7.7 Framework CEMP (Rev 1) [APP-189] states that '*Where exclusion zones or non-intrusive methods are required, the detailed CEMP(s) will include a strategy which will detail appropriate good practice measures during construction (such as use of appropriate equipment or limiting avoiding heavy plant movements during inclement weather on sensitive areas to avoid damage to below ground remains etc.) and ways of monitoring of this.'* (3.3 Cultural Heritage, Table 2: Cultural Heritage, CH-C1).

14.50 This approach is unacceptable to the Council. It is Lincolnshire County Councils view that no works whatsoever should be undertaken in known archaeologically sensitive areas, whether they are 'exclusion zones' or areas using non-intrusive mitigation measures. Archaeology is known to survive here less than 30cm from the ground surface as seen in the evaluation trenching. Machine tracking alone will destroy archaeological deposits where there is insufficient depth of soil to protect the remains from compaction and wheel ruts. Please see paragraph above in response to 6.5 Environmental Commitments Register (Rev 1), [APP-183].

14.51 Regarding 7.9 Framework DEMP (Rev 1) [APP-191], we do not agree with the statement that '*The decommissioning phase is not expected to result in any impact beyond the already-disturbed footprint of the Proposed Development. Therefore, it is not anticipated that decommissioning activities will have a direct physical impact upon buried archaeological remains.*' (3.3: Cultural Heritage, Table 2, CH-D1, p13). There is no information on how hundreds of thousands of piles will be dealt with to restore land to its previous agricultural use.

14.52 There are also references in the Framework DEMP to: *'measures to avoid animals being injured or killed within decommissioning working areas'* which states that excavations should not remain open overnight and if so that *'ramps will be provided to allow animals a means of escape.'* (Table 3: Ecology and Nature Conservation, ECO-D1 part b, p14) and that '*Measures may include use and maintenance of temporary lagoons, tanks, bunds'* and that *'Where practical, any*

earthworks will be undertaken during the drier months of the year' (3.5 Water Environment, Table 4, WAT-D2, p21).

14.53 7.9 Framework DEMP[APP-191] does however include Environmental and Ecological Clerks of Works in section *2.2.1 Key roles and responsibilities.* An Archaeological Clerk of Works will also be required as well as an agreed Archaeological Management Plan, which will remain in place for the lifetime of the scheme until the end of the scheme's decommissioning phase to ensure that impacts on archaeological and unevaluated areas are dealt with in a reasonable and enforceable way with appropriate archaeological mitigation where required.

14.54 The air photo and LiDAR report '*has identified tentative evidence for an Iron Age and/or Roman settlement on the east bank of the River Brant, extensive medieval or post medieval agricultural landscapes, and a small number of* (WWII) *military buildings, structures and other features.' (*6.3 ES Appendix 7-F Air Photo and LiDAR Mapping and Interpretation, [APP-129]).

14.55 The geophysical survey report results show a '*Potentially Bronze Age through to Post Med agricultural landscape with IA/Roman and Med settlements and activity.*' (6.3 ES Appendix 7-G Detailed Gradiometer Survey Report, [APP-130]).

14.56 The interim trenching report states that '*Based on preliminary dating evidence, the majority of the activity appears to date to the later prehistoric and Roman periods, with some possible evidence for medieval, post-medieval and modern activity across the Principal Site.*' (Section 4.1, 6.3 ES Appendix 7-I Trial Trenching Report (Interim), [APP-132]). While the trenches are proving the geophysical survey results they are also ground-truthing further activity with the discovery of features not identified through geophysical survey. (Section 4.2, as above). The interim trenching report also recorded that 'r*elatively thin topsoil cover was observed in many of the fields.* (Section 4.1, as above).

14.57 In summary, archaeology has been identified across the Order Limits and trenching has demonstrated that archaeology survives at less than 30cm from the ground surface. This scheme is on a landscape scale: at 1,368ha there will undoubtedly be currently unknown surviving archaeology. Virtually any groundworks or plant movement would damage or destroy any surviving archaeology here which has not been adequately evaluated or identified for mitigation measures appropriate to its significance.

14.58 Post-consent trenching leaves a high degree of risk pushed into the post-consent phase with the potential for archaeological works to impact the work programme and budget. It is essential therefore that archaeological work, including field evaluation as well as mitigation phases, can be dealt with by future commitments through the documentation, including approved WSIs and the production of an agreed Archaeological Management Plan with an Archaeological Clerk of Works for the lifetime of the scheme. In view of the range of concerns noted above, the

effects of the proposed development on archaeological interests are considered to be **negative.**

14.59 We will continue to work with the Applicant's archaeological consultant as more detail is provided regarding site-specific developmental impacts, to ensure that reasonable and appropriate evaluation and mitigation are undertaken to adequately deal with the impacts on surviving archaeological remains across the Order Limits.

15. Soils and Agricultural Land

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

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

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

15.4 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 suitable brownfield, industrial and low and medium grade agricultural land.*'

15.5 Paragraph 2.10.32 goes on to state 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, or storage) to maximise the efficiency of land use.

15.6 Paragraph 2.10.145 reiterates that the SoS should take into account '*the economic and other benefits of the best and most versatile agricultural land*' and that '*The*

Secretary of State should ensure that the applicant has put forward appropriate mitigation measures to minimise impacts on soils or soil resources.'

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

Local Policies

15.8 Local policies relevant to the proposal:

- CLLP Policy S14: Renewable Energy
- CLLP Policy S21: Flood Risk and Water Resources
- CLLP Policy S67: Best and Most Versatile Agricultural Land
- LMWLP Policy DM12: Best and Most Versatile Agricultural Land.

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

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

- The need for the proposed development has been clearly established and there is insufficient lower grade land available;

- The benefits and/or sustainability considerations outweigh the need to protect such land, when taking into account the economic and other benefits of the BMV agricultural land;

- The impacts of the proposal upon ongoing agricultural operations have been minimised through the use of appropriate design solutions; and

- Where feasible, once any development which is supported has ceased its useful life, the land will be restored to its former use.

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

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

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

15.14 Landscope Consultants have been commissioned, on behalf of both the Council and NKDC, to assist in the consideration and review of the agricultural land and soils aspects of the Fosse Green proposal. A full copy of the report prepared by Landscope is attached to this report at Appendix ii. Landscope has also reviewed the DCO application documentation. The following summary and conclusions refer to and incorporate their comments and should be read in conjunction with the full report.

15.15 The detailed baseline ALC survey [APP-161] was undertaken in line with approved guidelines and methodology across 1,071ha (NB. but see note at 15.18) of mainly arable farmland. The results from the ALC survey are reported within a combined ES Chapter (Ch. 12 [AS-016]) which deals with '*Socio Economics and Land Use*'. Whilst the Council acknowledges there is some overlap between land use and socio-economics, given the location of the development and the significant policy basis around BMV agricultural land, a separate ES chapter on this particular topic would have been preferred.

15.16 The land surveyed is referred to in the application as the 'Principal Site'. The section of 'Cable Corridor' route (351 ha) lying outside of the Principal Site, was not ALC surveyed in detail, but is proposed to be surveyed post-consent, to be secured via the Framework CEMP (reference 12.4.16 of Chapter 12: Socio-Economics and Land Use, Rev 2 [AS-016]. The land would be restored to the same grade through the measures and controls contained in the Framework Soil Management Plan (FSMP) [AS-100], secured in the Framework CEMP. On the provisional 1:250,000 ALC Map, the land within the cable corridor route is mapped as principally Grade 3, with inclusion of areas of Grade 2 east of the A607 (there being no subdivision of Grade 3 with the provisional map).

15.17 Following the detailed intrusive soil survey, four separate soil types were identified. The land has been mapped as predominantly ALC Grade 3b, non-BMV (moderate quality agricultural land) with some BMV (ALC Grade 3a) present in places across the site. No areas of Grade 1 or 2 were identified during the survey. Of the land surveyed, a total of 40 ha (3.74%) was recorded as non-agricultural. Of the remaining agricultural land a total of 241 ha (22.5%) was mapped as 3a (BMV) and 790 ha (73.76%) was mapped as 3b (non-BMV).

15.18 However, it is pertinent to highlight a discrepancy in the ALC information presented in the application documents. The figures referred to in paragraph 15.17 above are taken from the ALC survey report [APP-161], based on a survey area of 1,071ha, whereby the total 3a land was reported as 241ha (Table 6, pp 14). Looking at Chapter 12 of the ES [AS-016] at paragraph 12.5.12, there is cross-reference to the ALC survey report and a statement that it covered a slightly larger area than the DCO Site boundary, based on an earlier iteration of the Site. However, this does not explain the discrepancy in the figures for Grade 3a and 3b land, presented at Table 12-15 (pp 12-037), where, on a smaller 'survey footprint' (equal to 1,018.7ha), 3a land is recorded as 282.9ha (41.9ha more than the ALC survey report) and 3b land is recorded as 702.4ha (80.76ha less than the ALC survey). Clarity from the applicant to explain this discrepancy in the reporting of BMV/non-BMV land between documents is needed.

15.19 Chapter 12 of the ES (Socio-Economics and Land Use), Rev 2 [AS-016] states that various mitigation measures have been incorporated into the Proposed Development design, which include positioning above ground infrastructure to avoid BMV land as far as practicable. There is reference in the text at 12.6.2 to Chapter 4 (Alternatives and Design Evolution) [APP- 029]. However, whilst Chapter 4 does make reference to agricultural land classification / BMV as one of the considerations that influenced the site design and layout (as 'embedded mitigation' at section 12.6.4), it is unclear from the documentation how this was approached iteratively, using the results from the ALC survey, in order to address the established national and local policy position of seeking to use poorer quality land in preference to higher quality land and avoiding the use of BMV land where possible.

15.20 The application refers to areas of agricultural land that will be 'permanently' lost due to the proposed development, which the applicant describes as being limited to areas of planting and habitat creation (thereby excluding any other parts of the development covered by infrastructure, which will be removed and the land reinstated upon decommissioning, thus constituting 'temporary' use, albeit for 60 years). The permanent loss is stated to be 4.6ha, of which 1.5ha is BMV (subgrade 3a) land. Clarity from the applicant as to how these figures for 'permanent loss' were arrived at would be helpful, as it is not immediately clear from the application documents what they are based on. Furthermore, in contrast with how other NSIP solar projects have approached the matter of built infrastructure and BMV, it is not clear whether excluding areas of built infrastructure (access roads, compounds, BESS, substations) from the calculation of land permanently lost represents a consistent and proportionate approach to this element of development when set against similar solar developments within the county.

15.21 According to the Institute of Environmental Management & Assessment (IEMA) Guide 'A New Perspective on Land and Soil in Environmental Impact Assessment' (February 2022), BMV land is to be considered a receptor of 'Very High' (Grades 1 and 2) or 'High' (Grade 3a) sensitivity. Further, *'the permanent loss, or reduction in quality, of more than 20ha of agricultural land due to development is of very high magnitude'*. The application refers to the IEMA guide in determining impact magnitude and receptor sensitivity in relation to loss of agricultural land to indicate significance of effects. Based on the applicant's interpretation of the IEMA criteria, Chapter 12 paragraph 12.7.44 states that the '*low magnitude withdrawal of land from agricultural production may be interpreted as a minor adverse effect, which is not significant*'.

15.22 However, it is not clear how this statement was arrived at when considering the 'Receptor Sensitivity' and 'Magnitude' tables within the IEMA guidance (Table 2 and Table 3, respectively). Grade 3a ('*Biomass production'*) land falls within the 'High' category of sensitivity. On the basis of applying the term 'temporary' (to a 60 year development), reversible loss of soil-related features, the magnitude of impact on soil resources and function is deemed 'Minor' (Table 3). Combining these in the Significance matrix (Table 5) gives a 'Slight or Moderate' result. Table 6 (Significance Categories and Typical Description) states that effects in the 'Moderate' significant category can be considered material in the decision-making process. Under the applicant's own '*Impact Assessment and Significance'* table (Table 12-14 of Chapter 12 [AS-016]), this combination of low (or Minor) magnitude and High sensitivity results in 'Moderate' impacts, which are classed as 'Significant' (reference paragraph 12.4.49). This matter was also raised by Natural England in their Relevant Representation [RR-202].

15.23 In considering the above comments, the removal of 241ha (or 282.9ha – see comment at para 15.18) of grade 3a BMV land for a significantly extended period of time (60 years) from productive agricultural use warrants serious consideration in the overall assessment of impacts, particularly when viewed in cumulative terms with other solar developments across Lincolnshire. The conclusion at

paragraph 12.10.17 of Chapter 12 [AS-016] that the cumulative effect on agricultural land associated with the proposed development remains '*not significant*' when considered at County level is questioned, especially in the context of the Council's queries over the derivation of 'significance' under the IEMA guidance for the site-related impacts as set out above. Furthermore, although the ALC gradings are not disputed, the difference between subgrades 3a and 3b agricultural land can often be quite small and there is a degree of subjectivity about the difference, thus further underlining the potential adverse impacts associated with loss of productive agricultural land generally arising from this development proposal and cumulatively when assessed alongside other solar developments across the region.

15.24 The applicant's assessment of cumulative impacts on agricultural land [AS-016] considers other NSIP projects. At paragraph 12.10.15, they estimate that solar NSIPs in Lincolnshire, including the proposal at Fosse Green, account for approximately 1.4% of the BMV land in the County. Based on its own ongoing assessment, this figure is reasonably consistent with the calculations undertaken by the Council. Based on a recently undertaken review using publicly available figures, the amount of land occupied by solar NSIP and TCPA development in Lincolnshire is currently circa 3.23% of all cropped and uncropped land (385,930 ha). Within that total, the amount of BMV land covered by NSIP and TCPA solar against the total quantum of BMV land in Lincolnshire provides a figure of 1.25%. However, the BMV figure for Lincolnshire is based on an overwash GIS layer which also includes the areas covered by other landscape elements, such as settlements and woodlands, and therefore a proportion of this BMV land is not available for agriculture. On that basis, the percentages will be higher.

15.25 The 2024 UK Food Security Report[8] identifies that '*Water and land, important agricultural inputs, are under increasing human and geopolitical competition and are being used at an unsustainable rate. The food system's essential natural resources continue to be depleted without being recovered for future use*.' By reducing the amount of BMV land available by incrementally removing land for large infrastructure projects, additional pressure is placed on the remaining land to keep agricultural production supply stable, or alternatively more food will have to be imported with the sustainability implications of food miles and associated carbon emissions.

15.26 Furthermore, the whole area is productive farmland, which would be removed from mainly arable farming for 60 years, replaced with, at best, a lower intensity grass-based system. The loss of arable production is considered locally significant and in view of other projects in the wider District and County, potentially cumulatively significant. For context, the total cropped and uncropped arable land in Lincolnshire is 385,930ha according to figures published

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

by DEFRA[9], the total land proposed to be covered by solar farms, NSIP (order limits) and TCPA applications, is approximately 13,620ha (note – this is significantly higher than the figure of 4,828.5ha stated in Table 12-29 [AS-016], which is limited to BMV land associated with solar schemes). On the assumption that the majority of land proposed for solar farms is arable land (of which solar would cover circa 3.53% of the cropped and uncropped arable total) and based on the total crop output figure of £1,564 million for 2023[10], the potential loss of crop output could be in the region of over £50 million.

15.27 The application documents state the PV panel arrangement is designed to provide a minimum of 0.8m ground clearance to facilitate sheep grazing under the panels, where practicable. However, the likelihood of this form of grazing occurring is dependent upon farm economics but also on the availability of graziers in the area. It would be helpful for the applicant to provide some firm evidence that this is a plausible proposal going forward.

15.28 Land drainage is a key factor in assessing both land classification and the impact on land restoration. This is particularly important along any cable or grid connection route, where trenches are dug, or even where soils are stripped even temporarily, where there is the possibility that important below-ground land drainage infrastructure could be adversely impacted, having a significant effect on agricultural operations.

15.29 A Framework SMP has been provided by the applicant, stated to minimise the effects of the development on soils and land quality. The SMP identifies soil types across the site and any sensitivities to being worked in wet weather. The SMP will provide guidance on the handling of soils and the trafficking across soils for all part of the construction and operational works and guidance to cover the decommissioning phase. Soil structure can be significantly damaged during the construction phase, particularly where there is a high degree of trafficking by vehicles across land involved in the erection of panels and associated infrastructure. If soils are wet, the damage to soil structure can be significant, which may also impact land drainage. The SMP therefore needs to address these issues to prevent soil structural damage or any adverse interference with existing land drainage systems.

15.30 Notwithstanding the Council's concerns with regards to the loss of BMV, the reference to having site-specific SMPs for each phase of the development, overseen by a suitably qualified and experienced soil scientist or practitioner supervising the works, is welcomed.

15.31 Whilst there is some evidence that organic matter can build up in soils that are uncropped / used for biodiversity at a faster rate than arable farmland, which may

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

[10] Total Income from Farming in the Regions - GOV.UK

benefit the land, this is not generally a factor in the assessment of ALC. If enhanced soil health is to be given weight in the planning process there needs to be some indication of longevity and/or permanence of the benefits beyond the life of the project, otherwise the soil health benefits can only be considered temporary, attracting little weight in the planning balance.

15.32 In summary, should the development go ahead, there would be a significant loss of BMV land, with consequential negative impacts on economic and other benefits. In light of other solar projects either consented or awaiting decision/submission in the wider District and County, there are likely to be significant cumulative adverse effects arising. The Council considers that the impact of the development on BMV is contrary to national policies NPS EN-1 and EN-3 and Local Plan policies S67 of the CLLP.

15.33 On this basis, the Council concludes that the proposal would have a **negative** impact on soils and agricultural land.

16. Socio-economics

16.1 **Key Policies:**

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

16.2 NPS EN-1 section 5.12 deals with the socio-economic effects of major energy infrastructure and requires applications to include an assessment of relevant impacts including:

- The creation of jobs and training opportunities.
- The provision of additional local services and improvements to local infrastructure, including the provision of educational and visitor facilities;
- Effects on tourism.
- The impact of a changing influx of workers during the different construction, operation, and decommissioning phases of the energy infrastructure.
- Cumulative effects.

16.3 NPS EN-1 makes reference to a list of potential impacts to consider which mirror those set out above, with an additional reference to the contribution to low carbon industries. It also refers to the need for the SoS to require the approval of an employment and skills plan.

16.4 ES Chapter 12 – Socio-economics and Land-Use [AS-016] provides an assessment of the likely significant effects of the proposed development on socio-economics throughout the scheme's lifetime.

Employment and Skills

16.5 As the scheme progresses and should it be successful in its DCO application, efforts to maximise local employment should be taken. The Council recommends ongoing dialogue with local skills providers, both public and voluntary sector providers. These may include Lincoln College, The Abbey Access Centre, and LCC Employment and Skills team. These organisations will be able to support with insight into the current and potential labour market and identify where gaps in skill provision may require attention.

16.6 The Applicant should consider an approach that prepares the local labour market for the forthcoming opportunities. This could include:

- Local provider engagement at an early opportunity.
- Sector development support, to allow local supply chain to prepare existing workforce, and build and encourage opportunities to grow the workforce.
- Bespoke activity that encourages our evidenced 'hard to reach' and opportunity potential workforce (over 50's, retired military etc) to access new skills and jobs.
- Raising aspirations within the local communities: Evidence shows that low aspirations in the communities is a key blocker to accessing employment. Such an intense, high-profile project can help raise aspirations in local communities by supporting local incentives and schemes. This will support the project by unblocking barriers to local people accessing employment. This will need to be funded activity by the developer.

16.7 The application documents include a Framework, Employment, Skills and Supply Chain plan [APP-197]. The Council welcomes the inclusion of this framework plan and is supportive of the proposed activities, development of skills, access to employment and supporting the supply chain, detailed with section 3 of APP-197.

16.8 The Council welcomes the inclusion of a DCO requirement to secure the Framework Skills, Supply Chain and Employment Plan (FSSCEP). In addition the Council would recommend that an annual funding contribution of £50,000 is provided for the lifetime of the development to assist the implementation of the FSSCEP and support the initiatives identified. In Lincolnshire a similar contribution has been provided by way of a s106 agreement in relation to the Heckington Fen solar farm and has been agreed, in principle, as part of the Springwell solar farm examination.

Temporary Workforce

16.9 330 peak workers are expected to require accommodation near to the proposed development during construction. While the impact on tourist accommodation is

considered, there appears to be no consideration of impacts from the 'influx of workers' as referenced within NPS EN1 paragraph 5.13.4. Thus, the applicant ignores change to 'local population dynamics', 'demand for services and facilities in the settlements nearest to the construction work', and 'social cohesion'. Although there appears to be no consideration of travel arrangements and need for accommodation in decommissioning, there is expected to be the same number of jobs (table 12-23 and 12-28) as in construction so there is similar potential for an influx of workers and related impacts.

16.10 When looking at cumulative effects, 25 schemes have been scoped in, however 12.10.8 states that '*The scale of the construction employment generated cannot be readily quantified as this information is for most schemes not publicly available.*' From experience, information on indicative number of construction jobs is normally included in NSIP applications. The Council would ask the applicant revisit this statement an provide an indicative figure. Due to the large number of cumulative schemes proposed, it would be useful if the cumulative impacts are comprehensively considered, and, if necessary, supported by accommodation strategies.

16.11 Chapter 12 [AS-016] focuses on local amenities, hospitality and accommodation itself and appears to ignore the potential negative socio-economic effects that could arise including:

- Demographic changes and potentially community cohesion, which could be significant depending on workforce age, gender and location of temporary accommodation;

- Impact on local housing markets including availability and affordability, particularly if the workforce is located within nearby smaller settlements;

- Social services and infrastructure, most importantly healthcare and potentially education depending on age, gender and location of temporary accommodation;

- Public health and safety, depending on age, gender and location of temporary accommodation, with potential for anti-social behaviour.

Visitor Economy and Economic Impact

16.12 Lincolnshire County Council's Energy Infrastructure Position Statement asserts that Lincolnshire's landscape and open skies are recognised as significant economic drivers, supporting the visitor economy and the role of the RAF in the County—these must be protected for future generations to enjoy and use. The Council raises concern surrounding the visual degradation of the countryside and the consequent impact on the visitor economy which is worth £2.9bn to Lincolnshire. Visitors come to Lincolnshire for its rurality and unspoilt countryside, our landscape, visitor economy attractions and places of interest. Villages to the

east of the application site are situated on the ridge of Jurassic limestone on the Lincoln Cliff Edge overlooking the application site.

16.13 Within these villages there are visitor attractions such as Mrs Smith's Cottage in Navenby. These attractions are continually frequented by school parties, residents, foreign visitors, UK visitors, aviation heritage, historians, cyclists and others. There is also the Knight Templar circular route which encompasses the Temple Bruer Knight Templar Preceptory Tower in Temple Brewer, RAF Wellingore historical site, the roman settlement remains on Ermine Street Navenby and bustling villages consisting of thriving businesses: traditional bakers, tearooms, cafes, florist, public houses, schools, doctors, community venues and others.

16.14 These villages warmly welcome visitors and enhance their stay. Walkers will still seek to use the PRoW network and do so via the Viking Way (along the Cliff) to explore these beautiful villages. The development of a solar project close to these village and residents' houses will potentially adversely impact on the visitor economy offer and the economic returns of the vibrant high streets.

16.15 Overall, the proposals are an industrialisation of the countryside and will potentially negatively affect the visitor offer and economic vibrancy and change the visual impact/beauty of these villages.

Visitor Attractions and Recreational Facilities

16.16 Paragraph 12.5.41 of AS-016 states that there are no recreational facilities or visitor attractions within the DCO site, however, table 12.21 shows Tunman Wood Nature Reserve as being 0m from the DCO. The Council would expect this site to be considered further.

16.17 The Council does not consider the list of attractions, recreational facilities and community facilities provided to be comprehensive. Witham St Hughes Primary school should be included, and consideration should be given to including the Market Lounge. Also, in Swinderby, the Plough Pub and the Village Hall should be included.

16.18 At paragraph 12.7.61 of AS-016 there is no mention of the small caravan/holiday park developments in the area. While these may not be within the DCO site, some are very close and are likely to be impacted, with the potential for a reduction in bookings.

Agriculture

16.19 The economic impact on agricultural production is not considered in ES Chapter 12 [AS-016], with the only agricultural impact assessed being the impact on employment. As noted in this LIR, Section 15, the cumulative loss of agricultural land has the potential loss of crop output could be in the region of £50million and

the associated impact on agricultural suppliers and the downstream food supply chain. Further detail is provided in Section 15 above.

Cumulative Impacts

16.20 There is a list of planning applications that intersect the DCO site boundary provided at paragraph 12.5.43 of AS-016. The Applicant's assertion (paragraph 12.10.18) that effects on residential properties, businesses, and community facilities are 'not significant' lacks any specific reference or data. This information may be covered in other chapters of the ES that address traffic, noise, and visual impact; however, it does not appear to be referenced in this chapter, and certainly not in this paragraph. The assertion also relies heavily on the assumption that cumulative schemes will 'minimise such impacts wherever possible'. The applicant admits there is 'limited information' on cumulative impacts but still concludes they are 'likely to remain not significant' – this is inconsistent, and the uncertainty should be acknowledged.

16.21 The cumulative impact (or potential of) on accommodation demand if any other NSIP construction is taking place at the same time does not appear to have been considered at section 12.7 of AS-016 or in Chapter 15 (Cumulative Effects). Looking at the figures provided regarding bed spaces, should there be any overlap of construction phases, there is likely to be a shortage of bedspaces.

16.22 There are currently over 25 NSIPs within the Lincolnshire County Council's administrative boundary either under consideration or recently consented. This is in addition to numerous TCPA applications in Lincolnshire for major energy infrastructure projects. The effects of this potentially significant industrialisation and its local environmental, landscape, historic, and community impacts, must be carefully assessed. The impact on the county's perception by visitors and tourists as well as residents and businesses is material to the Government's decision and must be considered.

16.23 On balance therefore, the Council considers the impacts associated with matters on socio-economic impact to be **negative**.

17. Public Health

17.1 Regulation 5(2)(a) of The Infrastructure Planning (EIA) Regulations (2017) states that the EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on population and human health. Schedule 4 of the EIA Regulations sets out information for inclusion in ES, with paragraph 5 requiring a description of the likely significant effects on the environment resulting from *inter alia* …(d) risks to human health, cultural heritage or the environment (for example due to accidents or disasters).

17.2 In section 4 (Assessment Principles) of NPS EN-1, in consideration of weighing impacts and benefits, paragraph 4.1.7 states that where the Secretary of State considers that there would still be residual adverse effects after the implementation of mitigation measures, they should be weighed against the benefits of the proposed development. For projects which qualify as CNP infrastructure, it is likely that the need case will outweigh the residual effects in all but the most exceptional cases. This presumption, however, does not apply to residual impacts which present an unacceptable risk to, or interference with, human health and public safety, defence, irreplaceable habitats or unacceptable risk to the achievement of net zero. This approach is repeated at paragraph 4.2.15, in describing the approach to be taken for non-Habitat Regulations Assessment (HRA) residual impacts of CNP infrastructure.

17.3 Paragraph 4.2.16 goes on to state that '*As a result, the SoS will take as the starting point for decision-making that such infrastructure is to be treated as if it has met any tests which are set out within the NPS's or any other planning policy, which requires a clear outweighing of harm, exceptionality, or very special circumstances*.

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

17.5 **Local Policies:**

- CLLP Policy S54: Health and Wellbeing.

17.6 Policy S54 states that the potential for achieving positive mental and physical health outcomes will be taken into account when considering all development proposals. Where any potential adverse impacts are identified, the applicant will be expected to demonstrate how these will be addressed and mitigated. Enhancement of physical and mental health and wellbeing is to be achieved through a number of routes, one of which is to ensure quality green infrastructure provides adequate access to nature for its benefits in overcoming health inequalities. The provision of a Health Impact Assessment (HIA) for development of 5 ha or above is required to demonstrate how the conclusions of the HIA have been taken into account in the design of the scheme.

17.6 The information on public health and wellbeing contained in the application has been reviewed by the Council's Public Health Programme (PHP). Notwithstanding that Human Health was scoped out of the ES, the PHP consider it regrettable that there is no human health chapter, health impact assessment or specific section in the ES, which makes assessing the impact of the development on the population difficult. Indeed, the Non-Technical Summary [APP-180] barely mentions health or wellbeing. Based on the extremely limited information around the health and wellbeing impacts on the local population during the operational phase of the

development in the application, mental health in particular, and given large number of relevant representations (available to view on the PINS website) to the scheme, it is considered that the development could have an overall **negative** impact on population health from a public health perspective.

17.7 This is mainly due to the scale of the development and the detrimental impact on landscape and character so close to several built-up areas. The Principal Site covers a large area (1,070ha) with fields of Solar PV arrays distributed over the site plus a 10 km cable corridor route to the proposed substation at Navenby. Some Solar PV arrays and surrounding fencing seem unnecessarily close to the built-up areas of Bassingham, Thorpe on the Hill, and Witham St Hughs and will have a significant impact on the landscape and visuals, and so potentially long-term mental health. Public Health would like the ExA to require the Developer to produce a mental health impact assessment for the potential impacts to be properly considered.

17.8 In addition, the UK Health Security Agency (UKHSA) wrote to NKDC in October 2025 to raise safety concerns over a separate BESS proposed in this area[11]. This was reported in the media and has the potential to increase anxiety. Residents might also perceive there to be health risks from the cumulative effects of extremely low frequency Electromagnetic Fields (EMFs) (as referenced in the UKHSA letter) from this development, other similar developments, and the associated electricity generation and transmission infrastructure. We note the assessment of Electromagnetic Fields (EMFs) [APP-175] and conclusion that there would be no significant impact, with levels below those recommended by the International Commission on the Non-Ionizing Radiation Protection (ICNIRP). The assessment does not appear to have included battery storage, however; the extent to which these emit ionizing EMFs is not known.

17.9 Other potential health impacts from battery storage, such as fire risk, must also be considered and mitigated with control, containment, and extinguishing provision to the satisfaction of Lincolnshire Fire and Rescue. Cumulative impacts (ES Chapter 15, [APP-040]) do not appear to have covered EMFs from other electricity generation, transmission, or storage infrastructure in the area, including where the cable feeds into the substation at Navenby.

17.10 However, if the DCO is granted and the development goes ahead on any scale, the community gain resulting from the development to mitigate against negative impacts must be increased. Improvements to the PRoW network and proposed permissive paths are welcome. However, further mitigation should also be considered, such as developing community gardens and orchards, public open space generally, play provision, improvements to local community assets, and a community fund administered locally. Fuel-poor residents (low-income households living in low energy efficiency homes) should ideally benefit directly from renewable electricity production on their doorstep through either energy

[11] UKHSA comments to NKDC 25_0491_FUL-UKHSA_COMMENTS-2445093.pdf

related improvements to their home (e.g., air source heat pump heating and hot water and solar photovoltaics on roofs) or electricity cost subsidies.

18. Minerals and Waste

Minerals

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

18.2 The NPPF paragraph 222 emphasises the importance of a sufficient supply of minerals to provide infrastructure, building, energy and goods that the country needs. It goes on to say at paragraph 223 (c) that planning policies should safeguard mineral resources by defining Mineral Safeguarding Areas (MSAs) and Mineral Consultation Areas (MCAs); and adopt appropriate policies so that known locations of specific minerals resources of local and national importance are not sterilised by non-mineral development where this should be avoided (whilst not creating a presumption that the resources defined will be worked). Part (d) of the same paragraph refers to policies also being designed to encourage the prior extraction of minerals, where practical and environmentally feasible, if it is necessary for non-mineral development to take place. Further policy on safeguarding existing, planned and potential sites for mineral processing, manufacture and distribution facilities in paragraph 223 (part (e)). Paragraph 225 states that local planning authorities should not normally permit other development proposals in Mineral Safeguarding Areas if it might constrain potential future use for mineral working.

18.3 **Local Policies:**

- LMWLP Policy M11: Safeguarding of Mineral Resources
- LMWLP Policy M12: Safeguarding of Existing Mineral Sites and Associated Minerals Infrastructure
- LMWLP Policy 8 (Safeguarding Waste Management Sites)

18.4 LMWLP Policy M11 (Safeguarding of Mineral Resources) requires proposals for development within a mineral safeguarding area (MSA) to be accompanied by a Minerals Assessment and will only be granted where it can be demonstrated that it would not sterilise a mineral resource.

18.5 Where this is not the case then proposals will be granted planning permission only where they can demonstrate compliance with one or more of a range of criteria. These include:

(i) demonstrating to the Mineral Planning Authority that prior extraction would be impractical and that the development could not be reasonably sited elsewhere; or

(ii) where the incompatible development is of a temporary nature and can be completed and the site restored to a condition that does not inhibit future extraction; or

(iii) if there is an overriding need for the development to meet local economic needs and the development could not be reasonably sited elsewhere; or

(iv) the development is of a minor nature with negligible impact with respect to sterilising the mineral resource; or

(v) the development is, or forms part of, an allocation in the Development Plan.

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

18.7 In the same vein, LMWLP Policy 8 (Safeguarding Waste Management Sites) seeks to safeguard existing and allocated waste management facilities from redevelopment to a non-waste use and/or the encroachment of incompatible development unless alternative provision in the vicinity can be made in accordance with the Development Plan or it can be demonstrated that there is no longer a need for a waste facility at that location.

18.8 The Applicant has provided a Minerals Safeguarding Assessment at Appendix 12-C of the ES [APP-162], which highlights that the proposed site intersects with parts of the MSAs identified in the Lincolnshire Minerals and Waste Local Plan (LMWLP) for sand and gravel (particularly along the western fringes of the development between Norton Disney and Swinderby, and within the central section of the proposed DCO Order limits north-east of Bassingham) and for limestone (coinciding with the eastern part of the cable corridor). A number of specific existing and allocated sites lie in close proximity to the boundary of the proposed DCO, namely Swinderby Quarry to the west, Whisby Quarry to the north and Norton Bottoms Quarry to the south-west. Harmston Heath Quarry lies approximately 2 km to the north of the cable corridor route. No existing or allocated sites lie within the site boundary.

18.9 In justifying the approach to sterilisation within the MSAs, the Applicant relies on the development being of a temporary, albeit long term, reversible nature, enabling the land to be returned to its original use at the end of the development. When assessed against the criteria in LMWLP Policy M11 (Safeguarding of Mineral Resources) referenced above, the applicant expands on this at paragraph 5.4.5 of

the Mineral Safeguarding Assessment [APP-162] explaining that under Policy M11 criteria (i) the prior extraction would be impractical and incompatible with the urgent need to establish the development, which is deemed critical national priority. Based on the site selection process, the applicant considers that the development cannot be reasonably sited elsewhere. The Council's concerns over the site selection process have been articulated in section 7 of this LIR, which calls into question compliance with this specific part of the MSA policy.

18.10 Additionally, there is reference to borehole information that indicates that the presence of economically viable deposits of sand and gravel within the site boundary is considered negligible to limited, but this statement is based on only a select number of boreholes at relatively low density. Combined with natural geological variability, the Council questions whether sufficient evidence exists to arrive at this conclusion, especially bearing in mind that in certain instances there are economically viable deposits being worked in close proximity to the site boundary, e.g. Swinderby Quarry, and nearby borehole SK86SE60 which indicates a deposit of 6.75m, falling within the suggested range 6.5m - 9.0m for viable depths quoted in paragraph 3.4.2 of the MSA [APP-162].

18.11 Reference is also made to the 'temporary' nature of the development and that the land can be restored to its original use at the end of the development. The applicant refers to the level of permitted reserves within the county stating that evidence from the Local Aggregates Assessment (LAA) shows that there are sufficient reserves to last beyond the current plan period in the LMWLP period (2031).

18.12 However, the Council remains concerned that the proposed 60-year lifespan of the development (to 2091, assuming a 2031 start – see paragraph 4.2.1 of Planning Statement [AS-098]) goes well beyond the timeline covered by the LMWLP (2031), or its successor (since the Plan is being reviewed), with a new plan period extending to 2041. It is therefore difficult for the Council (or indeed the Applicant) to confirm whether any of the mineral resources that sit within the confines of the current MSA areas might be required to come forward well in advance of the site being decommissioned, thereby potentially presenting a conflict with the premise of mineral safeguarding policy in Lincolnshire. Should the development proceed, the scope of promotion of new sites to enable the County to fulfil its function as a Mineral Planning Authority in ensuring there is a sufficient landbank of mineral reserves (minimum 7 years for sand and gravel) will be curtailed.

18.13 The applicant's assessment also suggests that the connection cables have the option of either being removed or remaining in situ at the end of the development (paragraph 5.4.5(b). If they were to remain in situ, then this may inhibit future extraction. Provision should be made through the decommissioning programme to secure the removal of cables to enable the former use to be reinstated without hindrance.

18.14 In consideration of the policies concerning minerals and waste safeguarding and uncertainty over how the development could impact the availability of future sites from within the Mineral Safeguarding Area contributing to the county's function in maintaining a minimum landbank of permitted reserves, the Council considers that the overall impact of the development will be **negative**.

Waste

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

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

18.17 **Local Policies:**

- CLLP Policy S53: Design and Amenity
- LMWLP Policy W1: Future requirements for waste facilities

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

18.19 Policy W1 of the LMWLP states that the County will, through the Site Locations document, identify locations for a range of new or extended waste management facilities within Lincolnshire to meet predicted capacity gaps.

18.20 The Council have reviewed the application in terms of waste matters and, whilst waste was scoped out of the ES as a separate chapter, the applicant has referenced the topic in various documents.

18.21 Overall, the Council welcomes the various references to waste matters including the waste hierarchy and proximity principle. The waste impacts have been assessed on the assumption of landfilling. Whilst this is in line with standard methodology, the applicant should make every effort to follow the waste hierarchy for all waste streams.

18.22 We note that forecasts for waste arisings are either incomplete or absent from the current suite of documents. These will need to be provided for each phase of the project, including details of quantity and proposed fate for each waste type, and should be accompanied by a clear statement of the assumptions used in each calculation.

18.23 In respect of LMWLP Policy W1, the Council is required to make provision for sites to meet future predicted capacity gaps for waste arisings. Currently there are no waste facilities locally to process discarded solar infrastructure as it is replaced during the lifetime of the development and at decommissioning stage. We remain concerned over lack of capacity to process this waste stream, particularly the quantity of PV panels arising cumulatively alongside other similar projects proposed nearby. This applies not only at decommissioning but also for PV panels which fail, or are routinely replaced, during construction and operation phases. Specific comments related to each phase of the development are provided below:

18.24 **Construction Phase**

- The forecasts (ES Chapter 14 [APP-039], Table 14-24) for waste arisings have failed to take account of PV panels and other WEEE damaged during this phase.

- Framework CEMP [APP-189] – As per paragraph 2.8.2, we await the production of a Site Waste Management Plan (SWMP) for our review, including waste arisings estimates. The SWMP, including arisings estimates, will need to be updated and followed for each phase of the project.

18.25 **Operational Phase**

- We note the references in the ES Chapter 14 [APP-039] to "*component replacement waste*"(paragraph 14.5.84) but have concerns in terms of:

  (i) PV panel failures – the 0.05% per year failure rate seems low, compared to other solar farm estimates which the Council have received, which suggest an annual failure rate of around 0.5%. The figure presented therefore needs to be justified.

  (ii) Equipment replacement programme – the applicant anticipates one full replacement programme of PV panels, but this may be insufficient given the proposed 60-year project lifespan, when we are aware that similar projects with a 40-year lifespan are also suggesting they will undertake a

single replacement. We ask that the applicant clarifies their assumptions on the operational lifespan of panels, and do likewise in terms of other equipment such as BESS batteries.

- Framework OEMP [APP-190] – we are concerned that this fails to provide forecasts for waste arisings or a commitment to do so in an updated version of the SWMP.

18.26 **Decommissioning Phase**

- Framework DEMP [APP-191] – We are concerned that this fails to provide forecasts for waste arisings or a commitment to do so in an updated version of the SWMP.

18.27 In terms of the draft DCO [APP-16], we welcome the commitments to provide and consult Lincolnshire County Council on a CEMP (Req.12), OEMP (Req.13) and DEMP (Req.20). However, we note that there is no reference in these Requirements to providing waste arisings forecasts, either directly or via a SWMP. As a bare minimum, there should be a commitment to provide an SWMP and to update it for each phase of the project.

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

18.29 The Council, in its role as Waste Planning Authority, has a statutory duty to prepare a Waste Local Plan that ensures sustainable waste management within its jurisdiction. The Council must assess the existing and future generation of waste arisings over the plan period, and produce a comprehensive, long-term plan to identify sufficient opportunities to meet the identified waste management needs of the area, aiming to drive waste management up the waste hierarchy.

18.30 This involves setting strategic policies, engaging with stakeholders and the public, identifying sites and facilities where a need is identified, and aligning with national planning policy. The plan must also safeguard existing waste facilities, promote waste reduction and recycling, and support the transition to a circular economy. This process relies heavily on having a complete set of data on the likely waste streams, which we currently do not have for potential future solar waste. Whilst it may be possible for sites to be identified in the plan, it would then still fall to the market to deliver the facilities.

18.31 Notwithstanding the need to assess the quantity of PV panels which may need to be recycled, as described above, the applicant's documentation throughout should

reflect an intention to seek to minimise waste and reuse/repair as far as possible in accordance with the Waste Hierarchy.

18.32 On the basis of the above commentary, and until such time as the applicant can provide further information regarding waste arisings, connected with clarification on expected failure rates and reference to cumulative impacts, the Council consider that the development would have a **negative** impact in terms of waste. The Council would be happy to engage further with the Applicant regarding these matters, including through the SoCG.

19. Cumulative Effects

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

19.2 NPS EN-1 in section 4 (Assessment Principles), paragraph 4.1.5 states "In considering any proposed development, in particular when weighing its adverse impacts against its benefits, the SoS 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."

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

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

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

(ii) The impacts are acceptable on aviation and defence navigation system/communications; and

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

19.5 The Applicant's assessment of cumulative effects is set out within Chapter 15 of the ES [APP-040]. It addresses the potential for cumulative effects, occurring when there is potential for a number of developments that are either reasonably foreseeable or recently consented but not yet forming part of the baseline environment to lead to significant cumulative environmental effects on a shared receptor, and effect interactions, wherein a single receptor is affected by more than one impact associated with the proposed development.

19.6 Methodology for interaction and accumulation and cumulative effects with other development is set out with ES Chapter 15 [APP-030] EIA Methodology. In considering inter-project cumulative effects, the ES considered both a long-list and a short-list of projects. ES figure 15-2, Long List of Cumulative Developments [APP-115] and ES Figure 15-3, Short List of Cumulative Development [APP-116].

19.7 The short list of cumulative developments identified within figure 13-3 [APP-116] includes very few NSIP scale proposals (Great North Road Solar Park, Springwell Solar Farm, Leoda Solar Farm and One Earth Solar). The Council considers it would be beneficial to include an inter-relationship report within the application documentation which considers all solar and other NSIP developments within Lincolnshire to highlight the full impact of the influx of NSIP developments within Lincolnshire. An example of this was produced for the Springwell solar project examination which has specific relevance here because of commonality of connection point.

19.8 The nature and scale of current and emerging proposals relating to large scale solar developments and other NSIP scale developments in Lincolnshire is significant. At the time of writing this report 6 NSIP scale solar schemes have been granted a DCO in Lincolnshire and a further 7 schemes (including Fosse Green) are either progressing through examination or are at pre application stage. In addition the County is host to a further 10 NSIP proposals including five Great Grid Upgrade proposals and a new Lincolnshire reservoir and other new NSIP proposals are currently emerging and these figures are expected to increase during 2026. The cumulative effects of the Fosse Green Energy Park, in combination with other major infrastructure developments identified, could be considerable. These impacts, in particular impacts on landscape character and visual amenity, ecology, heritage, waste management (from construction, operational and decommissioning activities), socio-economic factors, and the permanent loss of BMV agricultural land have been considered in greater detail within the relevant topic-specific chapters above.

19.9 The Cumulative Development NSIP Map provided in ES Figure 15-4 Solar Nationally Significant Infrastructure Projects in Relation to the Proposed Development does not provide a true depiction of the extent and location of NSIPs, the scale and number of linear transmission schemes such as Eastern Green Links 3 and 4, and Grimsby to Walpole National Grid Schemes are not included. All non-solar NSIPs have been omitted from this map as have Meridian

Solar Project and Kilnside Solar Project, as its cable route is located within the Councils administrative boundaries.

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

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

19.12 Based on currently available data, the Council estimates that, should all solar NSIPs and Town and Country Planning Act (TCPA) schemes in Lincolnshire be consented, the cumulative number of solar panels potentially requiring recycling or disposal at the point of decommissioning could be in the region of 15 million units. While the Council acknowledges that decommissioning is a long-term consideration, we are increasingly concerned about the ongoing annual failure rates of solar panels across these schemes. Even a modest failure rate of 0.2% would result in approximately circa 31,000 panels requiring replacement each year. It is important to note that some schemes are reporting higher annual failure rates, which could significantly increase this figure.

19.13 The Council notes the comment within table 15-6, ZoI extents for assessment of cumulative effects which states 'A ZoI for materials and waste is not set in the cumulative assessment since a detailed cumulative assessment is not conducted for all materials and waste' [APP-040]. Paragraph 14.5.116 [APP-039] states that the cumulative assessment focuses on decommissioning waste, the Council suggests consideration should also be given to cumulative annual failure rates and the associated waste arisings. Table 14-26 identifies the solar PV developments to be decommissioned within a 5 year window of Fosse Green, as above consideration should also be given to annual failure rates of all solar developments which are operational simultaneously.

19.14 In light of the Council's concerns regarding the provision of recycling facilities in the shorter term given the potential annual cumulative impact of panel failures from solar farms across Lincolnshire, the Council welcomes the ExA's proposed schedule of changes for the Springwell DCO which included a requirement to limit

the number of solar panels replaced over the lifetime of the authorised development to 5%, with the percentage figure provided annually to the relevant planning authority. The Council would recommend a similar requirement is included in the DCO for Fosse Green. The Council consider this to be necessary in order to ensure the parameters as set out in the ES are not exceeded.

19.15 Altogether, Lincolnshire is a host authority to 23 NSIPs which are at various stages in the application process and more are anticipated to commence early engagement in 2026. The Council is concerned about the effects of this potentially significant industrialisation on its local landscape, public access, agriculture, historic and natural environment, and community. The impact on the perception of the county by visitors and tourists as well as residents and businesses is also material to the local economy. The Council is concerned that the socio economic impacts of this development in combination with other NSIPs have not been meaningfully or fully considered.

19.16 The Council is particularly concerned about the cumulative impact of large scale solar development, on agricultural land. The cumulative loss of all agricultural land for arable production when combined with other projects across the District and County, is considered to be potentially cumulatively significant in terms of food production and security and the residual socio-economic impact of this loss. A recent report, UK Food Security – Outlook to 2050[12], published by the think-tank Science for Sustainable Agriculture echoes these concerns and warns that up to 23% of the country's farmland could be lost to competing land-use demands by mid-century, including from solar energy and dramatically reducing the nation's ability to feed itself.

19.17 The Council would also highlight that cumulative amenity impacts could occur on local communities from consecutive construction periods, not only those that overlap. The Council would draw specific attention to the North Hykeham Relief Road for which planning permission exists. Its connection to the A46 is in close proximity to the proposed Order Limits. North Hykeham Relief Road construction period followed by the construction of the proposed energy park would cause disruption to some local communities for many consecutive years between 2027 to 2033.

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

---

12 https://www.scienceforsustainableagriculture.com/_files/ugd/f77b24_768efc488c9e441aa763bb088575230a.pdf

20. Fire Safety

20.1 Regulation 5(4) of the EIA Regulations requires that significant effects be identified, described and assessed arising from the vulnerability of the proposed development to major accidents or disasters that are relevant to the development in question. A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters must be included in ES (Schedule 4 (8)).

20.2 EN1, EN-2 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.

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

20.4 **Local policies:**

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

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

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

20.7 There is the potential for negative effects to arise as a result of fire safety risk from this development. The potential impacts from major accidents and disasters are considered in Chapter 14 (Other Environmental Topics) of the ES [APP-039]. Table 14-29 (Major Accidents or Disasters Shortlisted for Further Consideration) of Chapter 14 includes reference to fire, with potential receptors identified include local residents, habitats and species. In the comments against this entry, the applicant states that the BESS will include cooling systems designed to regulate temperatures to within safe conditions to minimise the risk of fire. In addition, the layout of the proposed development has been designed in consultation with the local fire and rescue service and is compliant with the National Fire Chiefs Council

(NFCC) guidance. The location of the centralised and distributed BESS areas (depending on which option is chosen) will be located to minimise impacts on offsite receptors and there will be separation distances between components to minimise the chances of a thermal runaway incident and/or fire spread.

20.8 A Framework Battery Safety Management Plan (FBSMP) [APP-198] has also been prepared and submitted as part of the application, which covers the safety measures designed for the BESS and provides assessment against relevant fire safety guidelines. The BSMP describes the two BESS options still being considered by the applicant, either the centralised single BESS compound option or a de-centralised system, involving approximately 328 BESS enclosures distributed throughout the Principal Site. The applicant considers that with the embedded mitigation, significant effects on the risk of fire would be unlikely from the proposed development. The provision of a detailed BSMP is to be secured via a requirement in the DCO, and this commitment is welcomed by the Council.

20.9 In recognition of the emerging technology of BESS and the challenges this poses to Fire and Rescue Services, the National Fire Chiefs Council circulated a letter to all Chief Fire Officers on the 22 August 2023 drawing attention to the review of Renewable and Low Carbon Energy Planning Policy Guidance that was updated in August 2023 by the Department of Levelling Up, Housing and Communities to include reference to BESS[9].

20.10 This planning policy guidance encourages planning authorities to consult with their local Fire and Rescue Service as part of formal planning consultations and directs developers to the UK National Fire Chiefs Council guidance on BESS schemes. From discussion with Lincolnshire Fire Service (LFR) who have developed standing advice for BESS[13] based on national guidance, a program of monitoring and risk assessment has been identified as necessary once the BESS has been established to ensure it complies with the Battery Management Safety Plan and Emergency Response Plan. During the first year of operation this will involve 21 days of work for the Fire Service and then two days in each subsequent year for the lifetime of the development.

20.11 The need for this monitoring and assessment will enable early engagement to ensure the required standards are being complied with; to ensure the BESS is constructed to the correct standards with support from the Fire Service; early development of emergency response plans; familiarisations of the BESS for local fire crews and overview by the Fire Service; development of on-going maintenance and updating risk information; and assurance for local residents and communities that the BESS are being independently inspected and monitored to reduce the risk of a fire. To enable the Fire and Rescue Service to undertake the necessary monitoring and engagement, the Council's Relevant Representation indicated that a financial contribution would be required via a Protective Provision

[13] https://www.lincolnshire.gov.uk/business-fire-safety/bess

within the DCO to make sure it has sufficient resources in place to facilitate this work.

20.12 The Council have received draft wording from the applicant for 'A Protective Provision for Lincolnshire Fire and Rescue' to be included in the draft DCO [APP-007], which would facilitate site inspections, annual reviews and payment of costs to LFR for monitoring of the BESS facility, consistent with other NSIP Solar schemes in Lincolnshire which have been granted consent. The Council has reviewed the draft wording and considers it acceptable in principle. The Council would expect that this wording is included within the next version of the draft DCO.

20.13 With specific reference to the FBSMP, Lincolnshire Fire and Rescue have provided the following comments:

- The current FBSMP at this stage contains generic information, e.g. BESS enclosures, battery technology to be employed, etc. LFR will need to be sighted on specific details as they become available, e.g. spacing distances, safety measures based on battery technology and compliance with specific standards.

- Similarly, the Installation Standards are generic at this point – further details will be required as they become available.

- Further details will be required on the suppression systems to be installed at design phases within the BESS containers.

- Details on site access and accessibility around the site is generic currently, and will require submission of further details as they become available

- The FBSMP is a good framework that mentions all required areas in line with current national standards, e.g. NFCC Guidance/NFPA 855 etc., but as with the above points we encourage ongoing engagement as the design phase progresses and maintain the right to highlight areas that are not compliant with national guidance.

20.14 In summary, the Lincolnshire Fire and Rescue Service remains committed to ongoing engagement throughout the examination process and wishes to have its views considered as specific elements of the fire strategy emerge. Subject to Requirement 7 (Battery Safety Management) and a firm commitment from the applicant that a Protective Provision, to ensure the Fire Service has sufficient resources to conduct regular inspections of the BESS, will be forthcoming and secured in any DCO that may be granted, the development's impact on fire safety and pollution is currently assessed as **neutral**. This view is made without prejudice to any further information that may be forthcoming as the Examination progresses and is subject to all mitigation measures being properly implemented and maintained throughout the project's duration should consent be granted.

21. Other topics

21.1 Under CLLP Policy S14 (Renewable Energy), there is reference to proposals requiring the submission of an End of Life Removal Scheme to address decommissioning. Paragraph 2.10.46 of NPS EN-3 also requires the Secretary of State to ensure that the applicant has put forward outline plans for decommissioning. The Council is concerned that the applicant's Funding Statement does not evidence how decommissioning would be funded or for dealing with long-term shutdowns.

To address this, the Council recommends adding a Requirement to the draft DCO that would ensure funding is in place for decommissioning, both after a long outage and at the end of the project's life. The Council would draw the ExA's attention to two other NSIP projects where this has been considered:

- Helios Renewable Energy Project – The DCO[14] made 3 December 2025 includes provision (Requirement 5(3)) to require the developer to notify the Local Planning Authority that the undertaker has put in place the requisite decommissioning security no later than year 15 of operation.

- Oaklands Farm Solar Park – page 8, paragraph 4.22 of the SOS's decision letter[15] 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 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.

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

22. Draft Development Consent Order (DCO)

[14] https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN010140-001155-DCO%20as%20made%20by%20SoS.pdf

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

22.1 In addition to the comments provided under the relevant topic chapters above, in respect of the draft DCO [APP-007], at this stage the Council wishes to raise the following additional points:

DCO Article/Part/Schedule	LCC Comments	Suggested wording
Part 1: Interpretation and Schedule 2 Requirements	The definition of 'maintain' is considered to be too broad and would potentially allow for wholesale replacement of solar panels. The clause to restrict the removal, reconstruction or replacement the whole of Work No. 1 'at the same time' is noted but this would not appear to prevent this from occurring over the life time of the development. In line with comments made in section 18 of this report a requirement to limit the replacement of panels to the percentages stated in the application documents and an annual reporting requirement would be welcomed. The Relevant Planning Authority to be Lincolnshire County Council, as the waste planning authority.	LCC suggest wording similar to that proposed by the EXA in its proposed changes to the draft Development Consent Order (dDCO) for the Springwell Solar DCO application. The number of solar PV panels replaced over the lifetime of the authorised development shall not exceed XX%. Details of the number of solar PV panels replaced, including an overall percentage figure that includes all previous years, shall be submitted to the relevant planning authority on a yearly basis.
Part 3 (Streets): Articles 8 and 10	As currently written these Articles would give the developer the right to undertake works with no further approvals from the Council. At this stage, the technical details have not been submitted or approved. The Council require highway access works to be delivered via the Section 184 process (or equivalent agreement) which would also for consideration of detailed	As referred to in section 11 above, the Council will expect the need for such further approvals to be included in the DCO application and it has been suggested this could be through the Framework CTMP and the final CTMP to be approved by the Council under requirement 14 of the draft DCO.

	design and allow for the provision of a bond which, if the developer was unable to complete the works, the Council would be able to make the Highway safe.	Wording to this effect should be included in Framework CTMP as suggested in section 11 above.
Part 3 (Streets): Article 12 Temporary prohibition or restriction of use of streets and public rights of way	Section 12(1) Contains general powers to alter or temporarily close any street or PRoW. This power is considered too broad and should be subject to additional limitations. It should only apply to rights of way included in the PRoW Management Plan and be exercised in accordance with the details set out in that plan, which must be agreed with LCC's PROW and Access Team.	LCC would welcome further discussions with the applicant regarding the wording of this article and the PRoW Management Plan.
Part 6 (Miscellaneous and General): Article 39 Felling or lopping trees or removal of hedgerows	This article provides a blanket approval to remove hedgerows and 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. The Council would propose the inclusion of an annual maintenance schedule. Which would be submitted, detailing any tree removals and whether replacements are planned. This aligns with the approach taken for the Springwell and Tillbridge solar schemes, where a replacement schedule was incorporated within the oOEMP.
Part 6 (Miscellaneous and general): Article 40	This article provides a blanket approval to remove trees subject to a TPO made after a specific date (to be defined) without the need	The Arboricultural Impact Assessment Report [APP-155] identifies six TPOs within/adjacent to the development boundary. The report

Trees subject to tree preservation orders	to notify the relevant authority or provide replacement planting. The Council recommends that this article is amended to include better safeguards to protected trees.	also identifies quite a few Grade A trees / groups either within or near the boundary that may over the course lifetime of the site come to be worthy of TPO consideration. The Council would propose the inclusion of an annual maintenance schedule. Which would be submitted, detailing any tree removals and whether replacements are planned. This aligns with the approach taken for the Springwell and Tillbridge solar schemes, where a replacement schedule was incorporated within the oOEMP.
Part 6 (Miscellaneous and General): Article 46 Procedure in relation to certain approvals etc	The proposed eight week timeframe for the determination of any consent or, agreement or approvals is considered to be too short. 10 weeks, which would consistent with the timeframe for discharge of requirements, would be considered more appropriate.	
Schedule 2 (Requirements): Requirement 20	LCC suggest that an additional clause is provided for a) how a period of extended outage would be managed (if not dealt with through the management plans) and b) funding for decommissioning both as a result of an extended period of outage and at the end of the lifespan of the development – see Section 21 above.	
New Requirement Grid Connection	For reason set out in section 8 of this report the Council would wish to see a requirement restricting commencement of the	The Council suggest wording similar to that proposed by the ExA as a proposed amendment to the DCO for the Springwell Solar application as follows:

	development until such time that the Navenby Substation has been granted Planning consent.	No part of the authorised development, including any permitted preliminary works, shall commence until planning permission has been granted for the National Grid Navenby Substation.
Schedule 15 Part 5 Fees	The Council is of the view that the proposed fee structure would not adequately cover the Council's reasonable costs in fulfilling its obligations. It recommends adopting the fee structure used in several recent Lincolnshire NSIPs, which incorporates an increase aligned with the national planning fee rise introduced in April 2025. The most current example of such a structure can be found in the draft Development Consent Order (DCO) for the Springwell Solar Farm, referenced as REP5-004 (Schedule 16). LCC would also wish to see the fee payable for requirements 7, 10, 14, and 15 to be included under (2)(a), where the fee for the first application would be at the higher rate.	5.—(1) Where an application is made to the relevant planning authority for a discharge, a fee is to apply and must be paid to the relevant planning authority for each application. (2) The fee payable for each application under sub-paragraph (1) is as follows— (a) a fee of £2,578 for the first application for the discharge of each of the requirements 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 20; (b) a fee of £588 for each subsequent application for the discharge of each of the requirements listed in paragraph (a) and any application under requirement 4 in respect of the requirements listed in paragraph (a); and (c) a fee of £298 for any application for the discharge of— (i) any other requirements not listed in paragraph (a);

		(ii) any application under requirement 4 in respect of requirements not listed in paragraph (a); and (iii) any approval required by a document referred to by any requirement or a document approved pursuant to any requirement. (3) Any fee paid under this Schedule must be refunded to the undertaker within four weeks of— (a) the application being rejected as invalidly made; or (b) the relevant planning authority failing to determine the application within the decision period as determined under paragraph 2(1) and (as relevant) unless— (i) within that period the undertaker agrees, in writing, that the fee is to be retained by the relevant planning authority and credited in respect of a future application; or (ii) a longer period for determining the application has been agreed pursuant to paragraph 2(1) or of this Schedule (as relevant).
Schedule XX	There is currently no agreed Protective Provision for The Protection of Lincolnshire Fire and Rescue included within the DCO, as referred to in Section 20 above.	The Council have received draft wording for the proposed protective provision from the applicant, which is similar in wording to that referenced below. The Council have reviewed this wording, which, in principle would be acceptable to the Council, the

		Council would expect to see this proposed wording to be included in the next version of the Draft DCO. Heckington Fen approved DCO Schedule 13 Part 9, para 104 to 107 includes appropriate wording. FOR THE PROTECTION OF LINCOLNSHIRE FIRE AND RESCUE Interpretation 104.— (1) For the protection of Lincolnshire Fire and Rescue as referred to in this Part of this Schedule the following provisions have effect, unless otherwise agreed in writing between the undertaker and Lincolnshire Fire and Rescue. (2) In this Part of this Schedule— "Index Linked" means an increase in the sums payable on an annual basis or pro rata per diem in accordance with the most recent published figure for the Consumer Price Index, or during any period when no such index exists the index which replaces it or is the nearest equivalent to it; and "Lincolnshire Fire and Rescue" means Lincolnshire County Council in its capacity as a fire and rescue authority pursuant to section 1(2)(a) of the Fire and Rescue Services Act 2004. Site visits

		105.— (1) The undertaker must, prior to the date of final commissioning of Work No. 2, use reasonable endeavours to facilitate a site familiarisation exercise in connection with Work No. 2 of the authorised development for Lincolnshire Fire and Rescue for the purposes of providing the necessary assurance to Lincolnshire Fire and Rescue that all the required systems and measures are in place in accordance with the battery safety management plan. (2) Following the first anniversary of the date of final commissioning of Work No. 2 of the authorised development, the undertaker must use reasonable endeavours to facilitate an annual review of Work No. 2 by Lincolnshire Fire and Rescue at the reasonable request of Lincolnshire Fire and Rescue, up until the year in which the undertaker commences decommissioning of Work No. 2. Costs 106.— (1) Pursuant to the provisions set out at paragraph 105, the undertaker must pay to Lincolnshire Fire and Rescue— (a) £16,665 in the first year of operation of the authorised development for, or in connection

		with Lincolnshire Fire and Rescue's attendance at the site familiarisation exercise facilitated by the undertaker pursuant to paragraph 105(1), such sum to be paid within 30 days following the date of the site familiarisation exercise; and (b) £1,530 in each subsequent year of operation of the authorised development until the date of decommissioning of Work No. 2, such sums to be paid within 30 days of the date of the annual review for that year, if in that year an annual review has taken place pursuant to paragraph 105(2). (2) The costs payable under this sub-paragraph (1)(b) are to be Index Linked. Arbitration 107. Any difference or dispute arising between the undertaker and Lincolnshire Fire and Rescue under this Part of this Schedule must be determined by arbitration in accordance with article 38 (arbitration).

Appendix i: Landscape and Visual Review of the Development Consent Order (DCO) Application for Fosse Green Energy Park

AAH consultants

LANDSCAPE AND VISUAL REVIEW

OF THE DEVELOPMENT CONSENT ORDER (DCO) APPLICATION

FOR FOSSE GREEN ENERGY

FOR

LINCOLNSHIRE COUNTY COUNCIL

AND

NORTH KESTEVEN DISTRICT COUNCIL

January 2026

Landscape and Visual Review

Quality Assurance – Approval Status

Version	Date	Prepared by	Checked by	Approved by	Version Details
1	28/11/25	[redacted]			Draft Issued for comment
2	19/01/26				Issued for LIR

Landscape and Visual Review

Contents

Appendices:

Appendix A: AAH Consultation documents:

- TM01 Viewpoint Comments 04-04-24
- TM02 Viewpoint Comments 25-09-24
- TM03 PIER Comments 14-11-24
- TM04 Relevant Representation Landscape and Visual Comments 10-11-25

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).*

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**) submission for the Fosse Green Energy (the '**Development'**), submitted to the Planning Inspectorate in July 2025 and accepted for Examination in August 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 Pre-Application stage of the project. Pre-Application comments on Landscape and Visual matters are provided within **Appendix A**.

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 of the Environmental Statement (**ES**), which is based on 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 report will be utilised to inform and guide LCC and NKDC input into further stages of work through the Examination 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 formal questions that may be required through the Examination or at any associated Examination issue specific hearings.

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

considerable 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 submission documents (including sub-appendices) submitted to the Planning Inspectorate, which are available at: https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN010154/documents

The information downloaded and initially reviewed is based on the document: *Fosse Green Energy Examination Library UPDATED – 18 September 2025*. **Please note:** this review is of the information available at the time of writing. Throughout the pre-examination and examination process additional information will 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 has carried out pre-application 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 10.3 and Tables 10-1, 10-2, and 10-3 of the LVIA summarises relevant consultation carried out for landscape and visual matters, and AAH have subsequently issued a Relevant Representation (**RR**) 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. For reference, the AAH RR is included within **Appendix A**, and this information has been utilised to inform this landscape and visual review.

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 is detailed and laid out in a logical manner, the process of assessment is thorough and well explained. It has 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, predominantly disagreements of some of the findings, that we have provided narrative on below, and the DCO Examination provides an opportunity to explore these in more detail.

2.2 The LVIA clearly draws a distinction between **landscape effects** and **visual effects**, with the main chapter focussing on likely **'Significant'** effects. Paragraph 10.4.33 of the LVIA clarifies that *"Major and moderate residual effects (both beneficial and adverse) are considered to be likely significant in EIA terms. Residual effects found to be minor or negligible are considered to be not significant in EIA terms."*. This is acceptable, and provides a clear and transparent threshold to identifying Significant landscape and visual effects.

2.3 Paragraph 1.3.1. of Appendix 10-B clarifies professional judgement of competent experts is applied to assessments throughout the LVIA, including the assessment of significance of effect by combining sensitivity of receptor and magnitude of impact (change). This is promoted within GLVIA3, however it is important that the application of this judgement be explained and transparent throughout.

2.4 The ES presents an assessment of a 'worst case' scenario of the Development, based on design parameters presented in ES *Chapter 3: The Proposed Development*. Section 5.2 goes on to describe the project parameters that the LVIA have assessed, and clarifies in para. 3.2.5 that to *"ensure a robust assessment of the likely significant environmental effects, the Environmental Impact Assessment (EIA) has been undertaken adopting the principles of the 'Rochdale Envelope',"*. The LVIA goes on to clarify in paragraph 10.4.34 that the LVIA *"represents a realistic worst case based on the Rochdale Envelope Approach, as set out in Chapter 3: The Proposed Development".*

2.5 Vegetation removal is described within the LVIA at paragraphs 3.4.47 to 3.4.50 and clearly identified on Figure 3.17. Protection of retained vegetation and trees is set out in Appendix 10-H:Arboricultural Impact Assessment. Paragraph 3.4.50 clarifies that *"No veteran or ancient trees or ancient woodland are to be removed."* and *"No trees subject to Tree Preservation Order (TPO) or within a Conservation Area (CA) are to 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 in the associated LEMP and secured through the DCO as the assessment relies heavily upon it to reduce the residual landscape and visual effects of the Development.

2.6 The LVIA assesses landscape and visual effects at the main phases: **construction; operation** and **decommissioning**, with the operation phase considered with and without landscape

mitigation (year 1 effects and year 15 effects). The main phases of the project are detailed within *Chapter 3*. The LVIA considers the scheme in isolation, and Section 10.10 of the LVIA considers the scheme **cumulatively**.

LVIA Appendices

2.7 The Appendices produced as part of the LVIA provide very detailed and clear 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 10.1.6 of the LVIA, and are referenced throughout the report to support the findings and provide additional information.

LVIA Figures

2.8 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 10.1.5 of the LVIA, and are referenced throughout the report to support and illustrate the findings.

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 10.4 of the LVIA and *Appendix 10-B: Landscape and Visual Impact Assessment Methodology*. Reference is made in section 1.1.4 of *Appendix 10-B* to best practice and industry guidance, including GVLIA3 and reference to *Notes and Clarifications on aspects of GLVIA 3, LI TGN-2024-01, Landscape Institute*. It demonstrates compliance with GVLIA3 by assessing both **landscape effects** and **visual effects** as interrelated but separate components.

3.2 The process and stages of assessment are clearly 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 (described in paragraph 1.1.3 of *Appendix 10-B* as: Peak construction activity in winter, Year

1 of operation, Year 15 of the operation, assuming the proposed planting has established (winter and summer as applicable) and decommissioning).

3.3 The study area selection and establishment are explained in detail within paragraphs 10.4.4 and 10.4.5 of the LVIA. The Study area is illustrated in Figure 10-1. The radius of the study area of 2km from the Order Limits has been defined for the LVIA, which is a reduced area to that initially used. The process and rational of reducing the initial 5km Area of Search to 2km is laid out in paragraph 10.4.5, summarising in paragraph 10.4.7 that it is judged that *"a 2km radius of the DCO Site Boundary was a proportionate and representative geographic area to identify the likely significant landscape and visual effects."*. Paragraph 10.4.8 goes on to clarify that "*Beyond the 2km distance there would not be significant adverse landscape and visual effects due to the intervening distance and vegetation patterns*".

3.4 We have not identified anything on Site that would contradict the statement that there would not be Significant effects beyond 2km, 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 2km.

3.5 The baseline conditions (Section 10.5 of the LVIA) have been determined following a mix of desk and field studies alongside consultation with appropriate consultees. Desk research has included the prevailing policy framework and fieldwork carried out by Chartered landscape architects (as identified in *Table 1: Technical Leads* of *Appendix 1-C: Statement of Competence*).

3.6 The methodology in *Appendix 10-B* is clear, with paragraphs 1.2.12 to 1.2.30 covering landscape effects and paragraphs 1.2.31 to 1.2.51 covering visual effects. Section 1.3 of *Appendix 10-B* clarifies how the level or significance of landscape and visual effects are determined by combining judgements regarding the sensitivity of the receptor and the magnitude of the effect arising from the Development.

3.7 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, should an effect be different to that presented within the tables.

3.8 The assessment methodology has been carried through into the main assessment and used consistently.

3.9 The assumptions made on plant growth rates in Paragraph 10.4.39 bullets d. and e. are generally 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 LEMP, which is covered in further sections of this review.

3.10 We also have concerns regarding hedgerows being maintained at 3m, as outlined in paragraph 10.4.39, bullet e. of the LVIA, as these tall hedgerows are likely to appear out of character with the generally low hedgerows evident in the wider character area (refer paragraph 10.5.75 regarding LCT4a: Unwooded Vales, which is describes the area as having *"low, well maintained hedgerows"*). Effects of mitigation planting is discussed further in section 5.0 of this review.

3.11 Given the stated operational time of 60 years, there is a concern regarding any 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 60 years is comparable to at least two generations, 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 needs to be clarified by the applicant and as to whether the assessment of effects takes this into account.

3.12 We would also recommend that the applicant consider fully that in this 60-year timescale, the panels, inverters, batteries and other associated elements will be replaced. It is stated in the ES within paraph 3.5.1 of Chapter 5 that this would likely include periodic replacement of components, and design life of key equipment is provided in Table 3-11. 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

3.13 The process of modelling Zones of Theoretical Visibility (ZTVs) and subsequent presentation on Figures 10-6 and 10-7 is summarised in paras. 1.2.31 to 1.2.35 of Appendix 10-B. The methodology, execution and presentation on Figures 10-6 and 10-7 is acceptable, with elements modelled to their maximum parameters and provides a useful tool to understand potential visibility across the Study Area.

Visualisation Methodology

3.14 The process of delivering visualisations is presented within paras. 1.2.39 to 1.2.43 of *Appendix 10-B*. This states that they were prepared in accordance with the Landscape Institute *TGN 06/19 Visual Representation of Development Proposals*. Paragraph 1.2.43 of Appendix 10-B clarifies that photomontages have been presented to demonstrate a 'worst case' scenario, which we assume is to the maximum allowed parameter heights, provided within *Chapter 3: The Proposed Development,* as this would provide a 'worst case' visualisation.

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 10.5 of the LVIA, with Figure 10-1 illustrating the Scheme Location, DCO Site Boundary and 2km Study Area. The Principle Site and Cable Corridor covers approximately 1,368ha of predominantly agricultural land.

4.2 The 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 10-C Landscape Baseline*. Paragraphs 10.5.3 to 10.5.15 provide a narrative on the existing landscape baseline of the Site, with paragraphs 10.5.16 to 10.5.54 covering the Study Area. Designations located within the Site and Study area are covered in paragraphs 10.5.55 to 10.5.63.

4.3 The LVIA acknowledges the low lying and relatively flat, agricultural and open character of the Site and Study area.

4.4 Published landscape character assessments are considered from paragraphs 10.5.68 to 10.5.89 and illustrated in Figure 10-4a National Landscape Character Areas, Figure 10-4b East Midlands Regional Landscape Character Areas, and Figure 10-4c North Kesteven Landscape Character Areas), with further detail provided in *in Appendix 10-C Landscape Baseline*. The published character assessments identify that this is a *"low lying area and*

where tree cover is limited", and also identifies views from within the Study area to the Cliff AGLV, and from within the AGLV are important, stating: *"Views both towards the cliff and in particular, views out over the vale from the cliff, are of considerable scale. The views from the cliff present possibly the most important vistas within the district. When travelling from the plateau in the west, the treescape and gently convex ridge obscures the view of the lower vale until emerging from the trees and beyond the crest itself. The view then opens up dramatically to reveal the expanse of the low vale."*

4.5 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.

4.6 As these published character areas are predominantly at a large scale, and as aligned with guidance within GLVIA3, more detailed, or fine grain, assessments have been carried out by the author as part of the LVIA. Subsequently, a Local Landscape Character Areas have been identified, and subsequently assessed. This is summarised within sections 10.5.87 to 10.5.89 of the LVIA. This process resulted in sixteen Local Landscape Character Areas at varying scales that were identified as landscape receptors to assess the effects of the Development. These are illustrated on Figure 10-5 Local Landscape Character Areas.

4.7 The Future baseline from construction to decommissioning in the year 2093 is covered in paragraph 10.5.102. The Development of solar farm projects in the area is not acknowledged to be a factor in the future baseline, with the author judging that the existing baseline would remain as it is presently. We disagree with this position as this is a landscape undergoing extensive change to land-use, predominantly changing from agriculture to one containing large scale solar Development. The LVIA identifies in its short list of cumulative developments four NSIP scale solar developments within the local area (Springwell, Leoda, Great North Road and One Earth) as well as multiple TCPA scale energy projects, as shown on Figure 15-3. Subsequently, we have concerns regarding effects on the regional landscape character and pressures from renewables development at an unprecedented scale. Navenby Substation is currently in the planning process with an application due, likely, in the next year, and if approved would provide connection for three NSIP solar projects, and has the potential to open this area up to additional pressures from connecting to the grid. The mass and scale of these identified and potential 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 likely regional area, will 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 currently 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.

4.8 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 and if the new substation at Navenby is approved, we would assume several additional applications may be forthcoming.

4.9 This baseline process, undertaken by the applicant, resulted in several landscape receptors for the assessment of effects on them by the Development. These are presented in Table 10-9 and include a variety of scales. Table 10-9 goes on to summarise the assessment of Landscape Value, Susceptibility and subsequently Sensitivity of all identified receptors. Further detail of the landscape baseline, and judgements of Landscape Value, Susceptibility and Sensitivity is contained within *Appendix 10-C.*

Landscape Assessment

4.10 The Landscape Assessment is detailed within section 10.7 of the LVIA, which refers to *Appendix 10-E Landscape Assessment* which includes a clear assessment of Value and Susceptibility, and subsequently the Sensitivity of the landscape receptors, which is aligned with the criteria provided within the methodology. The landscape assessment commences with construction effects at paragraph 10.7.2 and Table 10-11, with Year 1 of Operation Landscape Effects at paragraph 10.7.4 and Table 10-12, and Year 15 Operation Landscape Effects at paragraph 10.7.6 and Table 10-13.

4.11 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 are separated for the Principle Site and Cable Corridor, Landscape Effects within Published Landscape Character Areas, and effects on the identified Local Landscape Character areas, which would be both direct and indirect.

4.12 The LVIA identifies Significant landscape effects at the phases of **construction, operation (year 1), 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 significant landscape effects:
    - **Major adverse effects: Significant** for:
        - The Principle Site
        - Cable Corridor
        - LLCA 03: Tunman Hill
        - LLCA 08: Thurlby Fenland
    - **Moderate adverse: Significant** for:
        - Sub-area 2: Terrace Sandlands
        - Sub-area 5: Witham & Brant
        - Vales
        - LLCA 13: Low Fields South
        - LLCA 14: Low Fields North
        - LLCA 15: Lincoln Cliff
- At **Operation (Year 1)** the following receptors were assessed as having the following significant landscape effects:
    - **Major adverse effects: Significant** for:
        - The Principle Site
        - LLCA 03: Tunman Hill
        - LLCA 08: Thurlby Fenland
    - **Moderate adverse: Significant** for:
        - Sub-area 2: Terrace Sandlands
        - Sub-area 5: Witham & Brant Vales
- At **Operation (Year 15)** the following receptors were assessed as having the following significant landscape effects:
    - **Moderate adverse effects: Significant** for:
        - Principle Site
        - LLCA 03: Tunman Hill

- LLCA 08: Thurlby Fenland

4.13 These 'Significant' effects represent direct effects on the landscape of the entirety of the Site. At year 15, the Order Limits (entirety of the 1,368 hectare Site) has been assessed as having a Significant Residual effect even when mitigation planting has established. The local landscape character areas of LLCA 03: Tunman Hill and LLCA 08: Thurlby Fenland have also been judged by the author as having Significant Residual effects, even when mitigation planting has established.

4.14 This accounts for a direct Significant effect on these landscape receptors. This equates to a considerable change to landscape character across an extensive area; introducing a mass of development with industrial characteristics in an open agricultural landscape, affecting the sense of openness, seasonal rhythm of farming practices and rural tranquillity currently experienced.

4.15 However, other landscape character areas that will also have direct effects at all phases have not been judged to have Significant residual effects. This appears inconsistent with the findings of effects to the Principle Site and LLCA 03: Tunman Hill and LLCA 08: Thurlby Fenland, and we would judge that all landscape character areas directly affected by the Development would have residual Significant effects – primarily through a change of land-use.

4.16 The regional LCT 4a: Unwooded Vales, which contains the site has been judged as having Minor Adverse effects at all phases. We are unclear as to why this landscape receptor would experience a reduction in effect over other directly affected landscape receptors. There will still be a direct large-scale change, albeit over a small to medium extent of the character area, however the scheme will replace the open agricultural fields, a key characteristic of this landscape, affecting openness and rural qualities that typify the area. We judge the effects on LCT 4a: Unwooded Vales would be Moderate and Significant at all phases.

4.17 At Construction, Sub-area 6: Lincoln Cliff is judged in the LVIA as having Minor Adverse effects. We are unclear as to why this landscape receptor would experience a reduction in effect over other directly affected landscape receptors from the cable installation, such as LLCA 15: Lincoln Cliff which is judged to have Moderate Adverse and Significant effects. There will still be a direct change, and therefore we judge the effects on Sub-area 6: Lincoln Cliff would be as LLCA 15: Lincoln Cliff and Moderate and Significant at all phases.

4.18 At year 15 Sub-area 2: Terrace Sandlands and Sub-area 5: Witham and Brant Vales have been judged to reduce in effect from Moderate Adverse at operation Year 1, to Minor Adverse at operation year 15. We are unclear as to why these landscape receptors would experience a reduction in effect over other directly affected landscape receptors, such as LLCA 03: Tunman Hill and LLCA 08: Thurlby Fenland which are judged to have Moderate Adverse and Significant effects. There will still be a direct change, and therefore we judge the effects on Sub-area 2: Terrace Sandlands and Sub-area 5: Witham and Brant Vales would be as LLCA 03: Tunman Hill and LLCA 08: Thurlby Fenland and Moderate and Significant at operation year 15.

4.19 Reductions in effects at the operation phase for areas within the cable corridor are expected as all works will be below ground and it is proposed to return all areas to their previous condition. However, this is dependent upon the retention and protection of existing vegetation. Any removals have the potential to adversely effect the landscape character areas.

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 10-5 of the LVIA, and paragraph 10.5.92 describes the process of identifying visual receptors through desk-based review, including analysis of ZTVs and field surveys

5.2 Paragraph 10.5.96 provides a useful summary overview of the visual baseline, and paragraph 10.5.98 identifies the following visual receptors likely to experience views of the construction or operation of the Site: Residents; Recreational users on PROW, Promoted Walking Routes and Cycle Routes; People travelling on roads; and Commercial users.

5.3 Paragraph 10.5.99 goes on to identify focussing on visual receptors and using reference to the thirty-five representative viewpoints to support the narrative. *Table 10-10* identifies visual receptors for the assessment of effects on them by the Development and identifies the associated representative viewpoint.

5.4 *Table 10-10* goes on to summarises an assessment of Visual Value, Susceptibility and subsequently Sensitivity of all identified receptors. Further detail of the visual baseline, and judgements of Visual Value, Susceptibility and Sensitivity is contained within *Appendix 10-D Visual Baseline.*

5.5 The thirty-five representative viewpoints are presented as baseline photographs within *Figure 10-8 Viewpoint Photography.* The baseline follows the LVIA methodology and considers the consultation undertaken at the pre-application stage.

Visualisations/Photomontages

5.6 Viewpoints representative of the visual receptors were identified through consultation. This baseline process resulted in the identification of eleven viewpoints to be developed as Type 3 (photomontages) visualisations and presented in *Figure 10-10 Photomontages*. A methodology for photography and visualisations is provided in *Appendix 10-2: Landscape*, which clarifies that the photomontages have been prepared to *Landscape Institute's TGN 06/19* .

Visual Assessment

5.7 The Visual Assessment is presented within section 10-7 of the LVIA and detailed within *Appendix 10-F Visual Assessment*. The assessment of value and susceptibility, and subsequently the sensitivity of visual receptors is summarised within *Table 10-11* and detailed within *Appendix 10-F*, which is aligned with the criteria provided within the methodology.

5.8 In line with the methodology, the assessment of the visual effects considers the change in view to the identified visual receptors at construction, operation (both years 1 and 15) and decommissioning.

5.9 The LVIA identifies Significant landscape effects at the phases of **construction, operation (year 1), operation (year 15)**, and **decommissioning** phases. The following significant effects upon identified visual receptors are identified in the LVIA:

- At **Construction**:
    - **Major adverse effects: <u>Significant</u>** for:

        - Residents of Church Farm and Low Barn
        - Recreational users of PRoW west of Thorpe on the Hill (TOTH/7/2, TOTH/21/1, TOTH/6/2, TOTH/6/3)
        - Recreational users of Aubo/12/2
        - Recreational users of Aubo/8/1
        - Recreational users of TOTH/11/1
        - Recreational users of TOTH/12/3
        - Recreational users of TOTH/15/1
        - Recreational users of Aubo/10/1

    - **Moderate adverse effects: <u>Significant</u>** for:
        - Residents of Thorpe on the Hill
        - Residents of Scotland Farm
        - Residents of Housham Wood Farm
        - Residents of Eagle Barnsdale
        - Residents of Morton
        - Residents of High Walks Farm
        - Residents of Witham St. Hughs (east)
        - Residents of River Farm (north)
        - Residents of Tonge's Farm
        - Residents of Bassingham
        - Residents of Coleby
        - Residents of Boothby Graffoe
        - Residents of Thurlby
        - Residents of Malborough
        - Residents of North Field Farm
        - Residents of Grange Cottage
        - Recreational users of TOTH/6/1 and TOTH/6A/1
        - Recreational users of TOTH/18/1
        - Recreational users of Viking Way (PRoW Cole/2/1 and BooG/2/2)
        - Recreational users of Bass/1/1, NoDi/1/2, NoDi/4/1, ThuN/5/1
        - Recreational users of ThuN/2/1
        - Recreational users of Bass/22/1, Bass/21/2, Bass/20/1
        - Users of Clay Lane and Bassingham Road

These are typically identified for receptors on the road and PROW network, along with numerous residents 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.

- At **Operation (Year 1)**:

    - **Major adverse effects: <u>Significant</u>** for:
        - Recreational users of PRoW west of Thorpe on the Hill (TOTH/7/2, TOTH/21/1, TOTH/6/2, TOTH/6/3)
        - Recreational users of Aubo/8/1

        - Recreational users of TOTH/12/3

    - **Moderate adverse effects: <u>Significant</u>** for:
        - Residents of Housham Wood Farm
        - Residents of Church Farm and Low Barn
        - Residents of Grange Cottage
        - Recreational users of TOTH/6/1 and TOTH/6A/1
        - Recreational users of Aubo/12/2
        - Recreational users of Bass/1/1, NoDi/1/2, NoDi/4/1, ThuN/5/1
        - Recreational users of ThuN/2/1
        - Recreational users of TOTH/11/1
        - Recreational users of TOTH/15/1
        - Recreational users of Bass/22/1, Bass/21/2, Bass/20/1
        - Recreational users of Aubo/10/1
        - Users of Clay Lane and Bassingham Road

These represent a reduction in receptors experiencing Significant effects, predominantly from the completion of the Cable Corridor works as the proposals are underground and subsequently not visible. Any mitigation planting is yet to establish and is subsequently providing limited or no screening or integration of the Development.

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

    - **Major adverse effects: <u>Significant</u>** for:
        - Recreational users of PRoW west of Thorpe on the Hill (TOTH/7/2, TOTH/21/1, TOTH/6/2, TOTH/6/3) – winter
        - Recreational users of Aubo/8/1 – winter and summer

    - **Moderate adverse effects: <u>Significant</u>** for:
        - Residents of Grange Cottage – winter
        - Recreational users of PRoW west of Thorpe on the Hill (TOTH/7/2, TOTH/21/1, TOTH/6/2, TOTH/6/3) – summer
        - Recreational users of TOTH/11/1 – winter
        - Recreational users of TOTH/12/3 – winter

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 sensitive visual receptors will still experience Significant adverse effects over the remaining 45 years of the development.

5.10 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. These residual Significant effects have been identified as arising from sensitive users on the PROW network, along with residents that are in close proximity to the Development. The reduction in Significant visual effects relies upon the successful establishment of the mitigation planting scheme and a robust LEMP that is carried out for a suitable period of time.

5.11 Several PROW receptors are identified in the LVIA as likely to experience Significant residual visual effects. This is a concern, and indicates that the scale and extent of Development makes impossible to mitigate all visual effects on sensitive receptors. We also have concerns that the mitigation planting itself has the potential to cause adverse visual effects through blocking or foreshortening currently open views, appearing out of character or creating a perception of enclosure in an open landscape. Further detail is provided in the mitigation section below, but the mitigation planting must be well considered at any detail design stage, and not simply put in place to screen views of development.

5.12 Several of the PROW judged to experience significant adverse effects also form parts of the Stepping Out Walks of Thorpe on the Hill, and Morton and Tunman Wood. The Stepping Out Walks are a series of routes on PROW promoted in NKDC, and subsequently have increased recreational value locally. The Bassingham and Villages Circular trail does not appear to be considered in the LVIA, however will pass alongside the southern order limits and close by a considerable section of solar arrays, and subsequently users will have close range and open views of the panels, and we would judge adverse visual effects from the development. The Stepping Out Walks are not identified or acknowledged in the applicants LVIA, however these routes are indirectly covered by the identification of PROW and subsequent visual effects on users of these.

5.13 We also note the Proposed Permissive paths identified on the Layout Plans, however while these provide additional opportunities for alternative walking routes in the area, these appear in close proximity to panels and other above ground development and would query their actual value to users, as receptors traveling along these routes will have continued sequential views of a solar development. So, while clearly an improvement to the extent or length of footpath provision, the inclusion of these will not reduce the adverse visual effects

experienced by users of existing PROW, and would not judge these to have any mitigating effect on the identified landscape and visual effects from the scheme.

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 and visual effects are considered in Section 10.10 of the LVIA, which provides a brief but clear assessment of the cumulative landscape and visual effects associated with the scheme. Chapter 15 provides additional detail, however we have focussed on the information presented within the LVIA.

6.2 The Cumulative Study Area for landscape and visual is identified in paragraph 10.10.1 which clarifies that a 2km zone of influence (ZoI) from the order limits has been considered for cumulative Landscape and Visual matters and schemes considered as part of the cumulative assessment are listed out, which includes several energy schemes. In addition to these, four nearby solar DCO schemes (Springwell Energy Farm, Great North Road Solar, One Earth Solar Farm, and Leoda Solar Farm) are identified but fall outside the 2km ZoI. However these

schemes have been included within the cumulative assessment, which we welcome and feel is an appropriate approach considering the scale and proximity of these developments.

6.3 Paragraph 10.10.3 provides a clear approach to assessing cumulative landscape effects, with paragraph 10.10.4 detailing the approach to cumulative visual effects, clarifying these may be combined in the same view, or sequential where the viewer moves to another location to see different developments (typically along linear routes such as PROW and roads).

Cumulative Landscape and Visual Effects

6.4 In regards to the list of non-DCO schemes, the majority were identified as not having cumulative effects with Fosse Green. However, at the construction phase, in addition to *ID 95. Application Reference: PL/0087/23. North Hykeham Relief Road* the Fosse Green development is judged to have a significant adverse landscape effect on the North Kesteven District landscape sub-area Witham and Brant Vales and significant adverse visual effect on receptors using the Viking Way.

6.5 In regards to the consideration of Fosse Green in addition to the four adjacent solar DCO schemes, we have concerns regarding landscape effects through extensive change to land use, changing from agricultural to energy infrastructure, and subsequently openness and tranquillity of the area, as well as sequential views for receptors traveling through this landscape. The LVIA identifies significant construction landscape effects on North Kesteven District landscape sub-area Limestone Heath for Fosse Green in addition to both the Springwell Solar and Leoda Solar. Beyond this, no other significant landscape and visual cumulative effects have been identified in the LVIA.

6.6 We have concerns regarding cumulative effects on the region from multiple solar projects both approved and also in the system, having the potential to be constructed across the Nottinghamshire and Lincolnshire regions. While this has been identified in our baseline review when considering the future baseline, it is important to re-iterate this point.

6.7 The mass and scale of several NSIP scale DCO energy 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 these schemes across potentially several kilometres, albeit with gaps of several KM between the schemes. However repeated views and presence of large scale solar would undoubtably increase the susceptibility of receptors to changes in view.

Residential Visual Amenity and Settlements

6.8 Residential Visual Amenity has been considered as part of the LVIA, with individual or groups of residential properties identified in the baseline and subsequently assessed. *Table 10-1: Scoping Opinion Responses (LVIA)* clarifies on page 10-15 that: *"The LVIA has assessed the impacts on the visual amenity of residents with reference to Landscape Institute's related Technical Guidance Note (TGN 2/19). However, the iterative design process has sought to embed mitigation such that the Residential Visual Amenity Threshold has not been met, i.e. no residential receptors were found to have major adverse effects at year 15, and therefore a specific Residential Visual Amenity Assessment has not been undertaken."*

6.9 Paragraphs 10.5.29 to 10.5.45 provide an overview of settlements (as well as land use) which describes residential properties in relation to the Site. Table 10-10 subsequently identifies Residential receptors which includes 29 individual properties, groups of properties or settlements. These have subsequently been assessed in detail within *Appendix 10-F Visual Assessment,* where at paragraph 1.2.2 *Table 1 Visual Receptors and Representative Viewpoints* lists the residential visual receptors within the Study Area and the viewpoint which represents them (as applicable). Tables 2 to 30 in Appendix 10-F provide a detail baseline and subsequent assessment of views from the residents.

6.10 Residential Visual Amenity Assessment (**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".* On this scheme, due to the scale and extents, as well as height of some elements such as Sub stations we would anticipate that some

residents will experience Significant adverse visual effects from several properties, and it is unlikely that properties will reach the RVAT through the Development of Fosse Green.

6.11 The LVIA does identify multiple residents of properties that would experience significant adverse effects, which is a concern, however we agree with the findings of the LVIA in regards to it being unlikely that any would reach the RVAT.

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. This is clarified in paragraph 10.6.1 which states that: "*Good design has been a key consideration for the Proposed Development from the outset. The LVIA has informed the iterative design process which has been guided by design principles and in response to policy requirements.".* It is noted that the layout appears to respond to issues and LVIA findings, and considerable areas have been set aside for habitat creation. However, a key criticism of the layout and site selection is the number and extent of PROW users that are significantly adversely affected by the scheme, which identifies insufficient offsets and development in too close proximity resulting in close range views from multiple PROW locations.

7.2 Paragraph 10.6.1 lists the design principles most relevant to landscape and visual matters. These are noted and positive principles, however the successful implementation of these principles is varied, as indicated by the numerous significant landscape and visual effects that are identified in the LVIA.

Mitigation Measures

7.3 Landscape and Ecology proposed as part of the Scheme is covered by Works No. 9, which is subsequently located according to the Works Plans (Figure 2.2).

7.4 Paragraphs 10.6.7 and 10.6.24 of the LVIA describes the mitigation measures of the scheme, including principles and embedded mitigation which aims to avoid, where practicable, adverse effects on the landscape and views.

7.5 The *Framework Landscape and Ecological Management Plan (LEMP)* provides information regarding the establishment and maintenance of the planting associated with the Development, as shown on *Figure 15-1: Landscape Mitigation Plan* within Appendix A of the LEMP.

7.6 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.

7.7 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 15 year 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.

7.8 While the submission includes landscape proposals, as shown on *Figure 15-1: Landscape Mitigation Plan*, 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. The mitigation illustrated on *Figure 15-1* within Appendix A of the LEMP, secured via Works No. 9 on the Works Plans and DCO, has been utilised to assess the landscape and visual effects of the scheme, therefore we would expect any detailed landscape proposals to consist of the area and extent shown on these plans as a minimum.

7.9 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.

7.10 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. 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. Examples of where views have been foreshortened for receptors and open views adversely affected, despite planting screening proposals, include the following visualisations that are contained within *Figure 10-10 Photomontages*: VP11, VP22, VP32, VP33, VP34, and VP35.

8.0 Conclusions and Recommendations

8.1 The following section provides an overall summary and conclusion on the suitability of the Landscape and Visual elements of the DCO submission 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)*.

8.2 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

8.3 The Landscape and Visual Impact Assessment (LVIA) submitted as part of the DCO Application is considered comprehensive, well-presented and generally undertaken in accordance with current best practice, notably GLVIA3 and LI TGN-2024-01. The LVIA is proportionate to the scale of the Development and has been prepared by competent experts. It clearly identifies the main potential effects arising from construction, operation (Years 1 and 15) and decommissioning phases.

8.4 By reason of its mass and scale, the Development would lead to Significant adverse effects on landscape character and visual amenity at all main phases of the scheme (construction, operation year 1, operation year 15). The Development has the potential to transform the local landscape by altering its character on a large scale across an extensive area. This landscape change also has the potential to affect a wider landscape character, at a regional scale, by replacing large areas of agricultural or rural land with solar development, affecting the current openness, tranquillity and agricultural character that are identified as defining characteristics of the area. We also judge that this would likely be classed as a permanent project in regards to landscape and visual matters, spanning several generations.

8.5 Based on our review, it is clear from the LVIA findings that the Development is of a scale that would introduce extensive change to the existing agricultural landscape, permanently altering the character and experience of the Site and its immediate context. Significant adverse effects on both landscape character and visual receptors are identified at all stages

of the Development, even following the establishment of mitigation (Year 15). The assessment recognises that the Development would transform the Principle Site and areas within the Local Landscape Character Areas (LLCA), including LLCA 03: Tunman Hill and LLCA 08: Thurlby Fenland, resulting in direct and long-term impacts.

8.6 While mitigation would partially reduce effects over time, the predicted benefits are dependent on successful implementation, establishment and ongoing long-term management of new planting. The reliance on planted mitigation in a predominantly open landscape may introduce its own adverse effects, including changes to the perceived openness and rural qualities, and potential enclosure where currently absent. The key areas of disagreement have been identified with elements of the LVIA, primarily regarding:

- The extent and permanence of effects on directly affected landscape character areas, where reductions in significance are presented for certain sub-areas but would more appropriately remain Significant due to land-use change across the Order Limits;
- The treatment of LCT 4a: Unwooded Vales, which is judged in the LVIA as experiencing only Minor adverse effects despite clear direct alteration of its defining characteristics (openness, agricultural land use);
- The conclusion that some Local Landscape Character Areas would reduce to non-significant levels by Year 15, which is inconsistent with other directly affected areas;
- The conceptual treatment of the Development's operational duration as temporary needs clarifying, whereas its 60-year lifespan is more akin to a permanent change in landscape terms.

8.7 The visual assessment identifies numerous receptors experiencing Significant adverse visual effects during construction and early operation, notably users of key PROW networks and residents in proximity to the Development. Some residual significant effects would remain at Year 15 despite mitigation, indicating that full visual integration is not achievable due to the scheme's scale and proximity to these receptors.

8.8 The visual effects on recreational users is of particular concern. Several of the PROW identified as experiencing Significant adverse effects form part of promoted walking routes in the local area, including the Stepping Out Walks at Thorpe on the Hill, and Morton and

Tunman Wood, which attract increased levels of use due to their recreational value. In addition, while not specifically identified in the LVIA, the Bassingham and Villages Circular Trail passes alongside the southern Order Limits and would be subject to clear, close-range views of the Development, resulting in adverse visual effects that are not explicitly recognised in the assessment. The proposed permissive paths, while providing additional route connectivity, are located in close proximity to the solar infrastructure and would offer continuous sequential views of the scheme. As such, they would not serve to reduce or offset the adverse effects on users of existing PROW and we would not be consider this as meaningful mitigation to visual effects.

8.9 Cumulative effects are acknowledged within the LVIA; however, the scale and extent of existing and potential future energy developments across the district and region are likely to lead to a more transformative combined impact than suggested. We consider regional landscape character may be fundamentally altered, and sequential visual effects across multiple solar schemes may be underplayed.

8.10 Residential Visual Amenity has been addressed within the LVIA, and although no properties are assessed as exceeding the Residential Visual Amenity Threshold (RVAT), several are expected to experience Significant adverse effects, particularly in the early years of operation. This should be interrogated further during Examination, but we agree that the RVAT is unlikely to be met.

8.11 While the submission includes landscape proposals (as shown on *Figure 15-1: Landscape Mitigation Plan* within Appendix A of the LEMP, secured via Work No. 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 *Landscape Mitigation Plan* 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 Technical Memos

Technical Memorandum 1 (AAH TM01)

Lincolnshire County Council Fosse Green Solar Project

An initial consultation document issued and received via email 6th March 2024. A site visit is scheduled for April 2024. The following comments collate the information received and following a desk-based appraisal.

Study Area

The study area is identified as 3kms within figure 1, yet residential properties have been limited to 2kms. The memo does not detail why residential properties beyond 2kms have been excluded at this stage. The design is developing, it is noted that there are no specific details provided in this document relating to the specific design elements of the development, consequently, the exact parameters of the study area will likely evolve.

Identification of receptors

The methodology for identifying and assessing potential viewpoints has utilised ZTV analysis (which is shown in figure 1) supported by on-site observations. Visual receptors have been identified in four categories; Residents, People travelling along PRoW, workers and people using local roads. Each of the identified receptors is collated in table 1.

We provide the following comments on the proposed selection as presented:

- The design is evolving and key, larger-scale elements have not been fixed as yet, so whilst this is an initial list of selected receptors, we would expect on-going consultation as the design progresses.
- The ZTV shown in Figure 1 shows potential for visibility in areas where viewpoints are limited, for example north of the current VP1. This needs further consideration; we would seek to review this area when undertaking the initial site visit.
- Given the preliminary nature of the design, it appears too premature to select the photomontage viewpoints, however the current selection appears well considered. As the development progresses, we would welcome on-going dialogue to appraise the selection of photomontage viewpoints.

Following this, we have the following general comments and requests:

1. Comments provided are based on the information provided to AAH and AAH desk-based assessment carried out to date. Therefore, any comments are based on the layouts currently provided, which are confirmed as illustrative and undergoing development. This is to be expected as part of an iterative process. While we understand that the information provided to date is not intended to undergo wholesale changes, the layout is undergoing design development and subject to the final layouts presented, additional viewpoints or information may be requested. This is particularly pertinent for taller/larger elements such as sub stations or battery storage, which due to their mass will likely be more conspicuous in the landscape.

2. When available/agreed, please could further details be provided about the final PV Arrays selection. The final dimensions should also be clarified at this point and the ZTV updated accordingly;

3. When available/agreed, please could further details be provided about the final Inverter selection. The final dimensions should also be clarified at this point and ZTV updated accordingly (and if appropriate);

4. The locations of ancillary elements, such as fencing, Battery Storage, Inverters, Transformers and Switchgears will be important in reducing visual impacts as these may appear more conspicuous than uniform PV arrays – their location should be carefully considered in relation to visual receptors, but also relating to the PV Arrays. The final size and location of all these ancillary elements should be provided and indicated on the layouts when available to enable their impact to be understood;

5. Please could further details be provided about the on-site substation and control buildings including location, size/massing, and height. As at this stage we do not have this information, the location of this would likely have visual impacts that would require additional viewpoints beyond those initially identified;

Finally, additional viewpoints may be required depending on confirmation of further details relating to the development, in particular the location, extent and appearance of taller/larger elements proposed.

[redacted] CMLI
AAH Landscape
[redacted]@aahplanning.com
[redacted]

4th April 2024

Technical Memorandum 2 (AAH TM02)

Lincolnshire County Council, Fosse Green Solar Project

A memorandum from the applicant was received via email on 15th August 2024, and follows from a previous memorandum, which was considered in AAH TM01, issued April 2024. The second memorandum: *Fosse Green Energy Visual Receptors and Representative Viewpoints has been reviewed* based on our desk based and site-based knowledge of the study area and development site, and our comments are as follows:

Introduction

The parameters of the development are introduced in section 1, detailing the location and energy capacity, and goes on to confirm that the development falls within the scope of a Nationally Significant Infrastructure Project (NSIP), therefore requiring a Development Consent Order (DCO). This is in line with the previous parameters of the development.

We welcome the opportunity, presented in the introduction, to continue dialogue towards the PEIR submission. We acknowledge the declaration that statutory consultation shall commence at the end of October 2024.

Visual Receptors

Section 2 provides detail regarding the selection of visual receptors; these are summarised in table 1. 34 viewpoints are selected by the applicant based on residents, people travelling on PRoW, commercial users and people travelling on local roads. We accept the use of the four broad criteria of receptors to establish the viewpoints.

The April memorandum presented a 3km study area, however figure 1 highlights a 2km buffer zone. The ZTV in figure 1 shows theoretical visibility that pushes up to and, in all likelihood, extends beyond the 2km study area. There is no detail in this memorandum as to why the study area has compressed. From site and desk-based studies it is evident that there is potential for views of the development beyond the 2km buffer.

It is an omission to have no viewpoints beyond the 2km buffer zone. It is important to show that views diminish beyond the 2km study area and as a result we would need to see representative viewpoints beyond the 2km area to examine the extent of visibility or lack of visibility.

Areas to the east of VP6 and to the north of VP10 and VP12 should be examined, even if simply to scope out. We would need to see more detail on the methodology for viewpoint selection beyond the broad categories for selection.

Overall, the viewpoints appear concentrated and, in many cases, potentially too close to offer diversity of appraisal. For example, VP2 and VP3 appear to potentially duplicate the information. VP6 appears to point away from the development. There are no views selected to the far southeast of the development despite the ZTV highlighting potential for visibility. Similarly, there is a concentration of views to the south, VP20 to VP25, yet none are significantly beyond the site

boundary. This despite the presence of residential receptors at Carlton-le-moorland, south east of VP23.

11 viewpoints, have been selected for type 3 photomontages, these are summarised in table 2. Whilst the selection of most appears sound, we question some of the selections, and would seek further clarification. For example, VP11 looks away from the development towards the edge of the order limits, a better alternative appears to be VP17 or VP12. Most are located at the edge of the order limits looking towards the development and this appears sensible, however with some anomalies for example why VP15 over VP16 and why VP29 over VP30. We would need this to be detailed in the PEIR.

There are some inconsistencies between the figures, for example VP2 VP11 and VP14 appear to be focused in different directions from figure 1 and 2. We would expect these anomalies to be rectified at the PEIR stage of the application.

Preliminary design

The details of the current design for the development are considered in section 4, this is useful information in anticipation of the PEIR submission. We welcome the design details shown in figure 3 which identifies the location of the design elements of the development. We have assumed that the latest ZTV incorporates all of the design details explained in this section.

The section details the parameters of the solar panels, the solar stations, the battery storage system, the substation and control buildings and the ancillary features such as fencing.

Conclusions

The memorandum presents a detailed explanation about the project progression to date. There are some anomalies between the figures, which need rectified. We do believe there is potential for visibility beyond 2km and the omission of viewpoints exploring this needs to be rectified. Some viewpoints appear to duplicate information, being too close together. We also question some of the locations.

We welcome that 11 type 3 photography viewpoints have been included. Generally, we agree with the location of these on the edges of the site boundary, however we consider that some could be changed to offer a better representative view of the development.

We note the design resolution of the development elements, at this stage, they provide useful information to help examine the viewpoint selection rationale and examine the ZTV. Given these details we do need more detail as to why no viewpoints have been located beyond the 2km buffer zone.

[redacted] CMLI
AAH Landscape
[redacted]@aahplanning.com
[redacted]

25th September 2024

AAH consultants

Technical Memorandum 3 (AAH TM03)

Lincolnshire County Council (LCC) & North Kesteven District Council (NKDC). Fosse Green Energy: PEIR Landscape and Visual Comments

Introduction

AAH Consultants have reviewed the Fosse Green Energy: *Preliminary Environmental Information Report* (**PEIR**), on behalf of Lincolnshire County Council (LCC) & North Kesteven District Council (NKDC), in relation to Landscape and Visual matters. Information downloaded from: www.fossegreenenergy.co.uk/documents and the documents that have been referenced, are as follows:

- Chapter 1: Introduction
- Chapter 2: The Site and Surroundings
- Chapter 3: The Proposed Development
- Chapter 4: Alternatives and Design Evolution
- Chapter 5: EIA Methodology and Consultation
- Chapter 10: Landscape and Visual Amenity
  - Chapter 10: Appendices 10-A to 10-F
  - Chapter 10: Figures 10-1 to 10-8

The review takes into account previous AAH comments (Refer to AAH Technical Memos TM01 and TM02), as well as meetings/workshops held with the Applicant team and any subsequent meeting minutes. The comments provided are intended to assist in guiding the next stage of the Development process, refinement of the content of the LVIA chapter and the overall Development proposals. It is not a final review of any of the preliminary findings or initial assessments.

Summary of AAH TM02 September 2024

Following a consultation email from the applicant, which focused on the visual receptors and representative viewpoints, AAH provided comments in AAH TM02. Thirty four viewpoints were presented within a 2km study area around the scheme, and it was noted that the study area had reduced from 3km to 2km since issuing AAH TM01. It was noted in AAH TM02 there was no explanation as to why the reduction in study area had occurred. As there were no viewpoints identified beyond 2km, clarification was sought that views or potential significant effects were not expected beyond the 2km extent. Three viewpoints (6, 10 and 12) were identified which it was recommend should be examined further in order to scope out potential effects beyond 2km.

It was also identified that, overall, there was a concentration of viewpoints in some areas, with some potentially duplicating information, for example viewpoints 2 and 3 as well as viewpoints 20 and 25.

Eleven of the viewpoints were selected for Type 3 photomontages, and again, issues were raised regarding these including the accuracy of the figures, where in some cases the direction of view was shown as pointing away from the scheme. It was also considered that other viewpoints not selected for photomontages would have been better selections.

We welcomed the design details, which were considered in section 4 of AAH TM02. It was assumed that the preparation of the ZTV had been utilised in the current layouts and parameters.

PEIR Landscape and Visual Comments

A. Main Overarching Comments on the PEIR:

1. Chapters 1-5 of the PIER succinctly introduce the project, the site and the legislative context. The project is proposed to generate in excess of 50MW of energy, which will be exported to the proposed Navenby substation. Comprising approximately 1426Ha of land, where 1065Ha is classified as 'Principal Site'. It is located 9km to the south and south west of Lincoln City Centre. Close to the villages of Thorpe on the Hill, Witham St Hughs, Haddington, Thurlby, Navenby and Bassingham.

2. The PEIR is prepared in advance of submission of the DCO, forming part of the pre-application process, and follows on from consultation periods. AAH Consultants have subsequently provided consultation feedback to both the applicant, LCC and NKDC.

3. Chapter 1 introduces the scheme and describes the structure of the PEIR. The PIER is the publication of initial findings considering the preliminary *likely* significant effects of the project. Feedback from the PIER will then inform the preparation of the final Environmental statement (**ES**) which will be submitted as part of the DCO application. Our response to the PIER will be used to assist in the delivery of the final ES, and we welcome additional opportunities to consult with the applicant throughout the process, which may include collaborative site visits to finalise viewpoint selections or further design workshops.

4. The landscape and visual sections of the PIER comply with best-practice principles by undertaking a baseline study, before identifying the potential environmental constraints alongside opportunities, which are used to inform the design evolution of the project to minimise and mitigate adverse effects as well as identifying opportunities to enhance the environment. The final stage of the PIER utilises technical environmental assessments to determine the potential environmental effects across all of the project life stages-construction, operation and decommissioning. However, as stated previously, as the design of the scheme is evolving and not fixed at this stage, we have not reviewed the preliminary findings or initial assessments.

5. The Site is described in detail in Chapter 2, with the Site details highlighted in Figures 1.1, 1.2 and 2.1. The Site encompasses land within the district of North Kesteven. A number of villages alongside isolated properties and hamlets are identified as receptors. The list is comprehensive and covers the properties, within the study area, however there is no analysis of properties beyond 2km, and considering the design is evolving, it needs to be clear that the project will not have a detrimental impact on properties beyond 2km. Key transport features encompassing strategic roads as well as public rights of way are identified. Existing features of the Site are briefly described. The energy produced will connect to the National Grid at the proposed Navenby substation (separate application). A feature within the Site boundaries and local area are numerous pylons and overhead power lines.

6. The Proposed Development is considered briefly in Chapter 3, providing an overview before stating the need to decarbonise energy production amid the global context. Throughout the PEIR, the Site is analysed as three elements, firstly, the Principal Site, secondly, the Cable Corridor and finally the Study Area. The connectivity to the proposed Navenby National Grid Substation provides justification for the locality of the Proposed Development. Paragraph 3.3.3 identifies the components that make up the Proposed Development, including the Solar PV panels, the Battery Energy Storage System (BESS), Inverters, Transformers and the

onsite substation. Ancillary elements such as fencing, access tracks and access tracks are also listed. The construction phase will require one main compound, several secondary compounds and the formation of access tracks; these are shown on figure 3-1. The chapter then describes in detail the different elements, for each, given the evolving design, and the adoption of the Rochdale Envelope approach, the assessment of likely effects is based upon a worst-case scenario.

7. Chapter 4 considers both the alternatives (in terms of site and other forms of energy production) considered and the design progression following the consultation process. A range of changes and amendments have been made to the project layout. It is stated that the consideration of alternatives is in accordance with Paragraph 2 of Schedule 4 of the EIA regulations. Other forms of energy generation such as wind or nuclear have been discarded for the Site, as have fossil fuel generation given the need to de-carbonise the energy supply. The need for the scheme is reiterated in regard of achieving net zero by 2050. The chapter reinforces the necessity for providing new electricity infrastructure as well as the need for battery storage.

Section 4.3 considers in detail the site selection methodology which included site topography, grid connection, proximity to residential dwellings, agricultural land classification, accessibility and the proximity to PRoWs. In regards the proximity to residential dwellings, the objective was to avoid urban areas, sensitive landscapes (areas of great value- for example west of Navenby) green belt, ecology and heritage designations. A key focus was also to avoid glint and glare to individual properties close to the Principal Site. Within the principal site, alternative layouts were considered and these are detailed in section 4.5. similarly in section 4.6 there is an analysis of the alternative cable corridor routes, at the scoping stage, three were proposed, the overhead line option has been removed in favour of underground.

The design layout iterations are summarised in table 4.2, this is useful in tracking the design evolution as the proposal has progressed to the PEIR stage.

8. Given the continuing evolving nature of the project, the design is not fixed and consequently the Rochdale Envelope principle is applied to the PIER. Within the PEIR a set of broad design principles which include the sensitivity of the local environment, the impact of local communities, supporting the natural and built environment, as well as enriching the ecosystem and identifying opportunities to add value to the local community. We have discussed these in detail in **Section C** below. As the design evolves, we welcome opportunities to discuss the assessment parameters including viewpoint selection and proposed mitigation. The design parameters must be clearly identified within the ES, and subsequently it must be clear and transparent within the LVIA those parameters that have been assessed. This should include not only the height and size/mass of elements of the scheme, but also areas or zones they will be located, such as on works or parameter plans.

9. The project will be operational for 60 years, despite the longevity there is no detail of the number of times the elements of the scheme will be replaced during the operational period. Similar Developments have stated that elements will in all likelihood be replaced once in the operational period. We would welcome dialogue on this matter and clarification regarding if replacements were anticipated and if so, would this be a phased replacement over a number of years or a task to be completed over a period of time comparable with the construction phase of the project, which is currently predicted to span 2 years. The effects predicted during construction, for example the lorry movements within the local road network and the

need for wider access points at various locations across the Site, would be replicated to accommodate the reconfiguration of the panels. The Outline Construction Environmental Management Plan (oCEMP) will be issued as part of the DCO Application, we welcome opportunities to liaise with the application team as the project progresses towards the application stage.

10. Given the stated operational time of 60 years, there is the question 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 60 years is comparable to two generations as a minimum, there is some strength to the consideration that this would amount to a permanent project, especially considering the average lifespan of building design is circa 50 years. There is clearly potential for significant landscape and visual impacts, especially considering that in this timescale, the panels will be replaced. It is stated in the PEIR that this would be once, but 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.

11. Decommissioning is considered within the PEIR as a whole and the LVIA chapter. Our assumption is that this will include all aspects of the project. Permissive paths would be removed, but underground cables may remain. Figure 3.1 clarifies the access points to the Site, which will be used during all phases of the project. These will be accessed from existing and upgraded strategic points on the public road network. At this stage the impact of the access points appears vague and would need to be clarified further as the design evolves, we welcome further dialogue on this matter.

12. Access is an important consideration, given the potential for vegetation removal, road reconfiguration and the large vehicles on a local road network. Figure 3.1 identifies a number of access points and we note that some of these c

13. orrelate with selected viewpoints. Continuing on-Site assessment and dialogue will be useful as the design evolves. The masterplan in the current iteration highlights numerous access points and compounds, however the chapter is light on the extent of vegetation loss expectant of the movement of large and numerous vehicles over a significant period of time. Similarly, as mentioned previously, the anticipated panel replacement is not addressed; the potential to change a significant proportion of the Development throughout the 60-year lifespan of the Development would recreate an unexplained proportion of the construction period at least once and possibly more given the pace of technological Development. We would anticipate that, as the design evolves towards the DCO submission, that the impact of the reconstruction, the mitigation measures to be implemented and the number of reconstructions anticipated throughout the lifespan of the Development is clarified fully.

14. Chapter 5 considers the overall methodology of the PEIR; this is further considered in the Landscape and visual impact assessment LVIA (Chapter 10) and in Appendix 10-1. All three will be discussed in **Section B** below. It is useful to first assess the overall methodology and then to digest the individual chapter methodology.

B. Detailed Comments on PEIR:

Legislation and planning policy

Policy and legislation are considered in Appendix 10-A. Section 10-2 of the LVIA summarises the key pieces of national legislation and national to local policy relevant to the LVIA.

The Central Lincolnshire Local Plan, adopted 2023, sets out policies to guide development across Central Lincolnshire up to 2040. Other policies of relevance include; Thorpe on the Hill neighbourhood plan, adopted 2018, with particular reference to Policy 5; Landscape and views and Bassingham neighbourhood plan, adopted 2017 with policy ES4 relating to landscape and countryside surrounding the villages.

Methodology

The overall PEIR methodology is considered in Chapter 5, we have assessed this in conjunction with specific landscape and visual methodology within Chapter 10, section 10:4.

The PEIR methodology confirms in paragraph 5.1.5 that each of the technical assessments follows a systematic approach with the following steps; assessing the baseline, assessing likely significant effects, identifying appropriate mitigation, assessing the residual effects and then assessing the cumulative effects. We accept this approach and find that it confirms to bast practice principles. This approach is also consistent with the visual receptors and viewpoints report, which we assessed in our TM02. We welcome that the approach has remained consistent.

Following the Scoping Opinion, landscape and visual matters were taken forward to the PEI report, we agree with this, given the scale of the Development and the likely impacts on both landscape and visual amenity.

Paragraph 5.1.16 reiterates the use of a common chapter structure throughout the EIA. We confirm that the structure used in chapter 10 of the EIA conforms to best practice and we accept this approach.

At this stage, the project technical parameters are not yet finalised, such is the evolving market for solar voltaic and Battery Energy Storage Systems (BESS) and the specific requirements of the UK energy market. It is therefore acceptable that the 'Rochdale Envelope' approach has been applied. This is in accordance with the Planning inspectorate's advice note 9. We consider this, alongside a worst-case scenario for assessment to be acceptable at this stage of the assessment process.

Section 5.4 details the methodology for determining the baseline conditions, utilising online/ digital resources, data searches, on-site surveys alongside the review of information submitted as part of other planning applications within the study area of the Proposed Development. This is an acceptable process for determining the baseline.

Section 5.5 considers the Proposed Development design and sets out the rationale to avoid, reduce or prevent likely significant effects on the environment. The first expectation is to avoid or prevent, where effect is unavoidable, mitigation measures will seek to reduce the significance of the effect. Where it is considered that the effects can be neither avoided nor mitigated the final approach would seek to offset impacts. We accept this approach as best practice; however, we would seek reassurances that mitigation measures had strong and robust long-term management strategies to ensure successful establishment. We also seek to ensure that mitigation is not

overly relied upon to the detriment of the baseline character of the landscape within the study area. We shall address these further in the following sections of this review.

Section 5.6 identifies three project stages where likely effects have been assessed, these being; construction, operation and decommissioning. The effects for the operational stage have been further categorised into the following; short term, medium term, long term, reversible long term and permanent effects. We accept this approach as providing the best practice methodology. The Proposed operational life of the Development is stated as 60 years. It is not stated how replacement parts for the Development will be introduced, there could be period(s) of replacements on the scale of construction as technology is upgraded. We would seek clarification on the process of replacement to both the photovoltaics and the larger equipment on site throughout the life of the Development.

The baseline year has been stated as 2023/24, the construction years are expected to be 2031-2033, with a future baseline being 2048, we agree with this approach, given that the application is expected early 2025, and providing a period of 15 years for mitigation planting to mature. We would welcome management policies to ensure the establishment of the planting extend to 2048 and then will be reviewed to address mature planting management. As mentioned previously we would need to consider the impact of equipment replacement during the lifespan of the Development.

Section 5.7 considers the criteria for determining effect significance. Paragraph 5.7.2 details the seven criteria that each topic has developed and agreed, these are Extent and magnitude, duration of effect, nature of effect, are the effects in isolation or cumulative, sensitivity of the receptor and compatibility with environmental policies. We agree with this approach, we welcome the commonality across the different disciplines and confirm that for the landscape and visual chapter they do follow best practice principles.

Paragraphs 5.7.3 to 5.7.7 detail the process related to determining significance, we agree with this approach and accept the table presented (table 5.1) which classifies significance as best practice. We agree with the determination of moderate and above as being classed as ‘significant’. Table 5.2 describes the four descriptions (major, moderate, minor and negligible) presented in table 5.1. The baseline effect is then re-assessed following the expected impact of the mitigation measures to determine residual effect.

Construction and decommissioning have been assessed on a worst-case basis. It is stated that decommissioning will follow the process of construction but likely comprising a shorter duration. We agree with this approach, but do consider that over the period of 60 years there are likely to be numerous construction and decommissioning phases. These intermediate stages are likely to be of shorter duration, but it is considered to be of a scale that would have adverse impacts on the landscape and visual amenity. We would welcome some discussion regarding the renovation of the Development as technology advances.

Cumulative effects are considered from paragraph 5.8.12, the methodology follows Planning Inspectorate’s guidance Advice on Cumulative Effects Assessments (Ref 5-6), this is a four-stage approach. We welcome this approach and accept its robustness and appropriateness in assessing the cumulative effect on landscape and visual amenity.

LVIA methodology

Within the landscape and visual amenity chapter, the LVIA methodology is detailed in section 10.4, and considers the overall methodology in Chapter 5 as discussed above, providing a unified approach across each discipline. Section 10.4 begins by detailing the methodology for

determining the study area. This has been divided into two parts, the first being the principal site and the second being the cable corridor. We agree with the approach of differentiating the two elements of the project.

Paragraph 10.4.5 addresses the reduction of the initial study area from 5km to 2km. this has reduced due to desk and site-based studies including the bare earth ZTV (figure 10.6) and the barrier earth with viewpoints ZTV (figure 10.7), while we accept that the effects will diminish beyond 2km we would wish to see viewpoints that confirm this judgement. The exclusion of viewpoints beyond 2km is, in our opinion, an omission in establishing the robustness of assessment. It is also an omission that the ZTV hatching (figure 10.7) does not continue beyond the 2km boundary when it is clear that potential visibility would extend beyond 2km to the north, south and west of the principal site.

Paragraph 10.4.10 commences a commentary on the assessment methodology, beginning by cross-referencing to Appendix 10-B, a detailed appraisal of this appendices can be found in section D of this memorandum.

Paragraph 10.4.11 states the guidance used to prepare the LVIA methodology, we confirm it is robust and current best-practice. Following on from this, the section details the process in establishing the baseline. The differences between the visual baseline and the landscape baseline are explained in detail. References are made to the appendices and the figures to clarify the methodology process.

The next paragraphs, commencing 10.4.24 assess the sensitivity and magnitude criteria, before identifying three categories of duration of effects; Short-term (0-2years), Medium-term (2-5 years) and long-term being over 5 years. We agree with this approach and it provides a robust basis of assessment. The level of effect is presented in table 10.1, this is the combination of sensitivity of receptor and the magnitude of effect. It is correctly highlighted that this process is based upon professional judgement. As stated previously, we agree with the findings that any determination moderate or above is to be classified as ‘significant’.

The principal of the Rochdale Envelope is clarified in paragraph 10.4.28, again this was introduced in the overall methodology within Chapter 5 and discussed earlier. We agree, that at this stage, given the evolving design of the development, the approach of assessing the worst-case scenario should be adopted. We would welcome further discussion and clarification to reduce some uncertainty as the design progresses towards submission and assessment.

Many of the assumptions identified from paragraph 10.4.30 have been introduced elsewhere in the PEIR, including the date of survey and likely timeframe of construction and operation. We find that these are plausible timeframes. For construction impacts we welcome the worst-case scenario of winter assessment as stated in paragraph 10.4.37. We do however, consider that across the lifespan of the development a series of construction periods, potentially not all of equal intensity are likely as technology progresses and necessitates replacement of core elements of the Development. We would seek some clarification on how these potential phases would be considered as part of the assessment process.

Baseline conditions

The baseline conditions are considered in section 10.5. This is a summary of the matters considered in Appendix 10-C. Both sections describe the existing and anticipated future baseline conditions for the landscape and visual assessment.

The assessment identifies two distinct areas for consideration; the Principal Site and the Cable Corridor. It is very useful to split the development in such a way as they are two distinct elements. The characteristics of the two 'sites' are described in detail, considering matters such as the presence of any designations, land use, recreational value.

The section then considers the wider study area, which is set at 2km from the principal site. The assessment here, follows best-practice methodology by considering aspects like landform and watercourses, vegetation, settlement pattern and land use, infrastructure, public rights of way (PRoW), designations, character of the night sky and tranquillity. For each assessment the text is thorough, concise and follows a logical process of examination. The section provides a very detailed description of the baseline.

Published Landscape Character Assessments are described in detail, commencing with a national level. There are two relevant National Landscape Character Areas, NCA 47: Southern Lincolnshire Edge and NCA 48: Trent and Belvoir Vales, both are shown in figure 10-4a.

Regionally, the East Midlands Regional Landscape Character Assessment and the North Kesteven District Landscape Character Assessment are considered. The descriptive text includes dialogue regarding guidelines for energy Developments, in the case of East Midlands study, it is stated that guidelines seek to protect the character of the landscape by appropriately siting and designing energy installations. Tree planting is also noted as being able to integrate new Development into the landscape.

Two Landscape Character Groups within the East Midlands Regional Landscape Character Assessment are located within the study area, these are shown on figure 10-4b.

- LCG 4: Lowland Vales (LCG4) covering the western and central parts of the study area, most of the Proposed Development.
- LCG 6: Limestone Farmlands (LCG 6) covering the eastern parts of the study area.

Three Landscape Character Types are identified as of relevance from the North Kesteven District Landscape Character Assessment, these are shown in figure 10-4c

- LCT: Trent & Witham Vales covering the western part of the study area and the solar PV Proposed Development.
- LCT: Lincoln Cliff covering the dipslope in the eastern part of the study area
- LCT: Central Plateau covering the eastern part of the study area between the top of the dipslope and the A15

The section then details 16 Local Landscape Character Areas within the study area (LLCA), these are shown in figure 10-5 and appendix 10-C. for each, the location is described.

Table 10-2 presents an assessment of landscape sensitivity which is derived from an assessment of landscape value and landscape susceptibility. This assessment is in line with GLVIA3 and is described in appendix 10-E. The table is clear, as it allocates a value for each of the receptors identified from the Site, to national to regional and then at a local level. We accept that these definitions are based on professional experience and find the allocated values to be generally acceptable.

The section then turns to the existing visual baseline with reference to visual receptors and representative viewpoints. The section states that the assessment is a combination of desk

based with a ZTV and then field work to verify the findings of the ZTV. Appendix 10-B describes the methodology for the preparation of the ZTV, the bare earth ZTV is shown in figure 10-6 and the Barrier earth ZTV is figure 10-7. The ZTV and field work has determined that significant impacts are unlikely beyond 2km, paragraph 10.5.95 states that views towards the Principal Site east of the A607. Whilst we agree, effects will diminish over distance, we do not agree with no assessments carried out beyond 2km. The ZTVs show potential for views beyond the 2km boundary and it would be useful to identify receptors identified beyond 2km that have been scoped out due to no impact.

Table 10-3 follows the pattern of table 10-1 in allocating a value of the view, the susceptibility of the view to determine visual sensitivity. The table assesses many more receptors than represented by the thirty-four representative viewpoints, however we note that all of the receptors are within the 2km extent; in this table it would have been useful to include receptors beyond 2km for confirmation of the judgement that no significant effects are expected beyond 2km.

The section concludes by considering the future baseline, this is based on an anticipated construction date of 2031-2033. Operation commences (year 1) in 2033 and the future baseline is set at year 15 (2048). Given the expected growth rates of mitigation planting, we find the 15-year baseline as acceptable. Given this, we would expect all management plans to cover an initial establishment period of 15 years, with a revision for the management of mature vegetation afterwards.

Embedded mitigation measures

Section 10-6 considers embedded mitigation and states that the onus is to be on 'good design'. The LVIA has informed the design process. Three design principles of the Development are considered relevant to landscape and visual matters:

- Respect for the wider landscape and the intrinsic value of the natural environment.
- Reduce the environmental impact through a sensitively designed Proposed Development that seeks to fit into the landscape while exploring opportunities to mitigate potential visual impacts.
- Respect the distinctive and unique character of the countryside.

The design process, it is stated, has responded to published guidance, refer to previous comments regarding national, regional and local Landscape Character Assessments. This has also included referencing Statements of Environmental Opportunities (SEO). Two SEO's are identified for NCA 47 and three for NCA 48.

As a result, a landscape strategy that seeks a development that integrates, and where possible, enhances existing nature networks and green infrastructure. The development it is stated will respond to the existing landform whilst responding to and seeking to enhance the landscape character. We find that these objectives along with the process of evaluating the SEO's is in line with best practice and is an acceptable basis for the design of the Proposed Development.

From the above objectives, a set of mitigation measures are Proposed, these are detailed below;

- Careful siting in the landscape- the use of the existing field pattern, will protect existing vegetation. Important cross valley views will be preserved, larger onsite elements will be carefully sited to reduce visual exposure, there will be set-backs from exiting settlement boundaries, the local road network and PRoWs. We accept these design strategies.

- Conserving existing vegetation patterns- distinct offsets from trees, woodlands, watercourses and hedgerows. We find this approach acceptable, however we have reservations regarding blanket offsets and would seek a more individual approach, with these stated distances being a minimum standard.

- Sensitive design in regards form and materials- we welcome the avoidance of the sensitive landscape of Lincoln Cliff. We also welcome the careful consideration of the impact of lighting on the landscape character of the study area.

Management of the mitigation is referenced in paragraph 10.6.23, whilst we accept the status of the design and the application, we do expect a robust and detailed long-term management strategy that will focus on establishment prior to moving to the effective management of a mature landscape in the latter years of the Proposed Development. We would welcome collaborative involvement in the preparation of management documents.

Preliminary assessment of effects

The assessment of effects considers the three phases of the Proposed Development; construction, operation and decommissioning. Each phase is considered in detail, with the expected impacts on landscape and visual receptors identified. Table 10.4 summarises the effects during construction. The landscape and visual receptors are listed separately in logical order alongside a summary of the potential impacts. Reversibility and duration are determined with the likely significance given a classification. We accept the findings of the table as robust and representative of professional judgement based upon desk and field work. However, as the design continues to evolve, we would expect to see a revision and update to this table and the overall assessment process. We welcome the use of a clear table for digesting this assessment rather than a lot of text.

The same process is repeated for operation and maintenance effects with year 1 initially assessed and then followed by year 15, which is the stated future baseline following the maturity of mitigation planting. Finally, the decommissioning phase, which has an anticipated date of 2093, is assessed.

We do consider it likely that throughout the operation period, there will be elements of reconfiguration, replacement and removal as technology advances or elements become obsolete. Whilst we accept this is a difficult process to quantify, we do consider that, in a worst-case scenario these stages of intervention would parallel the effects of construction and decommissioning. The PEIR has not addressed this matter and we do seek this as a discussion thread prior to application submission. We would also need to see details of how mitigation planting is protected across the lifespan of the development, especially in times of replacement of elements during operation.

During construction, we consider that the effects of large-scale vehicular movements will have a significant impact on the local road network beyond the 2km study area, and reiterate the reservations we have for not including receptors beyond 2km when the original study area was 5kms.

Additional mitigation and enhancement

Following consultation and given the findings presented in the PEIR, the design proposes the integration of additional mitigation. It is stated that this will be practicable, appropriate and proportionate to fit the context, we agree that additional mitigation is useful but we do stress that it should be carefully considered so that the character of the study area, and wider context

is not compromised, for example careful consideration of the retention and enhancement of cross valley views referenced in the design objectives.

Residual effects

We agree that most significant effects will be experienced during the construction phase. However, we repeat the point that across the operation stage, which spans 60-years, there is potential for intermittent periods of replacement, within which potential large and numerous elements of the Development could be replaced. This has not been considered within the PEIR, we would welcome dialogue to discuss this further.

Cumulative effects

Cumulative effects are considered in section 10-10 of the LVIA, cumulative developments are also considered in chapter 15 of the PEIR. Paragraph 10.10.1 lists the proposed developments that were considered to have the potential to result in significant cumulative landscape and visual effects. Within the initial list three DCO solar schemes, which given the scale and typology have been included;

- EN010149 Springwell energy Farm
- EN010162 Great North Road Solar Limited
- EN010159 One Earth Solar Farm

Cumulative effects are stated as either impacting the physical fabric of the landscape when multiple Developments effect landscape components like hedgerows or the perceptual qualities like tranquillity. Similarly, character can be impacted where multiple developments introduce new features into the landscape.

Cumulative impacts on visual amenity can result from combined visibility or sequential impacts. These include visibility of two or more Developments from one viewpoint either in combination or succession

The cumulative landscape and visual effects are considered for each of the development stages; construction, operation and decommissioning. The assessments are concise and cover most of the key aspects. We do reiterate the point raised regarding the likelihood of intermittent replacement of equipment, which could be akin to construction. So potentially there could be multiple construction phases.

We agree that it is difficult to sequence when other developments will be constructed and decommissioned. But with this in mind, there could be significant periods of construction for the study area and the wider landscape as different developments reach operation at different timescales. Given the local road network within the study area and the rural character of this network (for example soft verges) multiple developments constructed over a significant period of time could amplify the effects significantly and diminish the effects of mitigation measures to minimise effects.

C. Detailed Comments on PEIR Supporting Figures (Chapter 10 LVIA):

10.1	LVIA study area
10.2	Topography & watercourses
10.3	Designations
10.4a	National landscape character areas

10.4b	Regional Landscape Character areas
10.4c	District landscape character areas
10.5	Local landscape character areas
10.6	ZTV (bare earth)
10.7	Barrier earth with viewpoints
10.8	Viewpoint photography

Overall, the figures are clear and concise, they inform the reader of the details of the site and the Proposed Development in significant detail. It is useful that in some, for example 10-1 and 10-3 significant elements located beyond the 2km study area are shown. In the case of PRoWs, it is an omission that no viewpoints are located beyond the 2km study area despite the continuation of the routes beyond the 2km mark.

It is an omission that figures 10-6 and 10-7 do not show any detail beyond the 2km extent, yet it is clear that there is potential for visibility from the information presented. This is particularly pertinent when considering the residential areas of North Hykeham to the north and north east of the Proposed Development. In order to fully assess the validity of the viewpoint selection it is an omission that we recommend is rectified.

Figure 10.8 takes each viewpoint in turn and presents summer photography. Overall, the quality of the images is acceptable, there are some views overly dominated by vegetation and it is possible that finer grain selection of position could have yielded a more useful visual representation. It would be useful to see a contrast between summer and winter views. It would also be useful to have a small location image for ease of reference for each viewpoint to avoid cross referencing with figure 10.7.

In figure 10.7, some viewpoints appear very close to each other and some rationalisation could be achieved to avoid duplication. This would enable the selection of different viewpoints, for example some beyond the 2km boundary to test the hypothesis that there are no significant effects beyond 2km or additional ones to the east of the Proposed Development. Alternatively, it would be useful to have a review of viewpoints which have been scoped out of the assessment with an explanation of the reasoning behind their rejection.

D. Review of Appendices

A) Appendix 10-A Landscape and visual amenity Policy and legislation

This appendix identifies the legislation, policy and supporting guidance considered relevant to the assessment of likely significant landscape and visual effects from the Proposed Development. Policy that could influence the determination of important landscape and visual features as well as policy that could influence the methodology of the LVIA are identified for consideration.

National and local legislation are considered in detail within section 2 of the appendix, section 3 considers local and national policy. Table 1 is useful in identifying the policy and legislation and referencing to the relevant sections of the PEI report.

B) Appendix 10-B Landscape and visual impact assessment methodology

This appendix sets out the methodology applied to the Landscape and Visual Impact Assessment (LVIA). Initially the interrelationship of Landscape effects and visual effects are considered, they are also clarified in paragraph 1.1.2. The appendix reconfirms the stages of methodology and the assessment periods, these are in line with the overall EIA and adopt a worst-case scenario, with,

for example, the assessment of construction and decommissioning undertaken in winter. The impact of Proposed mitigation is assessed at year 15 of operation. We welcome this approach in assessing as a worst-case scenario.

The appendix reiterates the methodology, including;

- the determination of the study area,
- the establishment of the baseline,
- the fieldwork undertaken,
- the landscape baseline and receptors,
- the visual baseline and visual receptors,
- the determination of representative viewpoints
- sensitivity of receptors

The appendix repeats the information presented within chapter 10 of the PEIR and for each of these, the methodology has followed best-practice advice contained within GLVIA3 so we accept this approach as robust and appropriate.

A series of tables (1 to 9) provide a descriptive methodology for assessing the significance of effect, these adhere to the guidance within GLVIA3 and again, we accept these as a robust and thorough methodology.

Section 2-9 provides additional information and detail into the process of producing a ZTV, including identifying the software used. A bare earth ZTV is supplemented by a detailed screened ZTV with assumed heights for buildings being set at 12m and 7.5m. A viewing height of 1.6m. The Development elements including photovoltaics, BESS containers and the onsite substation are assessed based on a worst-case scenario. This is inline with EIA methodology presented in Chapter 5 and the LVIA methodology from chapter 10.

C) Appendix 10-C Landscape character baseline

The appendix considers the character of three elements of the Development; the Principal site, the Cable corridor and the study area. Each of these are considered in detail prior to an assessment of the published landscape character assessments. The appendix considers national, regional and then local character studies. This is a robust approach and conforms with best-practice methodology. Section 4 considers 16 Local Landscape Character Areas (LLCA). Each is placed in context within national and regional character areas before an explanation of the key characteristics. It is a robust assessment and provides useful insight in the methodology in determining viewpoints. However, some of the text does strengthen the idea that visual effects will extend beyond the 2km study area, and highlights the assertion that some viewpoints should have been placed outside of the 2km boundary.

D) Appendix 10-D Visual baseline

The appendix considers the thirty-four representative viewpoints selected for the LVIA. It is stated that these do not represent an exhaustive list and have been selected from publicly accessible land and representative of views experienced by receptors and could include sequential views, for example along public rights of way. Whilst sequential views are useful and

do explain the close proximity of some of the viewpoints it is noted that some views being close together whilst there are areas, notably to the east where there are relatively few viewpoints.

Each viewpoint is described in turn with an explanation of the receptors and the visibility of the Site. This is useful to be read in conjunction with Figure 10.8.

E) Appendix 10-E Landscape character assessment

This appendix presents a series of tables which present details of the landscape effects of the Proposed Development with respect to Landscape Character Areas (LCAs) or Relevant Landscape Character Types (LCTs) across the study area. The effects are considered across all phases of the Development; construction, operation and decommissioning. All effects are considered in winter and represent a worst-case scenario. A summer assessment is included in year 15 to fully assess the effects given the establishment of the Proposed planting. Each category is coded to clarify the different stages of the assessment, refer to paragraph 1.1.5, page 2. The tables are clear and concise, presenting a range of information in a clear way that aids the reading of chapter 10 and clarifies some of the information presented in Figure 10.8 as well as other chapter 10 figures. For each the scale and context are described, then the duration and reversibility for each phase of the Development before determining a level of effect and significance.

The order of the tables commencing in the Principal Site, then the cable corridor before proceeding with national, regional and then local landscape character areas is clear and concise. It would have been useful to have a concluding table that drew together the information from each of the tables or if this information could have been represented on a map of the study area. It is a little lengthy, but there is a lot of useful information presented.

F) Appendix 10-F Visual assessment

The same approach as for appendix 10-E is adopted in this appendix for each of the thirty four representative viewpoints. Table 1 identifies the broad receptor groups for the viewpoints which include residents (within 2km), recreational users (on PRoW, promoted walking routes and cycleways), motorists, and commercial users. The previous comments made for appendix 10-E are valid for 10-F.

[redacted]

AAH Landscape

[redacted]

14th November 2024

Technical Memorandum 4 (AAH TM04)

Lincolnshire County Council and North Kesteven District Council, Fosse Green Energy: Relevant Representation Landscape and Visual Comments

Introduction

AAH Consultants, on behalf of Lincolnshire County Council (**LCC**) and North Kesteven District Council (**NKDC**), has reviewed the relevant Landscape and Visual elements of the Fosse Green Energy Application to provide initial comment to be incorporated within a Relevant Representation statement from LCC and NKDC.

Fosse Green Energy, which is proposed on 1,368 hectares of land within the administrative area of North Kesteven District Council, located approximately 9km south and south west of Lincoln City Centre, for the development of PV panels, substation, BESS, cable connection corridor, and associated infrastructure.

The Fosse Green Energy (Reference: EN010154) Application documents that have been accessed and reviewed are available on the Planning Inspectorate Website at:
https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN010154/documents

This Technical Memorandum (**TM**) includes initial comments, and a full review of the landscape and visual elements of the scheme is currently being carried out. 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 full review of the submitted 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**)

By reason of its mass and scale, we judge that the proposed development would lead to Significant Adverse effects upon the existing landscape and visual baseline, which is reflected within the submitted Landscape and Visual Impact Assessment (**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 about the landscape character effects through changes to the land use over an extensive area of agricultural land, as identified in Section 10.7 of the LVIA chapter. The LVIA chapter identifies a *"change in land use and character due to the solar panels and associated equipment introducing structures within an arable landscape".* This should be considered in regards to affecting a vast area of land.

Significant landscape effects are subsequently identified within the LVIA chapter with the identification of Significant adverse effects to the Principal Site (the area of the order limits covered by PV panels) and Published Landscape Character Areas, at Construction, Year 1 Operation and Year 15 Operation. Significant Residual landscape effects largely arise from character areas directly affected (where the development is located within these areas).

The scale and extent of development would also lead to Significant Adverse effects on views from visual receptors, changing from views experienced within an agricultural or rural landscape to that of 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 1 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 new planting and habitat creation will add valuable assets across this area, this is through the introduction of a large-scale solar development in an agricultural landscape. The planting, if establishes as predicted, will also go some way in screening and integrating proposals in views. However, we do note that the reduction in Significant landscape and visual effects predominantly relies upon the successful establishment of the planting scheme.

The cumulative landscape and visual effects of the proposed development are considered in Chapter 15 of the ES and Section 10.10 of the LVIA. While a 2km ZoI has been utilised for schemes to be considered for cumulative landscape and visual effects, four large scale solar projects that are located beyond this distance have also been shortlisted to be considered against Fosse Green Energy for cumulative landscape end visual effects, as identified in paragraph 10.10.2:

- ID 63. Application Reference: EN010149. Springwell Energy Farm.
- ID 87. Application Reference: EN010162. Great North Road Solar
- ID 88. Application Reference: EN010159. One Earth Solar Farm.
- ID 103. Application Reference: EN0110016. Leoda Solar Farm

Of the projects listed within paragraph 10.10.1 and 10.10.2 to be considered in the cumulative assessment, Significant cumulative landscape and visual effects judged to be limited to the scheme and:

- ID 95. Application Reference: PL/0087/23. North Hykeham Relief Road: Significant landscape and visual effects are identified in the LVIA;
- ID 63. Application Reference: EN010149. Springwell Energy Farm: Significant landscape and visual effects are identified in the LVIA;
- ID 103. Application Reference: EN0110016. Leoda Solar Farm: Significant landscape and visual effects are identified in the LVIA.

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 additional schemes, above those identified in the LVIA. These large-scale solar schemes occupy some of the same landscape character areas as Fosse Green Energy Solar. The mass and scale of these projects combined has the potential to lead to adverse effects on landscape character over an extensive area, across the region, which may be completely altered over the operational period, particularly when experienced sequentially for visual receptors travelling through the landscape and experiencing these schemes across potentially several kilometres, albeit with gaps between schemes. These schemes combined, if built, would clearly require the update of any published landscape character assessment, including the NCA's, so as to include large scale solar as a defining land use characteristic as well as agriculture.

The Fosse Green Energy scheme 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 (shown on Figure 7.15-1 Landscape Mitigation plan within the OLEMP at Appendix A) which illustrates the mitigation, which should be further explored, and would need to 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 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, currently referenced at article 30(8), 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.

Proposed vegetation removal is identified within the Draft DCO and Appendix 10-H 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.

[redacted] CMLI
AAH Landscape

[redacted]@aahplanning.com
[redacted]

10 October 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: https://www.nature.scot/sites/default/files/2018-05/Publication%202018%20-%20Environmental%20Impact%20Assessment%20Handbook%20V5.pdf [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: https://www.landscapeinstitute.org/technical/glvia3-panel/

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

Landscape Institute
85 Tottenham Court Road
London
W1T 4TQ

www.landscapeinstitute.org

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

Appendix ii: LIR Assessment (Agriculture and Soils) Land at Fosse Green Energy Park

Review of Fosse Green Solar Project ES Chapter Soils and Agriculture

North Kesteven District Council

October 2025

Contents

Review of Fosse Green Solar Project ES Chapter 12

1. **Summary Position**

Key Points

- A detailed base line ALC has been undertaken across 1,071 hectares, of mainly arable farmland, following Natural England consultation, in detail at a standard density of 1 auger bore per hectare.
- The ALC report has been prepared for the whole site. The grades of land are essentially a mixture of Grades 3a and 3b, with 77.5% being Grade 3b.
- 22.5% of the site is BMV quality, based on the detailed survey, BMV is mainly Grade 3a, extending to 241 hectares.
- The promoters state they have avoided siting on the highest-grade land based on data provided by Natural England.
- A Framework Soil Management Plan is provided and includes sections on construction, management and decommissioning. The decommissioning anticipates removal of equipment after 60 years and a Framework Decommissioning Environmental Management Plan is included.
- The cable routes have not been ALC surveyed in detail, but the methodology was agreed with Natural England. The cable routes are likely to be similar quality to the overall site.
- ES Chapter 12, Socio-Economics and Land Use envisages
- PV panel arrangement designed to provide a minimum 0.8m ground clearance to facilitate sheep grazing under the panels, where practicable. How likely this is may depend on the economics of farming in the future.
- Removing intensive farming is considered to eliminate nitrates and phosphates, supporting soil health, biodiversity and improving water quality. However, there is limited detail as to how this will be maintained after the scheme ends. A Framework LEMP [EN010154/APP/7.15] has been prepared to accompany the DCO application which sets out the principles for how the land will be managed
- There is some soil health assessment and assessment of loss of land for food production and the impact on any agricultural holdings affected is also addressed. Overall the impact is considered low in all cases.
- The Fosse Green Site is intended to be developed in parts, over a 24 month period, with each part able to be commissioned separately and delivering electricity to the grid
- The temporary life of the project is indicated as 60 years, the 60 years being measured from the final commissioning date.
- There are separate decommissioning plans that could come forwards for each “part”. At this stage there is uncertainty regarding the types of panels, whether fixed or single axis tracker panels
- The BESS site is unconfirmed as to whether it will be one site or several smaller units.

2. Introduction and Background

The Proposed Development comprises the installation of solar photovoltaic (PV) generating modules, battery storage facilities, and grid connection infrastructure on 1,071 hectares with a capacity in the region of 800MW, in Lincolnshire.

The stated starting point for choosing the location of the solar farm was the availability of the grid connection. Agricultural land of lower quality was stated as sought and **Appendix 1** shows the ALC map and grades of land.

The agricultural assessment ES has been undertaken by AECOM and the Agricultural Land Classification (ALC) and soil survey has been undertaken by Roberts Environmental Ltd.

3. Agricultural Land and Soils

There is a need to minimise the use of BMV agricultural land, which is classification Grades 1, 2, and 3a, however development is not prohibited from being located on BMV agricultural land. Under the ALC system, Subgrade 3a land would form BMV whereas Subgrade 3b would not.

With regards to agricultural land and soils, mapping of soils has been prepared based on surveys of the Principal Site and presented in the Agricultural Land Classification Report. The land is predominantly Grade 3b (moderate quality agricultural land) with some BMV land present, limited to areas of Grade 3a (good quality agricultural land). No areas of Grade 1 or 2 have been identified.

Overall Findings of ALC

Non-agricultural land 40ha	3.74%
Total BMV agriculture land 241ha	22.5%
Total Non-BMV agriculture land 790ha	77.5%

Environmental statement Chapter 12: Agricultural Land of the ES Report sets out findings with regard to Soils and Agriculture.

12.10.23 Effects on agricultural land would occur as long-term effects arising from the construction of the Proposed Development and hence have been reported for the construction phase. These were assessed as not significant. The solar NSIPs in Lincolnshire, considered cumulatively, will upon decommissioning be returned to agriculture with soil resources in a healthy condition. The cumulative effect of the Proposed Development is assessed to be not significant, neither in respect of the adverse withdrawal of land from agriculture nor the positive effect of improving soil health resulting from reduction in cultivation.

Land drainage is a key factor in assessing both land classification and the impact on land restoration particularly along any cable or grid connection route, where trenches are dug, or where soils are stripped even temporarily.

At present there is no settled consensus as to whether a long-term temporary use of land should be considered as not significant and therefore the loss of any BMV over the 20 hectare threshold may still be significant.

Agricultural Land Classifications

The ES report confirms that the site has been assessed for ALC and maps and details are provided. A detailed ALC survey has now been completed. Field survey was undertaken between 2023 and 2024. In total 1,070 hectares (ha) of agricultural land has been surveyed. Other land outside the order limits was also surveyed, but is not shown.

Table 6 of the ES sets out the amounts and proportions of agricultural land according to Grade. Overall, the non BMV land is Grade 3b, moderate quality.

Table 6: ALC Grades

ALC Grade	Area (Ha)	Percentage
Grade 1	0.0	0.0%
Grade 2	0.0	0.0%
Subgrade 3a	241.0	22.50%
Subgrade 3b	790.0	73.76%
Grade 4	0.0	0.0%
Grade 5	0.0	0.0%
Non-Agricultural	40.0	3.74%
Total BMV	241.0	22.50%
Total Non-BMV	830.0	77.50%
Total Site Area	**1071.0**	**100%**

ALC Survey Methodology

The soil augering of the site has been undertaken in line with TIN 049 and the MAFF 1988 Guidelines, one auger point per hectare and with occasional soil pits particularly where soil types vary. Natural England agreed the methodology, and it is broadly in line with recommendations according to BSSS methodology (**Appendix 2**).

Soils

A Framework Soil Management Plan (SMP) has be provided, stated to minimise the effects on soils and land quality. The SMP identifies the soil types across the Site, and any sensitivities to being worked in wet weather. The SMP will provide guidance on the handling of soils, and the trafficking across soils, for all parts of the construction and operational works, and provide guidance for decommissioning.

The survey identified Four Soil Types across the entire site.

Soil Type 1 – Loamy Medium Sand topsoil, Wetness Class I

Soil Type 2 – Sandy Clay Loam topsoil, Wetness Class III

Soil Type 3 – Heavy Silty Clay Loam topsoil, Wetness Class III

Soil Type 4 – Heavy Clay Loam topsoil, Wetness Class III

The main limitations to ALC grade quality were Wetness Class for land classified as Grade 3b and Droughtiness and/or Wetness where it is 3a quality.

Soil Management Plan

The Framework SMP has be submitted with the ES. The practices set out in the SMP will be embedded in the construction methodology, operation and decommissioning.

Soil Structure

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 SMP should address these issues.

Cumulative ALC Impacts

There are a number of small(er) and largescale Solar PV schemes in both Nottinghamshire and Lincolnshire, with others planned or proposed. There are many known solar project NSIP schemes; specifically in relation to impacts on agricultural land. The situation is a moving picture as new proposals come forward from time to time. Most of these sites are proposed on farmland. The local area in particular is an agricultural area with substantial amounts of land within the Best and Most Versatile category. Given that the site contains some BMV, the impact may be significant.

District and County ALC

For a project of this scale there is an impact, the project will tie up the land for up to many years. The area is large locally and if the quantities of BMV are as expected or similar then the impact will be reasonably large, and I would expect the impact to be significant at a District or County Level.

4. Cable Route Corridor

The Cable Corridor partly overlaps with the Principal Site, whereby the Cable Corridor covers approximately 351ha in total, overlapping approximately 53ha of the Principal Site. It has not been ALC surveyed in detail outside of the main site.

The cable route will be a temporary construction feature with soils reinstated, following cable burial.

The soil management plan considers the cable route in order to minimise the impact on soil structure, land drainage and ultimately soil quality. Guidance is available in published documents.

The route passes across and will be buried under mainly open countryside that is largely arable farmland.

The soil survey of a defined Cable Corridor is proposed to be undertaken post-consent, secured in the Framework CEMP [EN010154/APP/7.7].

Two key groups of impacts have been identified for the purpose of defining receptor sensitivity and impact magnitude:

- Land use and tenure: these are the potential impacts on human activity, including landowners, occupiers, local communities and other land users

- Agriculture: these are potential impacts on the soil resource, the surrounding environment and the agricultural productivity of the land.

Additional concerns include land drainage impact during construction and restoration of cable trenches. At other locations, the amount of dust created during construction and settling on crops can be an issue. This is more likely with sandy and silty soils.

Soil Health

If the land is used for biodiversity, it would not be available for agriculture. However, even if it is available for some form of cutting or grazing it is unlikely that the ALC grade will change significantly during the life of the project. There is some evidence that organic matter can build up in biodiversity areas at a faster rate than arable farmland and this may benefit the land, but it is not generally a factor in the assessment of ALC.

If enhanced soil health is to be given weight in the planning process there needs to be some indication of the longevity and/or permanence of the benefits beyond the life of the project, otherwise the soil health benefits are only temporary and cannot be given much weight.

At a local, site level, it can prove difficult to establish low fertility grassland on former arable land due to the higher levels of potassium and phosphate in soils.

5. Summary of Effects

From the construction phase, short-term and long-term temporary use of agricultural land will occur. The only permanent reduction in agricultural land will be for habitat creation, where the soil resource will be maintained, outside of agriculture.

The reports summarise the main effects on agricultural land and soil below:-

12.7.44 Land permanently used is defined as the area of agricultural land disturbed during construction which is permanently taken out of agricultural use due to the Proposed Development. Given that the land within the Cable Corridor outside of the Principal Site will be returned to previous land use upon completion of construction, and all infrastructure within the Principal Site will be removed upon decommissioning, the only areas of agricultural land considered to be permanently lost due to the Proposed Development are areas of planting and habitat creation introduced as part of the Proposed Development. The extent of these areas amount to a total use of 4.6ha of agricultural land, of which 1.5ha is BMV land (Subgrade 3a). The change of land use is likely to be beneficial to the soil resource but the low magnitude withdrawal of land from agricultural production may be interpreted as a minor adverse effect, which is not significant.

12.7.82 An increase in soil organic matter content may occur during the lifetime of the Principal Site. The land will therefore be in the same or better condition than it currently is, as a result of the expected natural enhancement through being set aside for a long period of time. However, this is likely to be reversible and maintaining elevated soil organic matter will be dependent on good agricultural land management practices being adopted after decommissioning.

Effect on Agricultural Land

This is stated as a low magnitude impact and accordingly **minor adverse**, which is considered **not significant**. This is with reference to the loss of BMV to areas of hardstanding etc.

Temporary, reversible losses of soil related features are considered low magnitude of impact changes in the IEMA Guide. Low magnitude impacts on resources of high or medium sensitivity equate to **minor adverse** significance. The overall impact is therefore considered as minor adverse for the 60 year duration of the operational lifespan of the Development and **not significant**. Whilst the project life is long term, it is considered as temporary and in that scenario, if all of these areas are capable of full restoration back to the current status, then the impact is ultimately low.

The cumulative or wider impact compares the local area to the national and county wide BMV statistics. The argument is made that the impact is low at local and regional level.

Effects on Soils

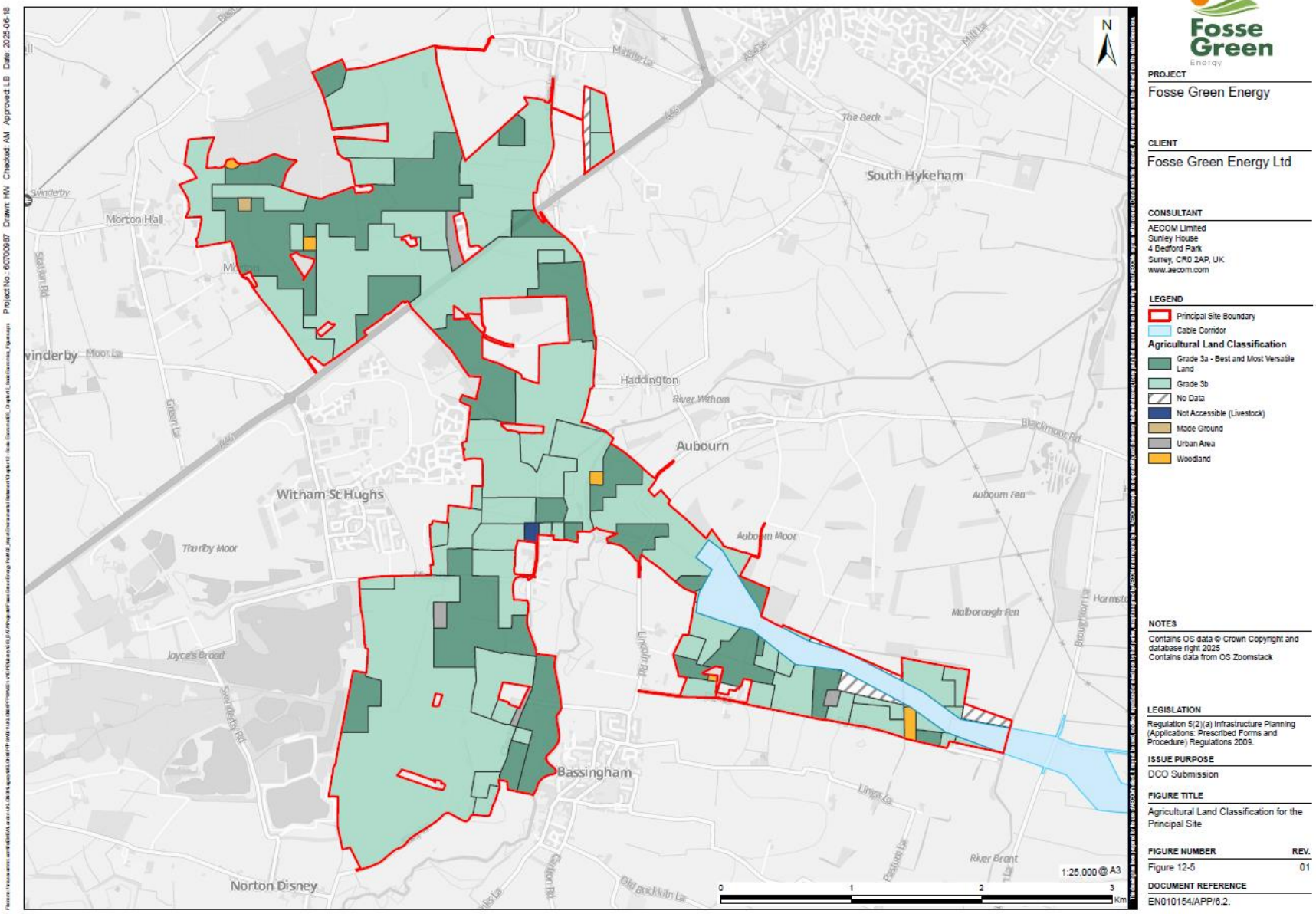
The potential effects on soils is considered alongside the effects on agricultural land in the assessment. The disturbance to soils is generally viewed as temporary and limited, on the basis that the use is temporary albeit long term. The soils within the Order Limits are of medium (mostly) and low sensitivity.

[redacted] BSc (Hons) MSc FBIAC PIEMA MISoilSci

Landscope Land and Property Ltd

October 2025

Appendix 1



Fosse Green Energy

PROJECT
Fosse Green Energy

CLIENT
Fosse Green Energy Ltd

CONSULTANT
AECOM Limited
Sunley House
4 Bedford Park
Surrey, CR0 2AP, UK
www.aecom.com

LEGEND
- Principal Site Boundary
- Cable Corridor

Agricultural Land Classification
- Grade 3a - Best and Most Versatile Land
- Grade 3b
- No Data
- Not Accessible (Livestock)
- Made Ground
- Urban Area
- Woodland

NOTES
Contains OS data © Crown Copyright and database right 2025
Contains data from OS Zoomstack

LEGISLATION
Regulation 5(2)(a) Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009.

ISSUE PURPOSE
DCO Submission

FIGURE TITLE
Agricultural Land Classification for the Principal Site

FIGURE NUMBER	REV.
Figure 12-5	01

DOCUMENT REFERENCE
EN010154/APP/6.2.

Appendix 2

Landscope Checking the ALC Report to the British Society of Soil Science checklist

	BSSS ALC Checklist				
Background		**P/C/F**	**Comment**	PASS	PASS
	Is the company / author a specialist in ALC?	PASS	Considered to be a specialist	FAIL	FAIL
	Have published soil maps been mentioned?	PASS	Yes	CONCERN	CONCERN
Climate data					
	Is interpolated climate data included for the site (esp. Field Capacity Days (FCD), Moisture Deficits (MD) and Maximum grade on climate)?	PASS	Yes		
	Is the data consistent with that expected for the area?	PASS	Yes		
Site and standalone limitations					
	Have gradients, micro-relief and flooding been considered / acknowledged?	PASS	Yes, mainly Flood Zone 1 & some FZ3		
Soils and interactive limitations					
	Have topsoils and subsoils been field surveyed? References to soil pits, auger samples & lab samples should be included.	PASS	No lab samples provided, but data not disputed		
	Are the soil types clearly described, including reference to gleying, slowly permeable layers (SPL), soil wetness class (SWC) and drought?	PASS	Yes		
	Have the reasons for ALC grading been clearly described?	PASS	Yes		
	Have soil structure and porosity been described?	PASS	Yes		
	Have soils been described using Soil Survey Field Handbook (Hodgson 2022)?	PASS	Yes		
	Have soils been described using Munsell soil colour notations?	PASS	Yes		
Conclusions and references					
	Is there a table clearly showing areas of ALC grades?	PASS	Yes		
	Is there a list of references (normally including Soil Survey of England and Wales mapping, the MAFF 1988 ALC guidelines, Munsell soil colour charts and the Soil Survey Field Handbook – Hodgson 2022)?	PASS	Yes		
	Have the limitations been justified when concluding the ALC grade(s) on the site?	PASS	Yes		
Schedule of auger borings and soil pits					
	Has a map of auger boring & soil pit locations been included?	PASS	Pit shown on map and photos		
	Have laboratory analyses been included to confirm topsoil particle size distribution?	PASS	Yes		
	Has a schedule of auger boring information been provided?	PASS	Yes		
	Do the auger borings show horizon depths, colours & textures?	PASS	Yes		
	Do the auger boring records clearly show soil wetness class?	PASS	Yes		
	Do the auger boring records clearly show topsoil stone content?	PASS	Yes		
	Do the auger boring records clearly show depth to gleying and depth to slowly permeable layer (SPL)?	PASS	Yes - generally SPL is present in WCIII		
	Do the auger boring records clearly show moisture balance (MB) values for drought (Wheat & Potatoes)?	PASS	Yes		
	Has detailed soil pit information been provided in the report and do the pit descriptions show horizon depths, colours and textures?	PASS	Yes		
	Do the soil pits / pit clearly show soil wetness class (WC)?	PASS	Yes		
	Do the soil pits / pit clearly show moisture balance (MB) values for drought?	PASS	Yes		
	Do the soil pit / pits clearly show soil structure and porosity in the subsoil?	PASS	Yes		

Appendix iii: Local Plan Policies and supporting text referred to in this LIR (for submission to PINS only)

Central Lincolnshire Local Plan

2.1. Settlement Hierarchy

2.1.1. The Central Lincolnshire spatial strategy seeks to concentrate growth on the main urban areas of Lincoln, Gainsborough and Sleaford, and in settlements that support their roles, with remaining growth being delivered elsewhere in Central Lincolnshire to support the function of other sustainable settlements, particularly where these are well connected by public transport or where the main centres can be accessed by active travel means.

2.1.2. This approach makes the most of existing services and facilities, delivering growth to where it is most needed. It also provides associated opportunities to regenerate urban areas, provide new jobs and new homes in accessible locations, and focus infrastructure improvements where they will have the greatest effect.

2.1.3. Through minimising the need to travel by locating development at the main urban centres and reducing the need to deliver new facilities the approach to delivering growth in this plan is also aligned to reducing the carbon being produced in Central Lincolnshire.

2.1.4. Outside of the main urban areas of Lincoln, Gainsborough and Sleaford, Central Lincolnshire's smaller towns and villages vary in size, demography, accessibility, facilities, character, constraints and opportunities. This Local Plan determines how each community can contribute to the delivery of a sustainable Central Lincolnshire, which may include proportionate and appropriate development.

2.1.5. The scale of growth directed to each settlement has been established in three steps:

1. Preparation of a Settlement Hierarchy, based on factual information, together with a strategic policy steer as to what level of development would be appropriate for settlements within each level of the hierarchy (see Policy S1);
2. Determination of the overall level of growth for Central Lincolnshire, and at the same time determination of a strategic split of that growth across Central Lincolnshire (see Policy S2); and
3. Establishing what site allocations may be appropriate for each settlement, by way of a consideration of the specific context of each settlement in terms of the ability to accommodate growth and the connectivity with the main urban areas, before considering the constraints and opportunities of individual sites.

2.1.6. The Settlement Hierarchy is set out in Policy S1. Three separate documents detail the journey to defining the Settlement Hierarchy and choosing where allocations would be appropriate, namely: the Settlement Hierarchy Methodology Report (May 2020), the Services and Facilities Methodology Report (May 2020) and the Site Allocations Settlement Analysis (June 2021). Each of these are available on the Central Lincolnshire website. It should be noted that the Local Plan (and associated Policies Map) does not include defined 'settlement boundaries' around any settlements in Central Lincolnshire, and instead relies primarily on allocations and then the policy below to determine appropriate locations for development.

2.1.7. The Settlement Hierarchy provides a framework for neighbourhood plans to shape their own settlements through a detailed locally-led review, site allocations, if necessary introduction of settlement boundaries, or other tools to manage how a village will grow.

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.

Development should provide the scale and mix of housing types and a range of new job opportunities that will meet the identified needs of Central Lincolnshire in order to secure balanced communities.

Decisions on investment in services and facilities, and on the location and scale of development, will be assisted by the Central Lincolnshire Settlement Hierarchy.

The hierarchy is as follows:

1. Lincoln Urban Area
To significantly strengthen the role of Lincoln, both regionally and within Central Lincolnshire, and to meet Lincoln's growth objectives and regeneration needs, the Lincoln urban area (defined as the current built up area of Lincoln, which includes the City of Lincoln, North Hykeham, South Hykeham Fosseway, Waddington Low Fields and any other developed land adjoining these areas) and the sites allocated in this Local Plan on the edge of the Lincoln urban area will be the principal focus for development in Central Lincolnshire, including housing, retail, leisure, cultural, office and other employment development. In addition to sites being allocated in the Local Plan or a neighbourhood plan, development proposals in accordance with *Policy S3* and other relevant development plan policies will be viewed positively.

2. Main Towns
To maintain and enhance their roles as main towns, and to meet the objectives for regeneration, Sleaford and Gainsborough will, primarily via sites allocated in this Local Plan and any applicable neighbourhood plan, be the focus for substantial housing development supported by appropriate levels of employment growth, retail growth and wider service provision. In addition to sites being allocated in the Local Plan or a neighbourhood plan, development proposals in accordance with *Policy S3* and other relevant development plan policies will be viewed positively.

3. Market Towns
To maintain and enhance their roles as market towns, Caistor and Market Rasen will be the focus for significant, but proportionate, growth in housing, employment, retail and wider service provision. This growth will primarily be through sites allocated in this Local Plan and any applicable neighbourhood plan. In addition to sites being allocated in the Local Plan or a neighbourhood plan, development proposals in accordance with *Policy S3* and other relevant development plan policies will be viewed positively.

4. Large Villages
Large villages are defined as those with 750 or more dwellings at 1 April 2018. To maintain and enhance their role as large villages which provide housing, employment, retail, and key services and facilities for the local area, the following settlements will be a focus for accommodating an appropriate level of growth via sites allocated in this plan. Beyond site allocations made in this plan or any applicable neighbourhood plan, development will be limited to that which accords with *Policy S4: Housing Development in or Adjacent to Villages* or other policies relating to non-residential development in this plan as relevant.

Bardney	Heighington	Scotter
Billinghay	Keelby	Skellingthorpe
Bracebridge Heath	Metheringham	Waddington
Branston	Navenby	Washingborough
Cherry Willingham	Nettleham	Welton
Dunholme	Ruskington	Witham St Hughs
Heckington	Saxilby	

5. Medium Villages

Medium villages are defined as those with between 250 and 749 dwellings at 1 April 2018. Well connected or well served medium villages may receive some limited growth through allocations in this plan in order to achieve a balance between ensuring the vitality of the village and protecting the rural character. Beyond site allocations made in this plan or any applicable neighbourhood plan, development will be limited to that which accords with *Policy S4: Housing Development in or Adjacent to Villages* or other policies relating to non-residential development in this plan as relevant.

Bassingham	Greylees	Nocton
Blyton	Harmston	North Kelsey
Brant Broughton	Hawthorn Avenue ('Little Cherry')	Potterhanworth
Brookenby	Helpringham	Reepham
Burton Waters	Hemswell Cliff	Scampton (RAF)
Cranwell RAF	Ingham	Scothern
Cranwell Village	Lea	Sturton By Stow
Digby	Leasingham	Sudbrooke
Dunston	Marton	Tealby
Eagle	Middle Rasen	Waddingham
Fiskerton	Morton	Welbourn
Great Hale	Nettleton	Wellingore

6. Small Villages

Small villages are defined as those with between 50 and 249 dwellings at 1 April 2018. Well connected or well served small villages may receive some limited growth, primarily through allocations in this plan in order to achieve a balance between ensuring the vitality of the village and the rural character. Beyond site allocations made in this plan or any applicable neighbourhood plan, development will be limited to that which accords with *Policy S4: Housing Development in or Adjacent to Villages* or other policies relating to non-residential development in this plan as relevant.

Anwick	Hemswell	Scotton
Ashby de la Launde	Holton le Moor	Scredington
Aubourn	Kexby	Searby
Aunsby	Kirkby Green	Silk Willoughby
Beckingham	Kirkby La Thorpe	Snitterby
Bigby	Knaith Park	South Kelsey
Bishop Norton	Langworth	South Kyme
Boothby Graffoe	Laughterton	South Rauceby
Branston Booths	Laughton	Southrey
Burton	Leadenham	Spridlington
Canwick	Lissington	Springthorpe
Carlton Le Moorland	Little Hale	Stow
Chapel Hill	Martin	Swallow
Claxby	New Toft	Swarby
Coleby	Newton On Trent	Swaton
Corringham	Normanby By Spital	Swinderby
Doddington	North Carlton	Tattershall Bridge

Dorrington	North Greetwell	Thorpe On The Hill
East Ferry	North Kyme	Threekingham
East Stockwith	North Owersby	Timberland
Ewerby	North Scarle	Torksey
Faldingworth	Norton Disney	Upton
Fenton	Osbournby	Walcott
Fillingham	Osgodby	Walesby
Glentham	Owmby By Spital	Wickenby
Glentworth	Rothwell	Willingham By Stow
Grasby	Rowston	Willoughton
Great Limber	Scampton village	Wilsford
Hackthorn	Scopwick	

7. Hamlets
For the purposes of this Local Plan, a hamlet is defined as a settlement not listed elsewhere in this policy and with dwellings clearly clustered together to form a single developed footprint*. Such a hamlet must have a dwelling base of at least 15 units (as at 1 April 2018). Within the developed footprint* of such hamlets, development will be limited to single dwelling infill developments or development allocated through a neighbourhood plan.

8. Countryside
Unless allowed by:

a) policy in any of the levels 1-7 above; or
b) any other policy in the Local Plan (such as Policies S4, S5, S34, or S43) or a relevant policy in a neighbourhood plan, development will be regarded as being in the countryside and as such restricted to:

- that which is demonstrably essential to the effective operation of agriculture, horticulture, forestry, outdoor recreation, transport or utility services;
- delivery of infrastructure;
- renewable energy generation; and
- minerals or waste development in accordance with separate Minerals and Waste Local Development Documents.

* The definition of “developed footprint” as used throughout this policy is provided in the Glossary.

2.5. Countryside

2.5.1. Whilst development is focused within the urban areas and to a lesser extent in villages there will be occasions where development is proposed within the countryside areas. For most uses there are strong reasons why such development would be contrary to the overall strategy of this plan and would not result in sustainable development, however, some proposals and some uses will be wholly appropriate in some scenarios.

2.5.2. A criteria-based policy approach will be used to determine applications for residential and non-residential development within the countryside. Similar to residential development, non-residential development within the countryside must be sustainable and respectful to its setting. Commercial enterprises where a rural location can be justified to maintain and enhance the rural economy (for example, establishment of a farm shop) will be supported providing all other relevant criteria are met.

2.5.3. More widely, the rural nature of Central Lincolnshire and the significant role that agriculture plays in the economy of this area means that agricultural land and other rural land-based activities have a notable presence in the landscape and forms an attractive backdrop to the various settlements. Development needed to directly support such uses is important to foster a successful rural economy, but it can also have an impact on the landscape if not properly managed. As such it is important that such development is located and designed appropriately to minimise adverse impacts or even benefit the countryside.

2.5.4. Specific natural features or characteristics such as landscape character and best and most versatile agricultural land are addressed in the Natural Environment Chapter.

Policy S5: Development in the Countryside

Part A: Re-use and conversion of non-residential buildings for residential use in the countryside

Where a change of use proposal to residential use requires permission, and where the proposal is outside the developed footprint of a settlement listed in the Settlement Hierarchy or the developed footprint of a hamlet, then the proposal will be supported provided that the following criteria are met:

a) Comprehensive and proportionate evidence is provided to justify either that the building can no longer be used for the purpose for which it was originally built, or the purpose for which it was last used, **or** that there is no demand (as demonstrated through a thorough and robust marketing exercise) for the use of the building for business purposes; and
b) The building is capable of conversion with minimal alteration, including no need for inappropriate new openings and additional features; and
c) The building is of notable architectural or historic merit and intrinsically worthy of retention in its setting.

Part B: Replacement of a dwelling in the countryside
The replacement of an existing dwelling outside the developed footprint of a settlement will be supported provided that:

a) The residential use of the original dwelling has not been abandoned;
b) The original dwelling is not of any architectural or historic merit and it is not valuable to the character of the settlement or wider landscape;
c) The original dwelling is a permanent structure, not a temporary or mobile structure;
d) The replacement dwelling is of a similar size and scale to the original dwelling;
e) It is located on the footprint of the original dwelling unless an alternative position within the existing residential curtilage would provide notable benefits and have no adverse impact on the wider setting; and
f) It satisfies the requirements of Policy S11: Embodied Carbon.

Part C: Mobile homes within the countryside
Applications for temporary and mobile homes will be considered in the same way as applications for permanent dwellings. The exception to this is cases when a temporary or mobile home is needed during the construction of a permanent dwelling on site or on a nearby site: in such cases more flexibility will be applied. Permission granted in such instances will be subject to time restrictions.

Part D: New dwellings in the countryside
Applications for new dwellings will only be acceptable where they are essential to the effective operation of existing rural operations listed in tier 8 of Policy S1. Applications should be accompanied by evidence of:

a) Details of the rural operation that will be supported by the dwelling;
b) The need for the dwelling;
c) The number of workers (full and part time) that will occupy the dwelling;
d) The length of time the enterprise the dwelling will support has been established;
e) The commercial viability of the associated rural enterprise through the submission of business accounts or a detailed business plan;
f) The availability of other suitable accommodation on site or in the area; and
g) Details of how the proposed size of the dwelling relates to the needs of the enterprise.

Any such development will be subject to a restrictive occupancy condition.

Part E: Non-residential development in the countryside
Proposals for non-residential development 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.

Part F: Agricultural diversification
Proposals involving farm based diversification to non-agricultural activities or operations will be permitted, provided that the proposal will support farm enterprises and providing that the development is:

a) In an appropriate location for the proposed use;
b) Of a scale appropriate to its location; and
c) Of a scale appropriate to the business need.

Part G: Agricultural, forestry, horticultural or other rural land-based development
Proposals which will help farms modernise and/or adapt to funding changes or climate change will be supported in principle and any such proposals will be considered against relevant design, landscape and natural environment policies in this plan.

Where permission is required, development proposals for buildings required for agriculture or other rural land based development purposes will be supported where:

a) It is demonstrated that there is a functional need for the building which cannot be met by an existing, or recently disposed of, building;
b) the building is of a scale that is proportionate to the proposed functional need;
c) the building is designed specifically to meet the functional need identified;
d) the site is well related to existing buildings in terms of both physical and functional location, design and does not introduce isolated structures away from existing buildings; and
e) significant earthworks are not required, and there will be no harm to natural drainage and will not result in pollution of soils, water or air.

Reducing Energy Consumption – Water Efficiency

3.2.30. The supply and disposal of water has a significant carbon impact. Whilst the bulk (90%) of water-related carbon emissions come from the heating of water, the process of treating and pumping water to homes also has an impact (10%). Reducing water use (supply and disposal) therefore can have a significant carbon impact, even more so if that water is heated. Even small measures, such as a water butt, can make a difference – each time a 100l water butt is filled with rainwater, and used to water garden plants instead of using mains water, it saves 79g/CO_2 (Source: Water UK, which estimates the carbon footprint of 1 litre of domestic water is 0.79g/CO_2/l). That's a carbon saving on top of the wider water environment benefits of using rainwater rather than mains treated tap water.

3.2.31. Through the Building Regulations all developments are required to achieve a mandatory standard of 125 litres per person per day. The optional technical standards for housing allows local authorities to apply a more stringent standard of 110 litres per person per day where there is a clear local need. Central Lincolnshire is identified as being within an area of serious water stress[5] and so this optional standard is required in this plan.

3.2.32. One, arguably extreme, measure could be through new buildings using rainwater for wider use than garden use (such as for toilet flushing). However, some evidence suggests this may actually not be the most sustainable option, due to the on-site treatment and storage requirements, and may have a higher carbon footprint than the use of mains water. This Plan remains neutral on this point and does not, therefore, promote or require such measures.

Policy S12: Water Efficiency and Sustainable Water Management

Water efficiency
To minimise impact on the water environment all new dwellings should achieve the Optional Technical Housing Standard of 110 litres per day per person for water efficiency as described by Building Regulation G2. Proposals which go further than this (to, for example, 85 litres per day per person) would be particularly supported.

Water management
In addition to the wider flood and water related policy requirements (*Policy S21*), all residential development or other development comprising new buildings:

- with outside hard surfacing, must ensure such surfacing is permeable (unless there are technical and unavoidable reasons for not doing so in certain areas) thereby reducing energy demand on the water recycling network;
- should consider the potential to incorporate a green roof and/or walls in accordance with Policy S20; and
- which is residential and which includes a garden area, must include a rain harvesting water butt(s) of minimum 100l capacity.

3.3. Theme 2 - Increase Renewable Energy Generation

3.3.1. The second section of this chapter focusses on what the Local Plan can do to facilitate an increase in renewable energy generated in Central Lincolnshire, as part of a transition towards a net-zero carbon future. It does this by proactively encouraging investment in renewable energy infrastructure, encouraging and supporting the delivery of wider transformation infrastructure (such as energy storage), and requiring certain infrastructure

as part of new development where there is reasonable certainty that a net-zero carbon society would depend on such infrastructure.

Generating Renewable Energy

3.3.2. The generation and use of renewable energy reduces demand for fossil fuels, thus reducing harmful greenhouse gas emissions. Renewable energy technologies include:

- Photovoltaic solar panels- for electricity generation
- Thermal solar panels- for heating
- Wind turbines- for electricity generation
- Ground source heat pumps – for heating
- Air source heat pumps – for heating

3.3.3. Not only does the use of renewable energy reduce carbon emissions, and thus help address climate change, but it also has many other benefits too, namely:

- It is sustainable- renewable energy will not run out, unlike fossil fuels which are finite;
- The renewable energy sector creates jobs in the short and long term, for example, project planning, installation, operation and maintenance;
- Onshore wind offers the most cost-effective choice for electricity in the UK and these cost savings can be passed onto the consumer;
- Onshore wind technology is getting more efficient whilst maintaining the same footprint, and land between wind turbines can be used for other productive purposes, such as food production.

3.3.4. 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.

Wind Energy

3.3.5. In June 2015 Government issued a Written Statement[6] on wind energy development, stating that, *when determining planning applications for wind energy development involving one or more wind turbines, local planning authorities should only grant planning permission if:*

- *the development site is in an area identified as suitable for wind energy development in a local or neighbourhood plan; and*
- *following consultation, it can be demonstrated that the planning impacts identified by affected local communities have been fully addressed and therefore the proposal has their backing.*

3.3.6. This position is transcribed in national policy (NPPF (2021) footnote 54). Whether a proposal has the backing or support of the local community is a judgement the local planning authority will have to make on a case by case basis.

3.3.7. As mentioned in the introduction to this chapter, this Local Plan must be radical, and do more than merely 'encourage' action against climate change. As applications for wind turbines can (in accordance with the above national policy) only be approved if they are in a location identified as suitable for wind energy development, this Local Plan therefore identifies potentially suitable areas for wind turbine development. The alternative (i.e. not identifying any potentially suitable areas) would mean that wind turbine applications in Central Lincolnshire could only be approved if an area was identified in a neighbourhood plan: this could result in no or very limited wind turbine development, which would not be in line with Central Lincolnshire's ambition to facilitate a net zero carbon future and would be a barrier to this Local Plan making a legally required meaningful contribution to addressing the climate change crisis. Not identifying potentially suitable areas for wind turbine development would also make the goal of net zero carbon, whether by 2050 (UK legal requirement) or earlier (stated ambition of many authorities) harder to achieve, and result in greater pressure to adopt more revolutionary measures elsewhere. In principle, therefore, this Local Plan supports and helps facilitate the delivery of wind turbines.

3.3.8. Policy S14 below differentiates between small to medium scale turbines and medium to large turbines. This Local Plan establishes that the whole of the Central Lincolnshire area is potentially suitable for small to medium wind turbine development, while only the limited area shown indicatively on Map 2 (and defined on the Policies Map) is potentially suitable for the development of medium to large scale turbines.

3.3.9. Full details of the approach used to identify areas potentially suitable for medium to large wind turbine development are set out in a separate evidence document available on our website, but the following paragraphs provide a summary of our approach:

3.3.10. **Considering wind opportunity –** For wind turbines to be effective, there must be wind to power them. The East Midlands Low Carbon Energy Study (2011) highlighted that wind speeds in Central Lincolnshire are generally feasible for large-scale wind development and that wind speeds across Central Lincolnshire are consistently above 5.5m/s (the general threshold for economic viability). It is not considered that any material changes will have occurred since 2011 to impact this position, so it is maintained that, in principle, the opportunity for wind turbine development remains across the whole Central Lincolnshire area.

3.3.11. **Mapping of principal constraints –** The next step is identifying and mapping strategic level constraints to broadly identify the areas potentially suitable for wind turbine development. These constraints have been identified as:

- All settlements over 50 dwellings identified in the Settlement Hierarchy and settlements over 50 dwellings outside Central Lincolnshire (plus 2km buffer)
- Lincolnshire Wolds Area of Outstanding Natural Beauty
- Areas of Great Landscape Value
- Sites of Special Scientific Interest; Special Protection Areas; Special Areas of Conservation; Ramsars; National Nature Reserves; Local Wildlife Sites; Ancient Woodland
- Protected Battlefields; Scheduled Monuments; Historic Parks and Gardens; Conservation Areas
- 5km exclusion zone around airports and airfields, namely: Humberside; RAF Waddington; RAF Coningsby; RAF Barkston Heath, Kirton Lindsey airfield; Sturgate airfield; Wickenby Aerodrome; and Temple Bruer Airfield.

3.3.12. For most of the constraints identified above, no additional 'buffer zone' around them has been included. To do so was deemed inappropriate, as the required distance between a wind turbine and a constraint may vary significantly depending on the specifics of the site and nature of the proposal: as such, proximity to the identified principal constraints will be a matter for detailed consideration at the time of application.

3.3.13. **Map of areas potentially suitable for wind turbine development –** When all of the principal constraints are combined the result provides a number of areas which are not constrained by a 'principal constraint' and therefore potentially suitable in principle for medium-large scale wind turbines as shown on the indicative Map 2 below, and set out in detail on the Policies Map. All areas coloured purple are potentially suitable for medium-large wind turbine development.

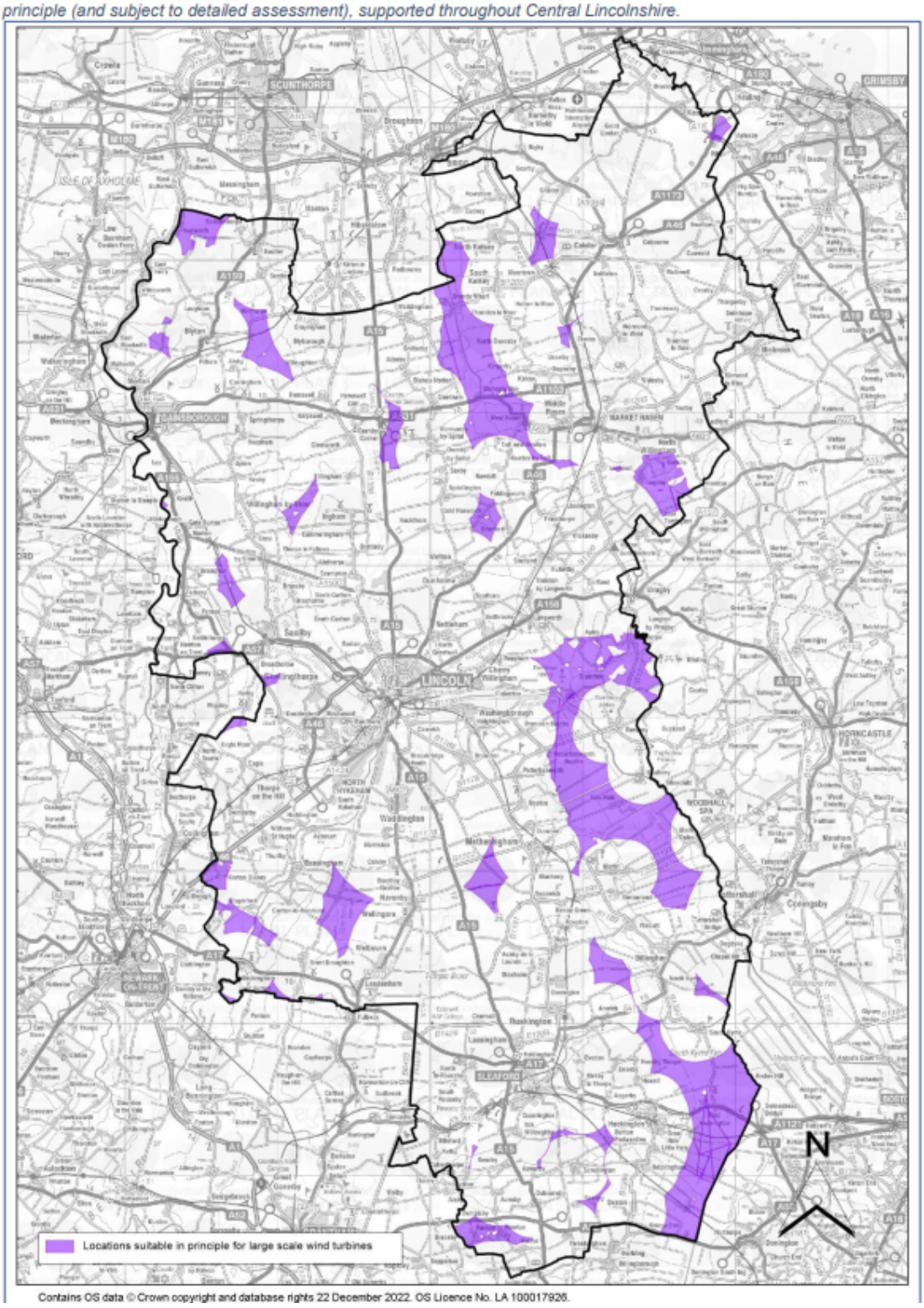
3.3.14. As well as the principal constraints discussed above, there is, of course, the potential for numerous other site specific constraints, such as: landscape character; visual amenity; biodiversity; geodiversity; flood risk; townscape; heritage assets and their settings and the historic landscape; and highway safety. However, again, the impact of these constraints may vary significantly depending on the specifics of the site and the nature of the proposal, and therefore were not used to sieve out additional areas which are deemed unsuitable in principle for medium to large turbines.

3.3.15. To illustrate the above point, the Witham Fen north of the Heckington Eau is a historic landscape potentially sensitive to the introduction of wind turbines; both because it is a shared setting to the numerous scheduled monuments sited around it and because of its importance in key views to Lincoln Castle / Cathedral and Tattershall Castle. Whilst this historic landscape area has not been applied as an absolute constraint to medium-large scale wind turbines, any wind turbine proposals in that area would have to carefully consider the impact on the historic landscape and the heritage assets associated with it.

3.3.16. **Detailed assessment of applications –** It is important to stress that the areas on Map 2 and the Policies Map are only '*potentially suitable*' for medium-large scale wind turbines: being within these locations does not mean that an application for a wind turbine or turbines would automatically be approved. It is not possible to easily and comprehensively map qualitative considerations, so such matters are considered at the point of application: all applications for wind turbines will be assessed against the detailed policy criteria set out in Policy S14 below, and all other relevant policies in this Local Plan, as well as policies in any relevant Neighbourhood Plan.

3.3.17. In addition, applicants will also have to demonstrate that any planning impacts identified by affected local communities have been fully addressed, in order to satisfy national policy[7].

Map 2: Map of area suitable in principle, subject to detailed assessment, for the development of medium to large wind turbines. Areas marked in purple are potentially suitable for medium to large wind turbines. Smaller turbines are, in principle (and subject to detailed assessment), supported throughout Central Lincolnshire.



Policy S14: Renewable Energy

The Central Lincolnshire Joint Strategic Planning Committee is committed to supporting the transition to a net zero carbon future and will seek to maximise appropriately located renewable energy generated in Central Lincolnshire (such energy likely being wind and solar based).

Proposals for renewable energy schemes, including ancillary development, will be supported where the direct, indirect, individual and cumulative impacts on the following considerations are, or will be made, acceptable. To determine whether it is 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;

Testing compliance with part (i) above will be via applicable policies elsewhere in a development plan document for the area (i.e. this Local Plan; a Neighbourhood Plan, if one exists; any applicable policies in a Minerals or Waste Local Plan); and any further guidance set out in a Supplementary Planning Document.

In order to test compliance with part (ii) above will require, for relevant proposals, the submission by the applicant of robust evidence of the potential impact on any aviation and defence navigation system/communication, and within such evidence must be documented areas of agreement or disagreement reached with appropriate bodies and organisations responsible for such infrastructure.

In order to test compliance with part (iii) above will require, for relevant proposals, the submission by the applicant of a robust assessment of the potential impact on such users, and the mitigation measures proposed to minimise any identified harm.

For all matters in (i)-(iii), the applicable local planning authority may commission its own independent assessment of the proposals, to ensure it is satisfied what the degree of harm may be and whether reasonable mitigation opportunities are being taken.

Where significant adverse effects are concluded by the local planning authority following consideration of the above assessment(s), such effects will be weighed against the wider environmental, economic, social and community benefits provided by the proposal. In this regard, and as part of the planning balance, significant additional weight in favour of the proposal will arise for any proposal which is community-led for the benefit of that community.

In areas that have been designated for their national importance, as identified in the National Planning Policy Framework, renewable energy infrastructure will only be permitted where it can be demonstrated that it would be appropriate in scale, located in areas that do not contribute positively to the objectives of the designation, is sympathetically designed and includes any necessary mitigation measures.

Additional matters for solar based energy proposals
Proposals for solar thermal or photovoltaics panels and associated infrastructure to be installed on existing property will be under a presumption in favour of permission unless there is clear and demonstrable significant harm arising.

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 is (following a site specific soil assessment) to 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 in this Local Plan or other statutory based document (such as a nature recovery strategy or a Local Transport Plan), and the proposal is not compatible with such other allocation.

Proposals for ground based photovoltaics should be accompanied by evidence demonstrating how opportunities for delivering biodiversity net gain will be maximised in the scheme taking account of soil, natural features, existing habitats, and planting proposals accompanying the scheme to create new habitats linking into the nature recovery strategy.

Additional matters for wind based energy proposals
Proposals for a **small to medium single wind turbine**, which is defined as a turbine up to a maximum of 40m from ground to tip of blade, are, in principle, supported throughout Central Lincolnshire (i.e. the whole of Central Lincolnshire is identified as a broad area potentially suitable for such a single turbine), subject to meeting the above criteria (i)-(iii) and the requirements of national planning policy. Under this paragraph, no dwelling or other operation (e.g. a farm or a business) may have more than one turbine at any one time in the curtilage of that dwelling or other operation.

Proposals for **medium (over 40m from ground to tip of blade) to large scale wind turbines (including groups of turbines)** will, in principle, be supported only where they are located within an area identified as a 'Broad Area Suitable for Larger Scale Wind Energy Turbines' as identified on the Policies Map and (indicatively) on Map 2. Such proposals will be tested against criteria (i)-(iii) and the requirements of national planning policy.

Medium to large scale wind turbines must not be within 2km of a settlement boundary of a settlement identified in the Settlement Hierarchy. However, where a proposal is within 2km of any residential property, the following matters will need careful consideration as to the potential harm arising:

- Noise
- Flicker
- Overbearing nature of the turbines (established by visual effects from within commonly used habitable rooms)
- Any other amenity which is presently enjoyed by the occupier.

In this regard, no medium to large scale wind turbine within 700m of a residential property is anticipated to be supported, and proposals between 700-2,000m will need clear evidence of no significant harm arising.

For the avoidance of doubt, any medium to large scale wind turbine proposals outside of the identified Broad Area Suitable for Larger Scale Wind Energy Turbines should be refused.

Decommissioning renewable energy infrastructure
Permitted proposals will be subject to a condition that will require the submission of an End of Life Removal Scheme within one year of the facility becoming non-operational, and the implementation of such a scheme within one year of the scheme being approved. Such a scheme should demonstrate how any biodiversity net gain that has arisen on the site will be protected or enhanced further, and how the materials to be removed would, to a practical degree, be re-used or recycled.

Wider Energy Infrastructure

3.3.19. 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. The key implication of the move towards low carbon energy will be the increasing demand for electricity – demand for electrical energy is forecast to increase by 165% in Central Lincolnshire over the next 30 years. As a result, the infrastructure around energy, and in particular electrical infrastructure, will need to adapt and change to accommodate the increased need for the management and storage of electricity. Energy storage including battery storage, consideration of existing and new electricity sub-stations and energy strategies for large developments are required to help support the future energy infrastructure needs for Central Lincolnshire.

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, sub-stations or other electricity infrastructure.

However, any such proposals should take all reasonable opportunities to mitigate any harm arising from such proposals, and take care to select not only appropriate locations for such facilities, but also design solutions (see Policy S53) which minimises harm arising.

3.7. Flood Risk and Water Resources

3.7.1. Central Lincolnshire's rivers and water resources are a valuable asset, supporting wildlife, recreation and tourism, as well as providing water for businesses, households and agriculture. Inland waterways are a multifunctional asset that can contribute towards many Local Plan objectives, including important opportunities for regeneration, tourism, and sustainable transport. Water resources require careful management to conserve their quality and value and to address drainage and flooding issues.

Flood Risk

3.7.2. In accordance with the NPPF and supporting technical guidance, Policy S21 seeks to ensure that development does not place itself or others at increased risk of flooding. All development will be required to demonstrate that regard has been given to existing and future flood patterns from all flooding sources and that the need for effective protection and flood risk management measures, where appropriate, have been considered as early on in the development process as possible. In allocating sites within this Local Plan,

addenda to the SFRA Level 1 and Level 2 has been undertaken and published, to inform the process.

3.7.3. A sequential risk based approach to the location of development, known as a 'sequential test,' will be applied to steer new development to areas with the lowest probability of flooding. If, following the application of the sequential test, it is not possible, consistent with wider sustainability objectives, for development to be located in areas with a lower probability of flooding, the exception test may be applied. The exception test, in line with NPPF, requires development to show that it will provide wider sustainability benefits to the community that outweigh flood risk, that it would be safe for its lifetime taking account of the vulnerability of its users, without increasing risk elsewhere and, where possible, will reduce flood risk overall.

3.7.4. Central Lincolnshire contains significant areas of low lying land for which a number of organisations are responsible for managing flood risk and drainage, including the Environment Agency (EA), Lincolnshire County Council as Lead Local Flood Authority (LLFA), Anglian Water and Severn Trent Water Companies, the Canal and River Trust, a number of Internal Drainage Boards (IDBs) and the three Local Authorities. Flood defences protect many of the existing built-up areas from river flooding to a currently acceptable standard, but it is anticipated that the risk of flooding will increase in the future as a result of climate change. These include predicted sea level rise, more intense rainfall and increased river flows.

3.7.5. Many of Central Lincolnshire's settlements were originally established adjacent to rivers or other water bodies. Over time these same settlements have grown into the main centres of population in Central Lincolnshire and now represent, in terms of wider sustainability criteria, the most sustainable locations for future development. A careful balance therefore needs to be struck between further growth in these areas to ensure their communities continue to thrive and the risk of flooding.

3.7.6. With the increased likelihood of more intense rainfall combined with further development in Central Lincolnshire, there will be an increase in the incidence of surface water runoff, placing greater pressure on existing drainage infrastructure. The discharge of surface water to combined sewer systems should be on an exceptional basis only. This will ensure that capacity constraints of existing systems are not put under severe pressure by placing unnecessary demands on existing sewage works and sewage systems which in turn could compromise the requirements of the Water Framework Directive. The discharge of surface water to combined sewer systems can also contribute to surface water flooding elsewhere.

3.7.7. Sustainable Drainage Systems (SuDS) are used to replicate, as closely as possible, the natural drainage from a site before development takes place without transferring pollution to groundwater. Developers should ensure that good SuDS principles consistent with national standards such as The SuDS Manual (C753 – CIRIA) are considered and incorporated into schemes as early in the development process as possible. A multi-functional approach to SuDS is encouraged that should take every opportunity to incorporate features that enhance and maintain biodiversity as part of a coherent green and blue infrastructure approach. The use of Integrated Water Management is encouraged for larger scale developments. Reference should be made to the Lincolnshire County Council Development Roads and Sustainable Drainage Design Guide and CIRIA guidance on Integrated Water Management. The Design Guide provides information on planning and adoption milestones and requirements and lists the essential technical documents and information required at various stages of the planning and adoption process to enable the necessary processes to be progressed. When SuDS features which meet the legal definition of sewers are to be adopted by the relevant water company for the area, reference should be made to the Design and Construction Guidance.

Protecting the Water Environment

3.7.8. The Central Lincolnshire authorities work closely with water companies, the EA and other relevant bodies to ensure that infrastructure improvements to manage increased waste water and sewage effluent produced by new development are delivered in a timely manner, and to ensure that, as required by the Water Framework Directive, there is no deterioration to water quality and the environment.

3.7.9. Parts of Central Lincolnshire are currently constrained by the capacity of water recycling infrastructure, and will require coordinated timing between development and new or improved infrastructure provision. The predominantly rural nature of the area means that there are developments without mains drainage connection that will require careful design and management. The first presumption in such areas must be to provide a system of foul drainage discharging into a public sewer. Only where it can be shown to the satisfaction of the local planning authority that connection to a public sewer is not feasible, should non-mains foul sewage disposal solutions be considered.

3.7.10. Groundwater Source Protection Zones (SPZs) are areas of groundwater where there is a particular sensitivity to pollution risks due to the closeness of a drinking water source and how the groundwater flows. They are used to protect abstractions used for public water supply and other forms of distribution to the public such as breweries and food production plants. Development in the SPZs will be expected to comply with the EA's approach to groundwater protection (Feb 2018 v1.2) or any subsequent replacement.

3.7.11. Central Lincolnshire lies within the East Midlands area of serious water stress where drought is a cause for concern. This is a major challenge in the context of Central Lincolnshire's planned growth, and will require careful conservation and management of water resources to ensure that demand for water can be achieved in a sustainable manner. It also provides the justification to require, via this Local Plan, the higher water efficiency standard of 110 litres per day which can be achieved through the installation of water efficient toilets, showers and taps. Water re-use measures are encouraged wherever feasible in order to reduce consumption and demand on the mains water supply further.

3.7.12. The River Trent as it skirts the edge of Central Lincolnshire and runs adjacent to the main town of Gainsborough, from Cromwell Weir to the River Humber, is tidal and flows into the internationally important Humber Estuary. The River Witham passing through Central Lincolnshire and the City of Lincoln flows into the Wash, also of international importance. As such, any proposals that affect or might affect the marine area should make reference to and be guided by the Marine Policy Statement and supporting guidance or any subsequent replacement. The Marine Policy Statement provides a shared UK vision for clean, healthy, safe, productive and biologically diverse oceans and seas by ensuring a consistent approach to marine planning across UK waters. Development in this area should also make reference to the East Inshore and East Offshore Marine Plans.

3.7.13. To support the planning process and provide a better understanding of flood risk, drainage management and water management in the area, data from the EA, LLFA, IDBs and Water Resources East have been used to inform the SFRA Level 1 and 2, site allocations and Local Plan policies. In preparing the Local Plan, the Joint Lincolnshire Flood Risk and Drainage Management Strategy, Partnership Approach to Catchment Management, Water Resources Management Plan and the GLLEP Water Management Plan have been referenced.

3.7.14. All relevant development proposals, where appropriate, should be discussed with the Local Planning Authority in liaison with the EA, Water Services Provider, IDBs and the LLFA at the earliest opportunity, preferably at pre-application stage. This should ensure flood risk and drainage solutions, particularly where required on site, can be factored into the development process as early as possible. Adequate mains foul water treatment and disposal should be evidenced through liaison with the Water/ Sewerage Company. The outcome of those discussions, the implications for the development and, where appropriate, a phasing plan should be provided in support of applications.

Policy S21: Flood Risk and Water Resources

Flood Risk

All development proposals will be considered against the NPPF, including application of the sequential and, if necessary, the exception test.

Through appropriate consultation and option appraisal, development proposals should demonstrate:

a) 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;
b) that the development does not place itself or existing land or buildings at increased risk of flooding;
c) that the development will be safe during its lifetime taking into account the impacts of climate change and will be resilient to flood risk from all forms of flooding such that in the event of a flood the development could be quickly brought back into use without significant refurbishment;
d) that the development does not affect the integrity of existing flood defences and any necessary flood mitigation measures have been agreed with the relevant bodies, where adoption, ongoing maintenance and management have been considered and any necessary agreements are in place;
e) how proposals have taken a positive approach to reducing overall flood risk and have considered the potential to contribute towards solutions for the wider area; and
f) that they have incorporated Sustainable Drainage Systems (SuDS)/ Integrated Water Management into the proposals unless they can be shown to be inappropriate.

Protecting the Water Environment

Development proposals that are likely to impact on surface or ground water should consider the requirements of the Water Framework Directive.

Development proposals should demonstrate:

g) that water is available to support the development proposed;
h) that adequate mains foul water treatment and disposal already exists or can be provided in time to serve the development. Non mains foul sewage disposal solutions should only be considered where it can be shown to the satisfaction of the local planning authority that connection to a public sewer is not feasible;
i) that they meet the Building Regulation water efficiency standard of 110 litres per occupier per day or the highest water efficiency standard that applies at the time of the planning application (*see also Policy S12*);

j) that water reuse and recycling and rainwater harvesting measures have been incorporated wherever possible in order to reduce demand on mains water supply as part of an integrated approach to water management (*see also Policy S11*);
k) that they have followed the surface water hierarchy for all proposals:
    i. surface water runoff is collected for use;
    ii. discharge into the ground via infiltration;
    iii. discharge to a watercourse or other surface water body;
    iv. discharge to a surface water sewer, highway drain or other drainage system, discharging to a watercourse or other surface water body;
    v. discharge to a combined sewer;
l) that no surface water connections are made to the foul system;
m) that surface water connections to the combined or surface water system are only made in exceptional circumstances where it can be demonstrated that there are no feasible alternatives (this applies to new developments and redevelopments) and where there is no detriment to existing users;
n) that no combined sewer overflows are created in areas served by combined sewers, and that foul and surface water flows are separated;
o) that development contributes positively to the water environment and its ecology where possible and does not adversely affect surface and ground water quality in line with the requirements of the Water Framework Directive;
p) that development with the potential to pose a risk to groundwater resources is not located in sensitive locations to meet the requirements of the Water Framework Directive;
q) how Sustainable Drainage Systems (SuDS)/ Integrated Water Management to deliver improvements to water quality, the water environment and to improve amenity and biodiversity net gain wherever possible have been incorporated into the proposal unless they can be shown to be impractical;
r) that relevant site investigations, risk assessments and necessary mitigation measures for source protection zones around boreholes, wells, springs and water courses have been agreed with the relevant bodies (e.g. the Environment Agency and relevant water companies);
s) that suitable access is safeguarded for the maintenance of watercourses, water resources, flood defences and drainage infrastructure; and
t) that adequate provision is made to safeguard the future maintenance of water bodies to which surface water and foul water treated on the site of the development is discharged, preferably by an appropriate authority (e.g. Environment Agency, Internal Drainage Board, Water Company, the Canal and River Trust or local Council).

In order to allow access for the maintenance of watercourses, development proposals that include or abut a watercourse should ensure no building, structure or immovable landscaping feature is included that will impede access within 8m of a watercourse, or within 16m of a tidal watercourse. Conditions may be included where relevant to ensure this access is maintained in perpetuity and may seek to ensure responsibility for maintenance of the watercourse including land ownership details up to and of the watercourse is clear and included in maintenance arrangements for future occupants.

8.2. Accessibility and Transport

8.2.1. The NPPF sets out the importance of sustainability in relation to transport, in particular the need to ensure that developments that generate significant movements are located where the need to travel will be minimised and the use of sustainable travel can be maximised.

8.2.2. As a predominantly rural area, there is a heavy reliance on car use across large parts of Central Lincolnshire. This can have a significant impact on the elderly, children, young people and those without access to a private car who can become isolated and find it difficult to access health, social and educational facilities. In the larger urban areas, there are different transport issues with Lincoln, and to a lesser extent Gainsborough and Sleaford, experiencing congestion at peak times.

8.2.3. Across Lincolnshire as a whole there are no motorways and only approximately 40 miles of dual carriageway. The key roads in Central Lincolnshire, including the A15, A17, A46, A158, A159 and A631 are essential for connecting communities and important routes for businesses, including local agricultural and food industries that use the network to move goods and freight to, from and across Central Lincolnshire.

8.2.4. Within the Lincoln area, the bus network is relatively good with most services operating commercially, whilst fully accessible “Into Town” services operate in Gainsborough and Sleaford. Across the rural areas, “InterConnect” services run on the key inter-urban corridors (e.g. Lincoln – Gainsborough – Scunthorpe), with demand responsive “CallConnect” services providing pre-bookable, flexible feeder services to local centres and to onward connections to the larger urban centres. Although progress has been made in expanding the bus network in recent years, outside of Lincoln services typically remain very limited in the evenings and at weekends.

8.2.5. The Great Northern Great Eastern Rail (GNGE) line runs through Central Lincolnshire, with stations at: Gainsborough Lea Road, Saxilby, Lincoln, Metheringham, Ruskington and Sleaford. Lincoln and Sleaford are the principal rail hubs, providing connections to the East Coast Main Line and destinations beyond. The GNGE line has recently been upgraded to provide increased freight capacity in order to take freight traffic away from the East Coast Main Line. These improvements should also offer the opportunity for improved passenger services. There is also a number of direct services from Lincoln to London via the East Coast Main Line. East Midlands Railway (EMR) run from Leicester, Nottingham and other parts of the East Midlands via Lincoln to Grimsby with stations at: Swinderby, Hykeham, Lincoln and Market Rasen. EMR also provide wider connections to Grantham,

Boston and Skegness in Lincolnshire. In addition, Northern Rail operate an hourly service between Lincoln and Sheffield which has been strengthened by the new Northern franchise. Investment in the parking and station facilities at North Hykeham station sought to encourage greater use of the rail service both into Lincoln and to Newark and Nottingham. Investment has also been made at Swinderby Station, with the construction of a new car park. However, the large number of level crossings in Central Lincolnshire has an impact on rail capacity as well as having an impact on other parts of the transport network with increased rail use, especially by freight services, increasing waiting times for road users and pedestrians. However, new footbridge provision over the railway in Lincoln city centre has eased the delays caused by the level crossing barrier downtime.

8.2.6. Central Lincolnshire's navigable rivers and canals were originally built to transport goods around the country and although many are now largely used for recreation and leisure there continues to be a role for freight movement by water. The River Trent runs through the North Midlands to Newark and along the edge of Central Lincolnshire, through Gainsborough and on to the Humber and is identified as a major freight waterway which can take large barges of several hundred tons. In recent years the focus has been on the movement of aggregates, containers, waste and recycling but interest has been growing as fuel costs have risen and awareness of the environmental benefits of moving freight by water, such as relieving road congestion and reducing exhaust emissions, has increased. The Fossdyke and Witham navigations are broad waterways which run through Lincoln and connect with the Trent and the sea via Boston. Potential also exists to expand the existing use of towpaths and river banks as useful routes for cycle and footpaths enhancing connectivity and providing a recreational resource.

8.2.7. The Local Transport Plan (LTP) sets out the overall strategy and delivery arrangements for transport across the whole of Lincolnshire, including supporting growth, tackling congestion, improving accessibility, creating safer roads and supporting the larger settlements. The LTP reflects the objectives of the latest Local Plan, and vice-versa, with each updated version aiming to complement one another. The objectives contained within the current strategy support the development of a sustainable, efficient and safe transport system, increasing the use of sustainable travel modes, protecting the environment, and improving access to key services.

8.2.8. The 4th Lincolnshire Local Transport Plan (LTP4) covers the period 2013/14-2022/23. At the time of writing, this is in the process of being replaced by the 5th Local Transport Plan (LTP5). This LTP5 is being produced under 6 key themes within which sit a number of objectives as follows:

Theme 1 – Supporting economic growth

a) Improve connectivity throughout Lincolnshire and to the East Midlands, the rest of the UK and beyond.
b) Ensure a resilient and reliable transport system for the movement of people, goods and services.
c) Support the vitality and viability of our town centres and rural communities.
d) Improve connectivity to jobs and employment opportunities.
e) Provide a transport system that supports the priority sectors identified in the LIS.

Theme 2 – Future ready, green transport

a) Support the introduction of low-carbon technologies and thus reduce reliance on fossil fuels.

b) Develop and support communities to flourish locally and thereby helping reduce the need to travel.
c) Deliver sustainable development by ensuring that new developments are designed to reduce the need to travel, minimise car use and support the use of more sustainable modes.
d) Ensure the transport network is made resilient to climate change.

Theme 3 – Promote thriving environments

a) Develop opportunities to both protect and enhance the built and natural environment.
b) Minimise waste and make the best the use of available resources.
c) Provide sustainable access to Lincolnshire's wonderful environment and heritage.

Theme 4 – Supporting safety, security and a healthy lifestyle

a) Improve road safety.
b) Increase confidence in a safer and more secure transport network.
c) Reduce the impacts of air quality, noise and light pollution.
d) Improve the health of our communities through the provision for active travel.

Theme 5 – Promoting high aspirations

a) Improve connectivity and access to education, healthcare and leisure.
b) Improve the accessibility of the transport system and in particular access onto public transport.
c) Encourage wider community participation in developing and delivering transport services.

Theme 6 – Improve quality of life

a) To deliver on the first five objectives above.
b) To improve the quality of place and reduce the overall negative impacts of transport on people's lives.

8.2.9. These key themes and objectives are consistent with the objectives of the Local Plan and its policies.

8.2.10. Transport Strategies for Lincoln, Gainsborough and Sleaford set out a range of local proposals to help tackle congestion and improve transport options in the main urban areas.

8.2.11. To demonstrate how accessibility, mobility and transport related matters have been considered and taken into account in the development of proposals, one or more of the following should be submitted with planning applications, with the precise need dependent on the scale and nature of development:

- a design and access statement (all proposals); and/ or
- a transport statement (typically required for developments of 50 - 80 dwellings); and/ or
- a transport assessment and travel plan (typically required for developments over 80 dwellings).

8.2.12. Advice on the level of detail required should be confirmed through early discussion with the local planning or highway authority.

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.

Delivering Transport Related Infrastructure
All development proposals should have regard to the IDP, and, where necessary contribute to the delivery of the following transport objectives, either directly where appropriate (such as the provision of infrastructure or through the contribution of land to enable a scheme to occur) or indirectly (such as through developer contributions as set out in Policy S45).

For Strategic Transport Infrastructure:

d) Improve and manage the strategic highway infrastructure for a range of users and increased capacity where appropriate and viable;
e) Improve and manage the wider road infrastructure to benefit local communities including through the use of traffic management and calming initiatives where appropriate on rural roads, and key transport links in the towns and villages;
f) Deliver opportunities for improved road and rail interaction, and avoiding impacts upon level crossings;
g) Improve, extend and manage the strategic cycling network for a range of users;
h) Support the enhancement of existing or proposed transport interchanges;
i) Improve and manage the strategic highway infrastructure, wider road infrastructure and public rights of way network to deliver biodiversity net gain, including improved connectivity and extent of green infrastructure guided by local nature recovery strategy; and
j) Explore opportunities to utilise waterways for transport, particularly freight.

For Public and Community Transport Infrastructure and Services:

k) Assist in the implementation of infrastructure which will help all communities in Central Lincolnshire, including people living in villages and small settlements, to have opportunities to travel without a car for essential journeys;
l) Improve the integration, efficiency, accessibility, safety, convenience and comfort of public transport stations, including both rail and buses;
m) Deliver flexible transport services that combine public and community transport, ensuring that locally based approaches are delivered to meet the needs of communities;
n) Assist in bringing forward one or more mobility hubs in the Lincoln area.

To demonstrate that developers have considered and taken into account the requirements of this policy, an appropriate Transport Statement/ Assessment and/ or Travel Plan should be submitted with proposals, with the precise form dependent on the scale and nature of development and agreed through early discussion with the local planning or highway authority and external bodies where relevant.

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.

8.3. Walking and Cycling

8.3.1. Walking and cycling can have wide ranging benefits, from reducing congestion and pollution from exhaust emissions, to contributing to the improved health and physical fitness of the population. Walking and cycling can also play an important role in multi-modal journeys in combination with other sustainable travel modes, such as bus and rail services.

8.3.2. Improvements in the bus network continue to be made in the Lincoln area and bus operators were closely involved in the delivery of the Lincoln Transport Hub which now offers a significantly enhanced experience for users. The changes to the St Marys Street area of Lincoln City Centre as a part of the Transport Hub works have made a significant improvement to the pedestrian environment for those arriving by bus or rail, making multi modal journeys into the city centre more attractive. A number of other sustainable travel initiatives have, and are, being delivered by Central Lincolnshire partners. Significant work was undertaken, through the Access LN6 project, to improve sustainable transport options and achieve modal shift in the LN6 area of Lincoln and North Hykeham. This work, encouraging walking, cycling and public transport use as well as car sharing has since been continued by Access Lincoln.

8.3.3. The Lincoln Eastern By-pass has been designed and constructed to include dedicated walking and cycling provision along and across its route, maintaining connectivity with the city for those communities to the east of the new road.

8.3.4. The 2020 Lincoln Transport Strategy (LTS) identifies that the number of walking trips made is in decline, with almost a quarter of adults indicating that they do not walk for any purpose at all. The LTS also states that the cycle network in Lincoln is not comprehensive and is disjointed within the city centre, with provision limited in rural areas. The LTS aims to put a focus on walking and cycling for short journeys. With an objective to rebalance movement towards walking and cycling and multi-occupancy, shared mobility and passenger transport. A further objective states that the LTS will seek to enhance the health and wellbeing of communities through improved air quality, increased physical activity and safety.

8.3.5. Both the Sleaford Transport Strategy (2014) and Gainsborough Transport Strategy (2010) also identify that cycle route networks are disjointed and poorly connected with each other. As with the LTS, both the Sleaford and Gainsborough Transport Strategies place a focus on walking and cycling for short journeys and the improvements to the network that are needed to make walking and cycling easier and more attractive options. The Gainsborough and Sleaford Transport Strategies are expected to be updated in the life of this Local Plan

8.3.6. The COVID-19 pandemic provided a number of opportunities for sustainable travel, in particular walking and cycling. Lockdowns, and the need to distance from one another, resulted in an increase in active sustainable travel among those unable to work from home and also a notable increase in walking and cycling for leisure. In particular, sales of

bicycles throughout the lockdown period increased significantly as those still required to travel to work sought to avoid public transport, and others took to cycling for their daily allowed exercise. Through a bid to the Emergency Active Travel Fund, Lincolnshire County Council sought to build upon previously implemented active travel schemes. Schemes implemented with Emergency Active Travel funding have been located in Lincoln and Sleaford within Central Lincolnshire as well as other towns, in the wider county. The projects implemented have included the installation of temporary cycle lanes, road closures to vehicles, installation of additional cycle storage and new and widened pedestrian crossings.

3.3.7. The ability to travel using sustainable forms of transport must be integrated into the design of new developments and connectivity to and from the development and existing built up area should be a key component for the layout of development. Consideration must be given to the quality of the walking and cycling environments to ensure routes are safe, legible and attractive, connecting well into the existing public rights of way network and to facilities such as bus stops. Development layouts must be fully accessible and be designed to encourage walking and cycling by providing direct routes following future and existing desire lines. Proposals should take account of points of conflict with vehicular traffic, severance issues and the need for other pedestrian and cyclist accessibility improvements, providing end to end consideration of journeys for all users.

Policy S48: Walking and Cycling Infrastructure

Development proposals should facilitate active travel by incorporating measures suitable for the scheme from the design stage. Plans and evidence accompanying applications will demonstrate how the ability to travel by foot or cycle will be actively encouraged by the delivery of well designed, safe and convenient access for all both into and through the site. Priority should be given to the needs of pedestrians, cyclists, people with impaired mobility and users of public transport by providing a network of high quality pedestrian and cycle routes and green corridors, linking to existing routes and public rights of way where opportunities exist, that give easy access and permeability to adjacent areas.

Proposals will:

a) protect, maintain and improve existing infrastructure, including closing gaps or deficiencies in the network and connecting communities and facilities;
b) provide high quality attractive routes that are safe, direct, legible and pleasant and are integrated into the wider network;
c) ensure the provision of appropriate information, including signposting and way-finding to encourage the safe use of the network;
d) encourage the use of supporting facilities, especially along principle cycle routes;
e) make provision for secure cycle parking facilities in new developments and in areas with high visitor numbers across Central Lincolnshire; and
f) consider the needs of all users through inclusive design.

9. Design and Amenity

9.0. Delivering Good Design

9.0.1. To design successful places, all development should meet the aspiration for quality and sustainability in their design and layout. In short, good design is inseparable from good planning and should be at the heart of every development.

9.0.2. High quality sustainable design is design that is of a notable standard, which, by its nature, features and usability, will sustain over the longer term as it is fit for purpose, is adaptable to changing needs, and enables occupiers / users to live more sustainably.

9.0.3. A fundamental part of achieving high quality sustainable design, and ultimately high quality sustainable places, is the need to develop a thorough understanding of the local character and the qualities which contribute to local distinctiveness.

9.0.4. Central Lincolnshire is made up of many locally distinctive places including high streets, market squares, industrial estates, urban neighbourhoods, rural villages, historic environments and landscapes, which, in combination with a variety of natural forms and features, contribute to the rich and varied character. The scale of Central Lincolnshire means that villages vary greatly from one another, as do larger settlements due to the differing roles and periods of growth experienced in our settlements. The Central Lincolnshire Local Plan is a strategic document and so is not the appropriate mechanism to undertake a detailed assessment of the character and heritage of every settlement, instead the Local Plan should provide a framework for applicants, decision makers and communities to undertake such assessments and deliver the right responses for the local context.

9.0.5. All development must make a positive contribution to the character and appearance of the environment within which it is located, having regard to its local context, without harming the amenity experienced by neighbours.

9.0.6. The Government promotes good design through the publication of its National Design Guide and National Model Design Code in January 2021 which are aimed at ensuring that the requirement for good design is embedded in planning policy and ultimately is delivered through the development being built and the places being created. The National Design Guide sets out the characteristics of well-designed places under ten themes:

- Context
- Identity
- Built form
- Movement
- Nature
- Public spaces
- Uses
- Homes and buildings
- Resources
- Lifespan

9.0.7. Policy S53 provides a clear set of standards and considerations under these ten themes that need to be deliberated when designing and making decisions on all schemes across Central Lincolnshire and it provides a framework for the development of local design guides or codes by communities, parish councils, applicants or individual District Councils in the future.

9.0.8. Good design is not only about the way a building looks, but it is also about the way a place functions, how it makes users feel, how it lasts and how it adapts. Policy S53 pulls together design specific requirements for all schemes but other policies throughout this plan, including, but not limited to, Policy S6, (Design Principles for Efficient Buildings) S7 and S8 (Reducing Energy Consumption), S20 (Resilient and Adaptable Buildings), Policy S54 (Health and Wellbeing) and Policy S57 (The Historic Environment) also set out requirements which are intrinsically linked to good design.

9.0.9. Developers will be expected to demonstrate how their proposal is good design, telling the story behind the scheme and explaining how the policy matters below have been addressed within their development proposals in supporting evidence such as in the Design and Access Statement submitted with their planning application. Development should be bespoke and respond positively to and be informed by local context and vernacular but without stifling innovation and new technologies which sympathetically complement or contrast with the local architectural style. 'Standard' house types or the repetition of layouts, development densities, and the use of construction materials mimicking schemes elsewhere (whether within or outside Central Lincolnshire) will seldom be acceptable.

9.0.10. To provide assessment and support to ensure high standards of design are achieved, the Central Lincolnshire authorities may use the design review services offered by Design:Midlands, the regional Design Review Panel as necessary, and, when appropriate, refer major projects for national design review by the Design Council.

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.

Good design will be at the centre of every development proposal and this will be required to be demonstrated through evidence supporting planning applications to a degree proportionate to the proposal. Design Codes may be produced for parts of Central Lincolnshire or in support of specific developments. The approach taken in these Design Codes should be informed by the National Model Design Code and where these codes have been adopted, developments will be expected to adhere to the Code.

Proposals for new buildings should incorporate the Design Principles for Efficient Buildings in Policy S6 at the centre of design.

All development proposals will be assessed against, and will be expected to meet the following relevant design and amenity criteria. All development proposals will:

1. **Context**
   a) Be based on a sound understanding of the context, integrating into the surroundings and responding to local history, culture and heritage;
   b) Relate well to the site, its local and wider context and existing characteristics including the retention of existing natural and historic features wherever possible and including appropriate landscape and boundary treatments to ensure that the development can be satisfactorily assimilated into the surrounding area;
   c) Protect any important local views into, out of or through the site;

2. **Identity**
   a) Contribute positively to the sense of place, reflecting and enhancing existing character and distinctiveness;
   b) Reflect or improve on the original architectural style of the local surroundings, or embrace opportunities for innovative design and new technologies which sympathetically complement or contrast with the local architectural style;
   c) Use appropriate, high quality materials which reinforce or enhance local distinctiveness;
   d) Not result in the visual or physical coalescence with any neighbouring settlement nor ribbon development;

3. **Built Form**
   a) Make effective and efficient use of land that contribute to the achievement of compact, walkable neighbourhoods;
   b) Be appropriate for its context and its future use in terms of its building types, street layout, development block type and size, siting, height, scale, massing, form, rhythm, plot widths, gaps between buildings, and the ratio of developed to undeveloped space both within a plot and within a scheme;
   c) Achieve a density not only appropriate for its context but also taking into account its accessibility;
   d) Have a layout and form that delivers efficient and adaptable homes in accordance with Policy S6 and Policy S20.

4. **Movement**
   a) Form part of a well-designed and connected travel network with consideration for all modes of transport offering genuine choices for non-car travel and prioritising active travel and where relevant demonstrate this through evidence clearly showing connectivity for all modes and a hierarchy of routes (also see Policy S47 and Policy S48);
   b) Maximise pedestrian and cycle permeability and avoid barriers to movement through careful consideration of street layouts and access routes both within the site and in the wider context contributing to the delivery of walkable and cyclable neighbourhoods in accordance with Policy S48;
   c) Ensure areas are accessible, safe and legible for all including people with physical accessibility difficulties;
   d) Deliver well-considered parking, including suitable electric vehicle charging points, with appropriate landscaping provided in accordance with the parking standards set out in Policy NS18 and Policy S49;
   e) Deliver suitable access solutions for servicing and utilities;

5. **Nature**
   a) Incorporate and retain as far as possible existing natural features including hedgerows, trees, and waterbodies particularly where these features offer a valuable habitat to support biodiversity, aligned with policies in the Natural Environment chapter of the Local Plan;
   b) Incorporate appropriate landscape and boundary treatments to ensure that the development can be satisfactorily assimilated into the surrounding area, maximising opportunities to deliver diverse ecosystems and biodiverse habitats, strengthening wildlife corridors and green infrastructure networks, and helping to achieve wider goals for biodiversity net gain, climate change mitigation and adaptation and water management;

6. **Public Spaces**
   a) Ensure public spaces are accessible to all, are safe and secure and will be easy to maintain with clear definition of public and private spaces;
   b) Form part of a hierarchy of spaces where relevant to offer a range of spaces available for the community and to support a variety of activities and encourage social interaction;
   c) Be carefully planned and integrated into the wider community to ensure spaces feel safe and are safe through natural surveillance, being flanked by active uses and by promoting activity within the space;
   d) Maximise opportunities for delivering additional trees and biodiversity gains through the creation of new habitats and the strengthening or extending wildlife corridors and the green infrastructure network in accordance with policies in the Natural Environment chapter;

7. **Uses**
   a) Create or contribute to a variety of complementary uses that meet the needs of the community;
   b) Be compatible with neighbouring land uses and not result in likely conflict with existing uses unless it can be satisfactorily demonstrated that both the ongoing use of the neighbouring site will not be compromised, and that the amenity of occupiers of the new development will be satisfactory with the ongoing normal use of the neighbouring site;
   c) 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;

8. **Homes and Buildings**
   a) Provide homes with good quality internal environments with adequate space for users and good access to private, shared or public spaces;
   b) Be adaptable and resilient to climate change and be compatible with achieving a net zero carbon Central Lincolnshire as required by Policies S6, S7 and S8;
   c) Be capable of adapting to changing needs of future occupants and be cost effective to run by achieving the standards set out in Policy S20;
   d) 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;
   e) Provide adequate storage, waste, servicing and utilities for the use proposed;

9. **Resources**
   a) Minimise the need for resources both in construction and operation of buildings and be easily adaptable to avoid unnecessary waste in accordance with Policies S10 and S11;
   b) Use high quality materials which are not only suitable for the context but that are durable and resilient to impacts of climate change in accordance with the requirements of Policy S20;

10. **Lifespan**
    a) Use high quality materials which are durable and ensure buildings and spaces are adaptive; and
    b) Encourage the creation of a sense of ownership for users and the wider community with a clear strategy for ongoing management and stewardship.

Development proposals will be expected to satisfy requirements of any adopted local design guide or design code where relevant to the proposal.

9.1. Health and Wellbeing

9.1.1. The vital role of planning in creating and supporting strong, vibrant and healthy communities, in terms of physical and mental health, is well recognised and is a key element in delivering sustainable development.

9.1.2. Central Lincolnshire's health priorities and issues are set out in the latest Joint Health and Well Being Strategy for Lincolnshire; Joint Strategic Needs Assessment; and Public Health England Local Authority Health Profiles for Lincoln, North Kesteven and West Lindsey. The most significant issues include mental health and emotional wellbeing of children and young people, unpaid carers, obesity levels, adult mental health, dementia, increasing physical activity levels and the link between housing and health.

9.1.3. In addressing these priorities and issues, it is essential that community needs are supported through appropriate physical and social infrastructure, and by other facilities and key services which contribute to improving physical and mental health and wellbeing, and the overall quality of life experienced by residents.

9.1.4. Active Design, developed by Sport England and supported by Public Health England, provides a set of principles that promote activity, health and stronger communities through the way we design buildings, streets, neighbourhoods, towns and cities. The Active Design guidance[19], which provides further details for each of the principles along with a set of case studies, can be found on Sport England's website. Developers may find it helpful to consider the guidance as the principles are cross cutting across other policy areas within this Local Plan.

9.1.5. Helping communities' experience a high quality of life is a key theme that cuts across many policies in this Local Plan.

9.1.6. The impacts of proposed development on health should be assessed and considered by the applicant at the earliest stage of the design process, to avoid negative health impacts and ensure positive health outcomes for the community as a whole. This includes developers consulting with health care commissioners at an early stage to identify the need for new or enhanced health care infrastructure. Guidance on preparing Health Impact Assessments is published on the Central Lincolnshire website.

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.

The Central Lincolnshire authorities will expect development proposals to promote, support and enhance physical and mental health and wellbeing, and thus contribute to reducing health inequalities. This will be achieved by:

a) Seeking, in line with the Central Lincolnshire Developer Contributions SPD, developer contributions towards new or enhanced health facilities from developers where

development results in a shortfall or worsening of provision, as informed by the outcome of consultation with health care commissioners;

b) In the case of development of 150 dwellings or more, or 5ha or more for other development, developers submitting a fit for purpose Health Impact Assessment (HIA) as part of the application or master planning stage where applicable, and demonstrating how the conclusions of the HIA have been taken into account in the design of the scheme. The HIA should be commensurate with the size of the development;
c) Development schemes safeguarding and, where appropriate, creating or enhancing the role of allotments, orchards, gardens and food markets in providing access to healthy, fresh and locally produced food; and
d) Ensuring quality green infrastructure provides adequate access to nature for its benefits to mental and physical health and wellbeing and potential to overcome health inequalities.

Proposals for new health care facilities

Proposals for new health care facilities should relate well to public transport services, walking and cycling routes and be easily accessible to all sectors of the community. Proposals which utilise opportunities for the multi-use and co-location of health facilities with other services and facilities, and thus co-ordinate local care and provide convenience for the community, will be particularly supported.

10.0. Historic Environment

10.0.1. Central Lincolnshire has a rich historic environment. The rural countryside and historic towns and villages are attractive aspects of Central Lincolnshire as a whole, while within Lincoln's historic core are aspects of national and wider importance. The notable historic environment positively contributes to Central Lincolnshire's character, the quality of life experienced by residents, and its appeal as a destination for visitors and tourists. Within the area there are: over 2,300 listed buildings, more than 70 conservation areas, almost 200 scheduled ancient monuments, 13 national registered parks and gardens of special historic interest, and a wealth of nationally and locally significant archaeological remains. In addition, there are numerous other heritage assets that, whilst not designated, are considered to be nationally, regionally or locally significant.

10.0.2. Central Lincolnshire's local character is heavily influenced by Lincoln, a world class Cathedral City, which lies at its heart and, in part, by its roots in agriculture which resulted in the development of market towns. The landscape form has intrinsically influenced the area's development, from the Wolds and the Fens, to the development of settlements along the Lincolnshire Edge (and Lincoln Cliff). Transport infrastructure, both natural and man-made also provides an important legacy. This includes transport infrastructure dating from Roman times through to the 18th and 19th century developments of the roads and railways associated with the development of industry within the more major settlements. A more recent influence on Central Lincolnshire's character and development has been the 20th century development of the area for military operations.

10.0.3. Central Lincolnshire's heritage assets[21] and their settings, including the significant historic building stock and archaeological resource, are irreplaceable and require careful management as the area evolves and undergoes significant growth and regeneration.

10.0.4. The opportunities to retain, enhance and improve Central Lincolnshire's historic environment include:

- Using the income generated from the growing local tourism economy to invest in the maintenance and upkeep of heritage assets;
- Ensuring development schemes enhance the setting of heritage assets and do not detract from their character and the appearance of the area;
- Supporting proposals for heritage led regeneration, ensuring that heritage assets are conserved, enhanced and their future secured.

10.0.5. Our positive strategy for the historic environment will be achieved through the implementation of Policy S57 and through:

- the preparation and maintenance of a local list of buildings, structures and other heritage assets of local importance, including those identified in local plans, the Lincolnshire Historic Environment Record (HER) and as part of the decision-making process on planning applications;
- safeguarding heritage assets at risk and taking steps to reduce the number of heritage assets in Central Lincolnshire: on the national Heritage at Risk Register, the

---

Lincolnshire Heritage at Risk Register and Grade II listed buildings at risk as identified by the local planning authority;

- encouraging the sympathetic maintenance and restoration of listed buildings, scheduled monuments (both structural and archaeological), historic shop fronts and historic parks, gardens and landscapes, based on thorough historical research and using traditional materials and techniques;
- strengthening the distinctive character of Central Lincolnshire's settlements, through the application of high quality design and architecture that responds to this character and the setting of heritage assets, including the historic evolution of those settlements as identified through local heritage strategies and studies;
- the preparation of conservation area appraisals and neighbourhood plans which identify non-designated heritage assets.

Scheduled Monuments

10.0.6. Scheduled Monuments are of national importance. Application for Scheduled Monument Consent (SMC) must be made to the Secretary of State for Digital, Culture, Media and Sport before any work can be carried out which may affect a monument, either above or below ground level.

Listed Buildings and their setting

10.0.7. A proposal to demolish a listed building, or to alter or extend it in a way that would affect its special character, requires Listed Building Consent. If the proposal also involves 'development', planning permission is required and, in that case, the Local Planning Authority will wish to consider applications for Listed Building Consent and planning applications concurrently.

10.0.8. Proposals to alter or extend any Listed Building will be assessed against the need to conserve the special architectural or historic interest which led to the building being listed. There is a general presumption in favour of the conservation of Listed Buildings, and consent to demolish or partly demolish such buildings will only be granted in exceptional circumstances.

10.0.9. The setting of a Listed Building may be affected by development. It is important that applications for planning permission for development affecting Listed Buildings, or their settings, include full details of the proposal so that an informed decision can be reached.

Conservation Areas and their setting

10.0.10. The effect of a proposed development on the character or appearance of a Conservation Area is always a material consideration in the determination of planning applications. All development should conserve or enhance the special character or appearance of the designated area and its setting. It is also important that the spaces around and within the conservation area are retained, where they add to its character.

10.0.11. Development within Conservation Areas and their setting must respect the local character through careful design and consideration of scale, height, massing, alignment, and use of appropriate materials. Keeping valued historic buildings in active and viable use is important for both the maintenance of the building concerned and the overall character of the Conservation Area. Proposals to change the use of a building might therefore be supported, where features essential to the special interest of the individual building are not lost or altered to facilitate the change of use.

10.0.12. Demolition within a Conservation Area should only be allowed in exceptional circumstances, and will normally be permitted only if the Council is satisfied that the proposal for redevelopment is acceptable and there is an undertaking to implement it within a specified period.

10.0.13. Conservation Areas are reviewed from time to time to provide more detailed information about the designated area. Conservation area appraisals and management plans have been prepared for many of the Conservation Areas and may be reviewed and updated as appropriate.

Registered Historic Parks and Gardens and their setting

10.0.14. Historic parks and gardens are an important historic, cultural and environmental asset within Central Lincolnshire. This plan aims to protect them from development that would harm their character. Historic England is responsible for compiling and maintaining the 'Register of Parks and Gardens of Special Historic Interest in England'. Registration of a site means that its significance must be taken into account when considering any proposed development that may affect the site or its setting.

Non-Designated Heritage Assets and their setting

10.0.15. Non-designated heritage assets cover a wide range of asset types, such as buildings and structures, but may also include parks, gardens, cemeteries, landscapes or known archaeological monuments or sites. They are not formally designated, but are identified locally as having a degree of significance because of their heritage, architectural or artistic interest. The Lincolnshire HER, the Local Heritage Listing campaign, conservation area appraisals and neighbourhood plans are important sources of information regarding non-designated heritage assets in Central Lincolnshire.

Archaeology

10.0.16. Local Planning Authorities may require developers to assess the potential impacts of their proposal on archaeological remains in order to reach a decision on a development proposal. Where archaeological impacts are indicated, developers are expected to work with the local planning authority to devise a scheme for mitigating such impacts, which may form part of a planning condition or a planning obligation. Such conditions are designed to ensure that such remains are either preserved in situ wherever possible, or recorded.

.

.

10.0.17. All archaeological work should be based on a thorough understanding of the available evidence, and of the local, regional and national contribution it makes. The known and potential archaeological heritage of the area is recorded by the Lincolnshire Historic Environment Record and, in Lincoln, by the Lincoln Heritage Database and the Lincoln Archaeological Research Assessment. These and other sources, such as Lincoln's online heritage information management system, ARCADE, the Lincolnshire Archives, The Lincolnshire Archaeological Handbook, the Lincolnshire Historic Landscape Characterisation, Conservation Area Appraisals, Local Lists and the Lincolnshire Extensive Urban Survey should be used to inform all proposals and decisions.[22]

Policy S57: The Historic Environment

Development proposals should protect, conserve and seek opportunities to enhance the historic environment of Central Lincolnshire.

In instances where a development proposal would affect the significance of a heritage asset (whether designated or non-designated), including any contribution made by its setting, the applicant will be required to undertake and provide the following, in a manner proportionate to the asset's significance:

a) describe and assess the significance of the asset, including its setting, to determine its architectural, historical or archaeological interest; and
b) identify the impact of the proposed works on the significance and special character of the asset, including its setting; and
c) provide a clear justification for the works, especially if these would harm the significance of the asset, including its setting, so that the harm can be weighed against public benefits.

Development proposals will be supported where they:

d) protect the significance of heritage assets (including where relevant their setting) by protecting and enhancing architectural and historic character, historical associations, landscape and townscape features and through consideration of scale, design, architectural detailing, materials, siting, layout, mass, use, and views and vistas both from and towards the asset;
e) promote opportunities to better reveal significance of heritage assets, where possible;
f) take into account the desirability of sustaining and enhancing non-designated heritage assets and their setting.

Proposals to alter or to change the use of a heritage asset, will be supported provided:

g) the proposed use is compatible with the significance of the heritage asset, including its fabric, character, appearance, setting and, for listed buildings, interior; and
h) such a change of use will demonstrably assist in the maintenance or enhancement of the heritage asset; and
i) features essential to the special interest of the individual heritage asset are not harmed to facilitate the change of use.

Development proposals that will result in substantial harm to, or the total loss of, a designated heritage asset will only be granted permission where it is necessary to achieve substantial public benefits that outweigh the harm or loss, and the following criteria can be satisfied:

j) the nature of the heritage asset prevents all reasonable uses of the site; and
k) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and
l) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and
m) the harm or loss is outweighed by the benefit of bringing the site back into use.

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.

Where a non-designated heritage asset is affected by development proposals, there will be a presumption in favour of its retention, though regard will be had to the scale of any harm or loss

and the significance of the heritage asset. Any special features which contribute to an asset's significance should be retained and reinstated, where possible.

Listed Buildings
Permission to change the use of a Listed Building or to alter or extend such a building will be granted where the local planning authority is satisfied that the proposal is in the interest of the building's conservation and does not involve activities or alterations prejudicial to the special architectural or historic interest of the Listed Building or its setting.

Development proposals that affect the setting of a Listed Building will, in principle, be supported where they make a positive contribution to, or better reveal the significance of the Listed Building.

Conservation Areas
Significant weight will be given to the protection and enhancement of Conservation Areas.

Development within, affecting the setting of, or affecting views into or out of, a Conservation Area should conserve, or where appropriate enhance, features that contribute positively to the area's special character, appearance and setting, including as identified in any adopted Conservation Area appraisal. Proposals should:

n) retain buildings/groups of buildings, existing street patterns, historic building lines and ground surfaces and architectural details that contribute to the character and appearance of the area;
o) where relevant and practical, remove features which have a negative impact on the character and appearance of the Conservation Area;
p) retain and reinforce local distinctiveness with reference to height, massing, scale, form, materials and plot widths of the existing built environment;
q) assess, and mitigate against, any negative impact the proposal might have on the townscape, roofscape, skyline and landscape; and
r) aim to protect trees, or where losses are proposed, demonstrate how such losses are appropriately mitigated against.

Archaeology
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.

Planning applications for such development should be accompanied by an appropriate and proportionate assessment to understand the potential for and significance of remains, and the impact of development upon them.

If initial assessment does not provide sufficient information, developers will be required to undertake field evaluation in advance of determination of the application. This may include a range of techniques for both intrusive and non-intrusive evaluation, as appropriate to the site.

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

Any work undertaken as part of the planning process must be appropriately archived in a way agreed with the local planning authority.

11.0. Green and Blue Infrastructure

11.0.1. Green and blue infrastructure can be defined as a strategically planned and delivered network of multi-functional, green and blue (water) spaces and other natural features, and the connections between them, in both urban and rural areas, which is capable of delivering a range of environmental, economic, health and quality of life benefits for local communities. The green infrastructure network may comprise of spaces in public or private ownership, with or without public access.

11.0.2. The types of green and blue infrastructure assets to be found in Central Lincolnshire are wide ranging and include, but are not limited to:

- Allotments, community gardens and orchards;
- Amenity greenspaces - including play areas, urban commons, communal spaces within housing areas, and village greens;
- Cemeteries, churchyards and disused burial grounds;
- Green corridors – including rivers and canals, main drains, rail corridors, hedgerows, ditches, cycle routes, pedestrian paths and rights of way;
- Golf courses;
- Natural and semi-natural greenspaces – including woodland, scrub, grassland, wetlands, open water, bare rock habitats, existing sites of national and local biodiversity importance;
- Parks and gardens – including urban parks and gardens and country parks;
- Domestic gardens and street trees;
- Green roofs and walls;
- Functional green space, such as SuDS and flood storage areas;
- Historic environmental assets – including listed buildings, conservation areas, scheduled monuments and historic parks and gardens;
- Predominantly undeveloped natural floodplains and fens; and
- Previously developed land that is wildlife rich, such as restored mineral sites and open mosaic habitats.

11.0.3. Well planned, designed and managed green infrastructure has the potential to deliver a wide range of direct and indirect benefits for people and the environment, including:

- opportunities to mitigate and adapt the natural and built environment to climate change;
- improving air and water quality;
- reducing and managing flood risk and drought;
- improving quality of place;
- supporting people's physical and mental health and social wellbeing;
- encouraging active and more sustainable travel;
- sustaining economic growth, attracting investment, promoting employment and skills improvement;
- protecting and enhancing existing habitats and providing opportunities to create a more joined-up and resilient ecological network;
- providing opportunities for local, sustainable food production; and
- conserving and enhancing landscape character, local distinctiveness and the setting of heritage assets.

11.0.4. Benefits to people provided by nature have been termed 'ecosystem services'. The extent to which green infrastructure provides these benefits depends on how it is designed and maintained. Individual elements of the green infrastructure network can serve a useful purpose without being connected. However, connectivity between different green infrastructure assets can help maximise the benefits that they generate and reduces fragmentation and severance. For example, well-connected green infrastructure assets create a network that allows and encourages movement by people and wildlife, helping to maximise the benefits and support adaptation and resilient to a changing climate, such as potentially dramatic increases in rainfall.

11.0.5. The overarching aim is to establish a comprehensive, high quality network of green infrastructure throughout Central Lincolnshire. In 2011, a partnership of local organisations produced the Central Lincolnshire Green Infrastructure Study, which sets out a green infrastructure network and strategy for Central Lincolnshire. The strategy defines specific priority areas where targeting investment in green infrastructure is most likely to deliver multiple benefits. Detailed descriptions of each of the priority areas are contained within the Study and are summarised below.

Central Lincolnshire Green and Blue Infrastructure Network Priority Areas

Priority Area	Explanation
Strategic Green Corridors	7 priority landscape-scale areas for strategic GI enhancement, linkage and creation
Strategic Green Access Links	16 priority routes within and connecting the Strategic Green Corridors intended to provide for multi-user, predominantly off road access routes for pedestrians and cyclists. Also offer opportunities as wildlife corridors.
Urban Green Grids	3 priority areas with key opportunities for greening the built environment for Lincoln, Gainsborough and Sleaford.
Green Infrastructure Zones	30 areas with opportunities for targeted green infrastructure improvements in the wider countryside.

11.0.6. The Gainsborough Open Space and Green Infrastructure Strategy (LUC, 2019) describes the current green infrastructure provision across Gainsborough, sets out a vision and core principles that all green infrastructure should follow, and identifies potential projects to deliver improved existing and provide new high quality, multi-functional green spaces and environmental features for Gainsborough. In June 2021, green infrastructure profiles were published for Lincoln and Sleaford, identifying green infrastructure assets within and adjacent to each urban area and opportunities to enhance, link and extend the green infrastructure network.

11.0.7. In 2019, the Greater Lincolnshire Nature Partnership (GLNP) produced a baseline GI Map for Central Lincolnshire. This highlights areas of existing priority habitats, designated sites and other areas of green or blue space and updates the baseline GI maps in the 2011 GI Study.

11.0.8. The Central Lincolnshire green infrastructure network can be viewed on the Central Lincolnshire Interactive Map and within Green Infrastructure Strategies and Green Infrastructure Profile and Opportunity Plans for Lincoln, Gainsborough and Sleaford, available on the Central Lincolnshire website.

11.0.9. Green infrastructure is integral to place-making, significantly contributing towards places where people want to live, work and invest. As Central Lincolnshire continues to grow and develop, the green infrastructure network is likely to come under increasing pressure from new development, particularly within and around the main urban settlements. However, development brings opportunities to enhance the network and deliver new green infrastructure of all types and sizes.

11.0.10. New development should contribute to the extension of the green infrastructure network, helping to address deficiencies in provision and providing good quality connections to the network and throughout the development. Developer contributions will be sought proportionate to the scale of the proposed development to provide, or contribute towards, the cost of providing new or improved existing green infrastructure, where this is required as a consequence of the development, on its own, or as a result of the cumulative impact of a development in the area.

11.0.11. Green infrastructure principles should be considered and incorporated into a scheme from the earliest stages of the design process, at every scale (from a single building to a new settlement), and be capable of delivering a wide range of environmental, health and quality of life benefits for local communities. Developers should appraise the site context for green infrastructure functions and take opportunities to achieve multi-functionality by bringing green infrastructure functions together. Natural England's Green Infrastructure Framework provides a useful guide for considering green infrastructure.

11.0.12. In developing proposals, the green infrastructure network for Central Lincolnshire should be viewed and considered alongside other relevant policies in this Local Plan to identify opportunities for protecting, enhancing and connecting green infrastructure assets as part of new development.

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.

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.

Development proposals should ensure that existing and new green and blue infrastructure is considered and integrated into the scheme design from the outset. Where new green infrastructure is proposed, the design and layout should take opportunities to:

a) incorporate a range of types and sizes of green and blue spaces, green routes and environmental features that are appropriate to the development and the wider green and blue infrastructure network to maximise the delivery of multi-functionality;
b) deliver biodiversity net gain and support ecosystem services;
c) respond to landscape/townscape and historic character;
d) support climate change adaptation and resilience including through use of appropriate habitats and species; and
e) encourage healthy and active lifestyles.

Development proposals must protect the linear features of the green and blue infrastructure network that provide connectivity between green infrastructure assets, including public rights of way, bridleways, cycleways and waterways, and take opportunities to improve and expand such features.

Development will be expected to make a contribution proportionate to their scale towards the establishment, enhancement and on-going management of green and/or blue infrastructure by contributing to the development of the strategic green infrastructure network within Central Lincolnshire, in accordance with the Developer Contributions SPD.

11.1. Biodiversity and Geodiversity

11.1.1. The abundance and distribution of the UK's species has declined rapidly since the 1970's[23]. There is now an urgent need to reverse the net loss of biodiversity, as this trend is not just a significant problem for wildlife. It has serious implications for the physical environment (air, soil, water) the ability of the natural environment to provide natural resources (such as food and construction materials), our ability to respond to the climate emergency and for our physical and mental health and well-being. Indeed, Lincolnshire Environmental Records Centre data highlights that over 900 species of wildlife previously recorded in Lincolnshire have not been recorded since 1960. This potentially indicates significant losses.

11.1.2. The Environment Act received royal assent on 9 November 2021 and includes a new target to reverse the decline of species abundance in England by 2030.

11.1.3. The Central Lincolnshire authorities have a duty to protect and enhance biodiversity. They will work collaboratively and across administrative boundaries with other Local Planning Authorities, public bodies and local stakeholders, in order to support the delivery of strategic ambitions and priorities for nature, such as those set out in the Local Nature Recovery Strategy.

11.1.4. Central Lincolnshire has many areas which are noted for their natural beauty and biodiversity value. These areas also support a wide variety of species and habitats, and form an important part of the network of biodiversity sites within the wider environment. Wildlife sites and habitats that are, as at 2020, recognised as being of national, regional and local importance within or partly within Central Lincolnshire include: Bardney Limewoods National Nature Reserve (NNR), over 20 Sites of Special Scientific Interest (SSSI), 383 Local Wildlife Sites (LWS), 17 Local Geological Sites (LGS), and 7 Local Nature Reserves (LNR). These sites support important natural assets, such as ancient woodland, heathland, acid grassland and wetland.

Designated Sites

11.1.5. Designated sites for nature conservation importance are classified into a hierarchy according to their status and the level of protection they should be afforded. International sites form the top tier of the hierarchy with the highest level of protection, followed by national and then locally designated sites. This policy seeks to ensure that appropriate weight is given to their importance and the contribution that they make to the wider ecological network. The table below sets out the hierarchy of designated sites that can be

found in Central Lincolnshire, and National and Local sites are shown on the Interactive Policies Map.

Hierarchy of Protected Designated Sites in Central Lincolnshire

International Sites	None within Central Lincolnshire
National Sites	Sites of Special Scientific Interest (SSSI) National Nature Reserves (NNR)
Local Sites	Local Nature Reserves (LNR) Local Wildlife Sites (LWS) Local Geological Sites (LGS)

11.1.6. Although there are no international sites within Central Lincolnshire, there are 5 European sites within 15km of its boundary: Humber Estuary SAC, Humber Estuary SPA/Ramsar, Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA. These internationally important sites are protected by the Habitats Regulations.

11.1.7. Nationally designated sites are of national importance for biodiversity or geodiversity and are designated under UK legislation. Development that is likely to have an adverse effect on such sites, alone or in combination with other developments, will only be supported in exceptional circumstances, in accordance with the NPPF.

11.1.8. Locally designated sites are non-statutory, but none the less are valuable components of the local ecological network, make an important contribution to nature's recovery, and provide benefits for both people and wildlife. On-going surveys can reveal new areas that warrant such protection. Policy S60 will be applied to any new sites or extensions to existing sites following the adoption of this Local Plan.

11.1.9. Irreplaceable habitats are defined in the NPPF glossary. Examples present in Central Lincolnshire include ancient woodland, ancient and veteran trees, ancient grassland and heathland. Their significance is derived from age, uniqueness, species diversity or rarity. Development resulting in the loss or deterioration of irreplaceable habitats will be refused, unless there are wholly exceptional reasons[24] and a suitable compensation strategy exists.

Biodiversity Outside of Designated Sites

11.1.10. Landscape and habitat features that lie outside of designated sites can also provide valuable spaces and corridors for habitats and species, including protected species. Waterways, for example, can be valuable for biodiversity, providing green and blue corridors that link habitats and wildlife sites. Maintaining and enhancing a network of habitats, species and wildlife sites, and linkages between them, is important to achieving the vision and aims of the Greater Lincolnshire Local Nature Recovery Strategy.

11.1.11. The Nature Recovery Network is a major commitment in the UK Government's 25-Year Environment Plan and intends to improve, expand and connect habitats to address wildlife decline and provide wider environmental benefits for people. This approach will build on the work of previous national initiatives, such as Nature Improvement Areas (NIAs). NIAs are landscape-scale initiatives that aim to ensure land is used sustainably to achieve

multiple benefits for people, wildlife and the local economy. The Humberhead Levels is a nationally selected NIA that spans the administrative boundaries of North Lincolnshire and West Lindsey District Councils.

Mitigation Hierarchy

11.1.12. The mitigation hierarchy is an approach to limiting the negative impacts of development on biodiversity and is set out in the NPPF. It requires that if significant harm to biodiversity resulting from development cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused. Avoidance of adverse impacts to biodiversity as a direct or indirect result of development must be the first consideration. Avoidance measures may include either locating development on an alternative site with less harmful impact, or locating development within the site to avoid damaging a particular habitat feature. Compensation will only be considered after all other options have been explored and strictly as a last resort.

Species and Habitats of Principal Importance

11.1.13. Some species benefit from statutory protection under a range of legislative provisions (such as the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017). There are also a range of Priority Habitats and Priority Species in England that are listed as habitats or species of principal importance under Section 41 of the Natural Environment and Rural Community Act (2006). The current national list (August 2010) contains 56 habitats of principal importance and 943 species of principal importance.

11.1.14. Developers will be expected to submit sufficient, suitable and robust information with their application to demonstrate a comprehensive understanding of habitats and species associated with their site, and to enable the likely effects on biodiversity to be assessed. This may include a desk study, a completed biodiversity checklist or toolkit, Phase 1 habitat survey, or other appropriate ecological survey, where there is a reasonable likelihood of the presence of important habitats or species. This will help to avoid potentially costly delays at a later date and allow a planning decision to be made in a timely manner.

11.1.15. The Lincolnshire Environmental Records Centre holds data on statutory and non-statutory designated sites, habitats and species and is therefore a useful source of biodiversity information.

11.1.16. The Partnership for Biodiversity in Planning has created a free online tool, the Wildlife Assessment Check[25], to help applicants identify whether there is a need to conduct ecological appraisals before submitting a planning application.

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.

Part One: Designated Sites
The following hierarchy of sites will apply in the consideration of development proposals:

1. **International Sites**

   The highest level of protection will be afforded to internationally protected sites. Development proposals that will have an adverse impact on the integrity of such areas, will not be supported other than in exceptional circumstances, in accordance with the NPPF.

   Development proposals that are likely to result in a significant adverse effect, either alone or in combination with other proposals, on any internationally designated site, must satisfy the requirements of the Habitats Regulations (or any superseding similar UK legislation). Development requiring Appropriate Assessment will only be allowed where it can be determined, taking into account mitigation, that the proposal would not result in significant adverse effects on the site's integrity.

2. **National Sites** (NNRs and SSSIs)

   Development proposals should avoid impact on these nationally protected sites. Development proposals within or outside a national site, likely to have an adverse effect, either individually or in combination with other developments, will not normally be supported unless the benefits of the development, at this site, clearly outweigh both the adverse impacts on the features of the site and any adverse impacts on the wider network of nationally protected sites.

3. **Irreplaceable Habitats**

   Planning permission will be refused for development resulting in the loss, deterioration or fragmentation of irreplaceable habitats, including ancient woodland and aged or veteran trees, unless there are wholly exceptional reasons and a suitable compensation strategy will be delivered.

4. **Local Sites** (LNR, LWS and LGS)

   Development likely to have an adverse effect on locally designated sites, their features or their function as part of the ecological network, will only be supported where the benefits of the development clearly outweigh the loss, and the coherence of the local ecological network is maintained. Where significant harm cannot be avoided, the mitigation hierarchy should be followed.

Part Two: Species and Habitats of Principal Importance
All 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.

Development should 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.

Where adverse impacts are likely, development will only be supported where the need for and benefits of the development clearly outweigh these impacts. In such cases, appropriate mitigation or compensatory measures will be required.

Part Three: Mitigation of Potential Adverse Impacts

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.

Development will only be supported where the proposed measures for mitigation and/or compensation along with details of net gain are acceptable to the Local Planning Authority in terms of design and location, and are secured for the lifetime of the development with appropriate funding mechanisms that are capable of being secured by condition and/or legal agreement.

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.

11.2. Biodiversity Opportunity and Net Gain

11.2.1. National planning policy states that development should deliver a net gain in biodiversity. The Environment Act sets out a mandatory requirement for development to deliver at least a 10% biodiversity net gain and approval of a biodiversity net gain plan. The Act includes provision for secondary legislation to set a date for the requirement to come into force.

11.2.2. Biodiversity net gain means leaving the natural environment in a measurably better state than before, and is central to delivering nature's recovery and increasing stocks of natural capital. Net gain should deliver genuine additional improvements for biodiversity by creating or enhancing habitats in association with development. Such improvements should go beyond any required mitigation and/or compensation measures following the application of the mitigation hierarchy. As part of delivering net gains for nature, development proposals will be expected to protect, provide and extend green infrastructure in accordance with Policy S59 Green and Blue Infrastructure Network.

11.2.3. Biodiversity net gain can be achieved on-site, off-site or through a combination of on-site and off-site measures, or, as a last resort, through the purchase of statutory biodiversity credits. Development proposals can, for example, provide a net gain in biodiversity on-site through the enhancement of the existing features of the site, the creation of additional habitats or the linking of existing habitats to reduce fragmentation in the local ecological network. The Central Lincolnshire Authorities' preference is for biodiversity net gain to be delivered on, or adjacent to, the development site, in accordance with the mitigation hierarchy. Off-site biodiversity net gain, either on the applicant's own land or by purchasing units on the market, may be considered acceptable, if sufficient biodiversity net gain cannot be achieved within the development site and where there is opportunity to create, restore or enhance habitats off site that form part of the Nature Recovery Network and where this is considered the best outcome for biodiversity.

11.2.4. Net gains in biodiversity can be delivered by almost all development, by following the principles of the mitigation hierarchy and understanding the ecological constraints and opportunities from the early stages of design.

11.2.5. Biodiversity enhancements can include both the creation of new habitat as well as improving existing habitats and can include, but are not limited to:

- Bird and bat boxes/bricks integrated into the structure of existing and/or new buildings
- Wildlife friendly sustainable urban drainage (SuDs)
- Wildlife tunnels under paths and roads
- Wildlife friendly ponds
- Living roofs and walls
- Bug hotels
- Using native plants in landscaping
- Setting aside space within a development to create new habitat, such as woodland, wetland or wildflower meadows
- Improve and re-naturalise waterways

11.2.6. The proposals for enhancement of biodiversity will depend on the nature and scale of the development, however a development with limited or no impacts on biodiversity should still seek to demonstrate a net gain. Small-scale development proposals form a significant proportion of the planning applications received by the Central Lincolnshire Authorities and therefore collectively, could make a notable contribution to biodiversity net gain and the wider Nature Recovery Network. The Local Planning Authority will use planning conditions to require that a planning permission provides for works that will measurably increase biodiversity.

11.2.7. A suitable biodiversity metric should be used to demonstrate that a 'measurable biodiversity net gain' has been achieved. The preferred metric for calculating biodiversity net losses and gains is the Natural England Biodiversity Metric, which supports and reinforces the application of the mitigation hierarchy.[26] The metric calculates the change in biodiversity resulting from a project or development by subtracting the number of pre-intervention or 'baseline' biodiversity units (i.e. those originally existing on-site and off-site where applicable) from the number of post-intervention units (i.e. those projected to be provided after the development or change in land management). All applications should be supported by the submission of the full metric assessment.

11.2.8. Local Ecological Network[27], Biodiversity Opportunity and Green Infrastructure Mapping has been prepared for Central Lincolnshire by the GLNP. These maps identify the known existing areas of high biodiversity value and areas of local biodiversity priority where it is considered most important and feasible to target habitat creation, extension and restoration. To complement these maps, a set of principles has been prepared (see Appendix 4 of this Local Plan), to guide development proposals that fall within or overlap the biodiversity opportunity areas. Development proposals should have regard to the above evidence and to the biodiversity opportunity area principles.

11.2.9. Recognising the need for a consistent approach to delivering Biodiversity Net Gain across Greater Lincolnshire, the Lincolnshire Wildlife Trust established a multi-agency Task and Finish Group in September 2020. The purpose of this Group is to work in partnership to produce a framework document of shared principles for Biodiversity Net Gain and to ensure Biodiversity Net Gain is delivered in an exemplary and consistent way across Greater Lincolnshire. The framework document will be available on the Central Lincolnshire website once completed.

11.2.10. Major and large scale development schemes[28] should deliver wider environmental net gain wherever possible, reflecting the opportunities identified in the Central Lincolnshire Biodiversity Opportunity and GI Mapping, Central Lincolnshire Green Infrastructure Strategy and Local Nature Recovery Strategy (or any subsequent replacements). Seeking to achieve wider environmental net gain should reduce pressure on, and achieve overall improvements in, natural capital and ecosystem services and the benefits that they deliver.[29]

11.2.11. The baseline data on habitats and species that underpin local biodiversity strategy, the local ecological network, biodiversity, and green infrastructure opportunities, will be kept up to date by the GLNP through the management of the Lincolnshire Environmental Record Centre.

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.

Development proposals should create new habitats, and links between habitats, in line with Central Lincolnshire Biodiversity Opportunity and Green Infrastructure Mapping evidence, the biodiversity opportunity area principles set out in Appendix 4 to this Plan and the Local Nature Recovery Strategy (once completed), to maintain and enhance a network of wildlife sites and corridors, to minimise habitat fragmentation and provide opportunities for species to respond and adapt to climate change.

Proposals for major and large scale development should seek to deliver wider environmental net gains where feasible.

Biodiversity Net Gain
The following part of the policy applies unless, and until, subsequently superseded, in whole or part, by national regulations or Government policy associated with the delivery of mandatory biodiversity net gain arising from the Environment Act 2021. Where conflict between the policy below and the provisions of Government regulations or national policy arises, then the latter should prevail.

All qualifying[30] 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. Off-site measures will only be considered where it can be demonstrated that, after following the mitigation hierarchy, all reasonable opportunities to achieve measurable net gains on-site have been exhausted or where greater gains can be delivered off-site where the improvements can be demonstrated to be deliverable and are consistent with the Local Nature Recovery Strategy.

All development proposals, unless specifically exempted by Government, must provide clear and robust evidence for biodiversity net gains and losses in the form of a biodiversity gain plan, which should ideally be submitted with the planning application (or, if not, the submission and approval of a biodiversity gain plan before development commences will form a condition of any planning application approval), setting out:

a) information about the steps to be taken to minimise the adverse effect of the development on the biodiversity of the onsite habitat and any other habitat;
b) the pre-development biodiversity value of the onsite habitat;
c) the post-development biodiversity value of the onsite habitat following implementation of the proposed ecological enhancements/interventions;
d) the ongoing management strategy for any proposals;
e) any registered off-site gain allocated to the development and the biodiversity value of that gain in relation to the development; and
f) exceptionally any biodiversity credits purchased for the development through a recognised and deliverable offsetting scheme.

Demonstrating the value of the habitat (pre and post-development) with appropriate and robust evidence will be the responsibility of the applicant. Proposals which do not demonstrate that the post-development biodiversity value will exceed the pre-development value of the onsite habitat by a 10% net gain will be refused.

Ongoing management of any new or improved onsite and offsite habitats, together with monitoring and reporting, will need to be planned and funded for 30 years after completion of a development.

11.3. Responding to Landscape Character

11.3.1. Central Lincolnshire is a predominantly rural landscape interspersed by the City of Lincoln, market towns and smaller settlements and characterised by its contrasting chalk and limestone uplands, low lying vales and fenland landscapes. The Lincolnshire Wolds Area of Outstanding Natural Beauty (AONB) is a nationally designated area with the highest status of landscape protection, and the Lincoln Hillside is recognised as one of the most historic townscapes in the East Midlands.

11.3.2. In addition, landscape character assessments developed for previous Local Plans have identified locally designated Areas of Great Landscape Value (AGLV) which are considered to be of high landscape value to the local areas with strong distinctive characteristics which make them particularly sensitive to development. The primary objective is the conservation and enhancement of their landscape quality and individual character.

11.3.3. Key views within the landscape, as well as in to and out of settlements, are valued by the local community, contribute to the distinctive local identity of a place and assist in way finding.

11.3.4. The Central Lincolnshire authorities are committed to ensuring that development protects, and wherever possible enhances, the intrinsic value of our landscape whilst enabling strategic, sustainable growth which is necessary for Central Lincolnshire's communities and economies to thrive.

Policy S62: Area of Outstanding Natural Beauty and Areas of Great Landscape Value

The Lincolnshire Wolds Area of Outstanding Natural Beauty
The Lincolnshire Wolds Area of Outstanding Natural Beauty (AONB) is a nationally designated landscape and has the highest level of protection. Great weight should be given to conserving and enhancing the landscape and scenic beauty in this area. All development proposals within, or affecting the setting of, the AONB shall:

a) be compatible with the special character of the area and have had regard to conserving and enhancing the special quality and scenic beauty of the landscape; and
b) respect the landscape character, topography, and context in relation to the siting, design, scale and extent of development; and
c) protect and enhance important views into, out of and within the AONB; and
d) retain and enhance existing natural, historic and cultural features that contribute to the special quality of the landscape.

Proposals which will result in an adverse impact on the AONB or which fail to demonstrate that they will not have an adverse impact taking into account any mitigation proposed, will not be supported.

Areas of Great Landscape Value
Areas of Great Landscape Value (AGLV) are locally designated landscape areas recognised for their intrinsic character and beauty and their natural, historic and cultural importance. A high level of protection will be afforded to AGLV reflecting their locally important high scenic quality, special landscape features and sensitivity.

Development proposals within, or within the setting of, AGLV shall:

e) conserve and enhance the qualities, character and distinctiveness of locally important landscapes; and
f) protect, and where possible enhance, specific landscape, wildlife and historic features which contribute to local character and landscape quality; and
g) maintain landscape quality and minimise adverse visual impacts through high quality building and landscape design; and
h) demonstrate how proposals have responded positively to the landscape character in relation to siting, design, scale and massing and where appropriate have retained or enhanced important views, and natural, historic and cultural features of the landscape; and
i) where appropriate, restore positive landscape character and quality.

Where a proposal may result in adverse impacts, it may exceptionally be supported if the overriding benefits of the development demonstrably outweigh the harm – in such circumstances the harm should be minimised and mitigated through design and landscaping.

11.7. Trees, Woodland and Hedgerows

11.7.1. The Central Lincolnshire Authorities have a statutory duty (s197 of the Town and Country Planning Act 1990) to consider the protection and planting of trees when granting planning permission for proposed development. The potential effect of development on trees is a material consideration that must be taken into account in dealing with planning applications.

11.7.2. Trees, and hedgerows, contribute enormously to the character of many parts of the Central Lincolnshire area – they are very important visual elements in the landscape, since they are attractive in themselves, soften and give a context to development, provide focal points and screen unsightly areas from view. However, the amenity value of trees is not confined only to their contribution to visual character, trees, woodland and hedgerows are important components of Central Lincolnshire's green infrastructure network. They can also help to reduce noise and prove beneficial in terms of atmospheric pollution, modifying microclimates and flood mitigation through storm water attenuation. Furthermore, they provide habitats for biodiversity, help to stabilise soil against erosion, and play a role in reducing climate change by locking up carbon dioxide. As a result, they are highly valued, and the relative scarcity of tree cover particularly in the southern half of the Central Lincolnshire area (North Kesteven District) gives them an added importance.

11.7.3. Trees and woodlands take many years to mature, ancient woodlands and aged or veteran trees in particular are irreplaceable. Aged and veteran trees are those which, because of their great age, size or condition are of exceptional wildlife, landscape or cultural value.

11.7.4. Mature trees, woodlands and hedgerows are sensitive to the impacts of development, either directly through their removal or indirectly through the impacts of construction or the future use of the site. Due to the length of time and the cost taken to replace mature features, and the contribution they can make to the quality of development, they should be retained and protected wherever possible.

11.7.5. The Central Lincolnshire Authorities will look to prevent the loss or damage of good quality trees, woodlands or hedgerows, especially those which are protected such as ancient woodlands, or have a high public amenity value. Policy S66 ensures that trees are not considered in isolation and that they are integral to the overall design of a scheme and contribute to the wider objectives of securing biodiversity and green infrastructure on new developments.

11.7.6. Where trees are present on a development site, a British Standard 5837 Tree Survey 'Trees in relation to Construction survey', a Tree Constraints Plan, an Arboricultural Impact Assessment and any other related survey information, should be submitted along with an application for planning permission. This will ensure it is clear that a proper consideration of all trees and woodlands has taken place and been taken into account in the preparation of proposals for a site. To ensure that tree cover and habitat is retained, it is important that both the short term and long term impacts that a development may have on trees is evaluated at the earliest opportunity. In addition, an Arboricultural Method Statement and associated Tree/Hedgerow Protection Plan will also be required where there is a likely adverse impact on the health and wellbeing of the trees, either through the pressure to prune or fell or through excavation works which could harm the root systems. The Statement should set out the measures that will need to be taken to protect the health of the trees during the construction period and afterwards.

11.7.7. Consideration also needs to be given to the growth potential and management requirements of trees and hedgerows. Where the loss of trees and hedges is unavoidable, they should be replaced with suitable new planting either within the site or in the locality if this is more appropriate. In the case of hedges, the renovation of existing hedges in the wider area can be an appropriate form of mitigation. Development can make a positive contribution to the tree resource in the area through on or off site planting.

11.7.8. The preference will be to incorporate existing natural features into the development. However, there may be instances where the loss of important natural features is unavoidable, for example to enable a scheme to fulfil important objectives such as economic development or the provision of housing. Where the loss of such features is demonstrably unavoidable, adequate replacement provision, preferably by native British species, of the same or greater value will be sought. The proposal will also be required to demonstrate:

- That the development could not equally well go ahead elsewhere, where no harm to trees would be involved;
- That the proposed development scheme could not be modified to retain the tree; and
- That the amenity value of the tree is outweighed by the benefits to the community of the development proposal.

11.7.9. Proposals that either directly or indirectly result in the loss or deterioration of ancient woodland will not be supported unless there are exceptional reasons and the need for and benefits of the development at that location clearly outweigh the loss. When considering the planning balance in these cases compensation proposals must not be considered as part of the benefits resulting from a development.

11.7.10. In terms of mitigation where loss of trees and woodland is proposed (and where it is deemed acceptable for such tree(s) to be lost, taking account of the status of the tree), then suitable proposals for mitigation, via compensation, should be provided. The tree compensation standard set out in this policy provides a suitable mechanism to determine the appropriate level of mitigation. The Council's first preference is for on-site replacement at suitable locations within the curtilage of the development. In exceptional circumstances, where planting cannot be achieved on-site without compromising the achievement of good design, new tree planting proposals may be considered off site (including on public land) to mitigate. Where trees are to be provided off-site, planning obligations will be sought to cover replacement trees, their planting and their future maintenance.

11.7.11. Where new tree planting is proposed (irrespective of whether this is to compensate for losses on site), then the quantity, location and species selection of new trees will be expected to take practicable opportunities to meet the following six Tree Planting Principles:

1. Create habitat and, if possible, connect the development site to the Strategic Green Infrastructure Network; and
2. Assist in reducing or mitigating run-off and flood risk on the development site; and
3. Assist in providing shade and shelter to address urban cooling, and in turn assist in mitigating against the effects of climate change; and
4. Create a strong landscaping framework to either (a) enclose or mitigate the visual impact of a development or (b) create new and enhanced landscape;
5. Be of an appropriate species for the site; and

6. Avoid tree planting where it has potential to cause harm, such as to important habitats, peat soils, property or infrastructure.

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.

Existing Trees and Woodland

Planning permission will only be granted if the proposal provides evidence that it has been subject to adequate consideration of the impact of the development on any existing trees and woodland found on-site (and off-site, if there are any trees near the site, with 'near' defined as the distance comprising 12 times the stem diameter of the off-site tree). If any trees exist on or near the development site, 'adequate consideration' is likely to mean the completion of a British Standard 5837 Tree Survey and, if applicable, an Arboricultural Method Statement.

Where the proposal will result in the loss or deterioration of:

a) ancient woodland; and/or
b) the loss of aged or veteran trees found outside ancient woodland,

permission will be refused, unless and on an exceptional basis the need for, and benefits of, the development in that location clearly outweigh the loss.

Where the proposal will result in the loss or deterioration of a tree protected by a Tree Preservation Order or a tree within a Conservation Area, then permission will be refused unless:

c) there is no net loss of amenity value which arises as a result of the development; or
d) the need for, and benefits of, the development in that location clearly outweigh the loss.

Where the proposal will result in the loss of any other tree or woodland not covered by the above, then the Council will expect the proposal to retain those trees that make a significant contribution to the landscape or biodiversity value of the area, provided this can be done without compromising the achievement of good design for the site.

Mitigating for loss of Trees and Woodland

Where it is appropriate for higher value tree(s) (category A or B trees (BS5837)) and/or woodland to be lost as part of a development proposal, then appropriate mitigation, via compensatory tree planting, will be required. Such tree planting should be on-site wherever possible and should:

e) take all opportunities to meet the six Tree Planting Principles (see supporting text); and
f) unless demonstrably impractical or inappropriate, provide the following specific quantity of compensatory trees:

Trunk diameter(mm) at 1.5m above ground of tree lost to development	Number of replacement trees required, per tree lost*
75 - 200	1
210 - 400	4
410 - 600	6
610 - 800	9

810 - 1000	10
1000+	11

* replacement based on selected standards 10/12 cm girth at 1m

New Trees and Woodland
Where appropriate and practical, opportunities for new tree planting should be explored as part of all development proposals (in addition to, if applicable, any necessary compensatory tree provision). Where new trees are proposed, they should be done so on the basis of the five Tree Planting Principles. Proposals which fail to provide practical opportunities for new tree planting will be refused.

Planting schemes should include provision to replace any plant failures within five years after the date of planting. Planting of trees must be considered in the context of wider plans for nature recovery which seeks to increase biodiversity and green infrastructure generally, not simply planting of trees, and protecting / enhancing soils, particularly peat soils. Tree planting should only be carried out in appropriate locations that will not impact on existing ecology or opportunities to create alternative habitats that could deliver better enhancements for people and wildlife, including carbon storage. Where woodland habitat creation is appropriate, consideration should be given to the economic and ecological benefits that can be achieved through natural regeneration. Any tree planting should use native and local provenance tree species suitable for the location.

Management and Maintenance
In instances where new trees and/or woodlands are proposed, it may be necessary for the council to require appropriate developer contributions to be provided, to ensure provision is made for appropriate management and maintenance of the new trees and/or woodland.

Hedgerows
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.

Proposals for new development will not be supported that would result in the 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.

Development requiring the loss of a hedgerow protected under The Hedgerow Regulations will only be supported where it would allow for a substantially improved overall approach to the design and landscaping of the development that would outweigh the loss of the hedgerow. Where any hedges are lost, suitable replacement planting or restoration of existing hedges, will be required within the site or the locality, including appropriate provision for maintenance and management.

11.8. Best and Most Versatile Agricultural Land

11.8.1. Agriculture is a significant land use across Central Lincolnshire, and the wider Lincolnshire area and generates a significant proportion of the national food production. Therefore the protection of the best and most versatile land is key to ensure that food production is not negatively impacted by development. The Agricultural Land Classification (ALC) mapping shows that with the exception of a few relatively small areas of Grade 1 land, the majority of agricultural land within Central Lincolnshire is either Grade 2 or Grade 3, with approximately 50% of the area classified as Grade 3.

11.8.2. Development of the best and most versatile agricultural land will only be supported where it can be demonstrated that the need for the development, its benefits and/or sustainability considerations outweigh the need to protect such land taking into account the economic and other benefits of the best and most versatile agricultural land.

11.8.3. Proposals for development on unallocated sites which would individually or cumulatively result in a significant loss (1 hectare or more) of best and most versatile agricultural land will also need to demonstrate that there are no other suitable alternative sites which could accommodate either all or part of the development on either previously developed land, or land within the built up area of existing adjacent or nearby settlements, or on poorer quality agricultural land. All proposals over one hectare which would have the potential to involve the loss of best and most versatile agricultural land will be expected to be accompanied by an agricultural land classification statement.

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.

With the exception of allocated sites, 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 (unless development of such lower grade land would be inconsistent with other sustainability considerations); 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).

Where proposals are for sites of 1 hectare or larger, which would result in the loss of best and most versatile agricultural land, an agricultural land classification report should be submitted, setting out the justification for such a loss and how criterion b has been met.

Thorpe on the Hill Neighbourhood Plan (March 2018)

Biodiversity

Policy 3: Biodiversity

Development should minimise its impact on biodiversity and provide net gains in biodiversity where possible. The following measures to protect and enhance local biodiversity will be supported:

a) the preservation of ecological networks, especially those between built-up areas;

b) the protection of ancient trees or trees of arboricultural value;

c) the preservation, restoration and re-creation of wildlife habitats, and the protection and recovery of priority species; and,

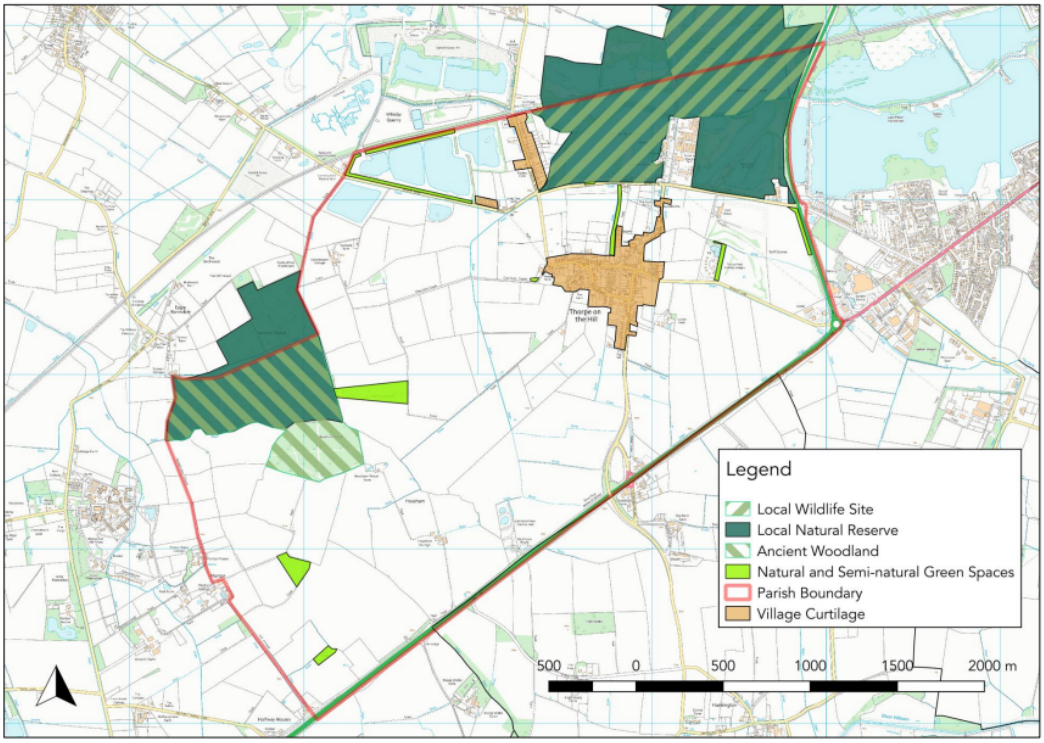
d) the provision of a net gain in flora and fauna.

6.1. The residents of Thorpe on the Hill care very much about the significant green (agricultural and semi-natural) and blue (fresh water) surroundings that make up a large part of the Parish. The ecological role of these areas and the need to protect and enhance their local biodiversity and wildlife value is recognised by the Greater Lincolnshire Nature Partnership and is reflected in the Central Lincolnshire Local Plan.

6.2. The Parish hosts a significant portion of Whisby Nature Park which is a Local Wildlife Site (LWS) and Local Nature Reserve (LNR) and is particularly important for its wetland environment. Tunman Woodland is also a LWS as well as being an area of Ancient Woodland. These two areas are shown on Map 3 below and are given considerable protection through the Central Lincolnshire Local Plan.

6.3. However, these two areas of the Parish form only part of its rich biodiversity: fresh water lakes, historic grassland, a number of TPOs, deciduous woodland and historic hedgerows all contribute to its overall quality. These assets are not identified in the Lincolnshire Biodiversity Opportunity Mapping Study, but they are identified as Natural and Semi-Natural Greenspaces in the Central Lincolnshire Open Space Audit and Provision Standard Assessment (shown on Map 3 as "green space") and their biodiversity importance is highlighted in the Lincolnshire Biodiversity Plan (2011).

Map 3: Areas of biodiversity value



Green Spaces and Green Infrastructure

Policy 4: Green Spaces and Green Infrastructure

1. Development should protect public rights of way and the enhancement of public rights of way will be supported.

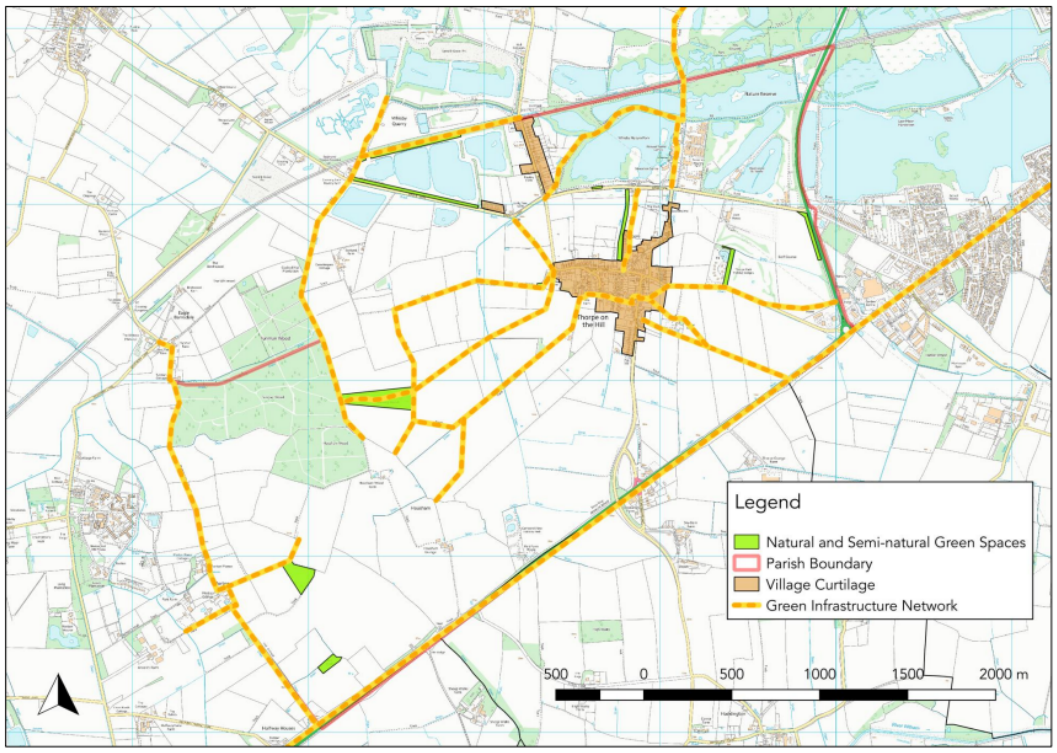
2. Where necessary to mitigate the impact of a development proposal, proportionate contributions will be sought to improve existing or deliver new green spaces or other green infrastructure. The delivery of new, or improvements to, green spaces or green infrastructure will be supported.

6.4. Whisby Nature Park and Tunman Woods, along with the network of bridleways, footpaths and cycle routes connecting different green spaces across the Parish are valued for the range of benefits they bring, including: physical and mental health, connectivity, leisure, sense of place, mitigation of climate change effects, visitor attractions and landscape character.

6.5. Within the village curtilage, the triangle of land on which there are mature trees between Main Street and Lincoln Lane is designated as an Important Open Space in the Local Plan and is afforded protection from development under policy LP23. The other areas of Green Spaces and Green Infrastructure shown on Map 4 are identified as Natural and Semi-Natural Green Spaces in the Central Lincolnshire Open Space Audit and Provision Standard Assessment (both publicly and non-publicly accessible). Within this Neighbourhood Plan, they are collectively termed Green Spaces.

6.6. Almost all the Parish falls within the Strategic Green Corridor, as identified in the Central Lincolnshire Green Infrastructure Study, and it is crossed by Strategic Green Access Links. The network of footpaths, bridleways, cycle paths and quiet lanes is of pivotal importance for both residents and visitors, as it is widely used to access open spaces, and the countryside from the village and to reach other settlements. The network of Green Infrastructure shown on Map 4 is also identified on the Public Rights of Way Improvements Plan and the Green Infrastructure Study for Central Lincolnshire. It is protected through Policy LP20 of the Local Plan.

Map 4: Green Spaces and Green Infrastructure



Landscape and Views

Policy 5: Landscape and Views

Development outside the village curtilage should not reduce the separate identity of Thorpe on the Hill by reducing the existing gap between the village curtilage and the A46; and must respect the unique layout and pattern of the enclosure landscape of Thorpe on the Hill, as well as field boundaries such as hedges and trees. Development must also take account of the important views identified on Map 5. The preservation and enhancement of these views will be supported.

6.7. The entire Parish of Thorpe on the Hill lies squarely within the area defined in the Lincolnshire Historic Landscape Characterisation (2011) defined as Lincolnshire: Character Zone TVL2. This zone is a small sub-set of the much larger Natural England Character Area defined as No.48: Trent and Belvoir Vales.

6.8. Thorpe on the Hill is a typical Parish in this Character Zone. The built environment is almost exactly as described in the adopted description of the Character Zone. It contains a large block of ancient woodland in the eastern part of the Parish (much of it formerly in the Parish of Aubourn-cum-Haddington). There are also strips of woodland along the minor roads in the northern part of the Parish.

6.9. Characteristically, Thorpe's rural landscape is mostly made up of arable fields, which are arranged in a generally rectilinear pattern, with straight field boundaries, often at right-angles to each other. Field boundaries here are also very often formed by hedges rather than drainage ditches and the hedges are usually multi-species, though with hawthorn predominating and occasional standards.

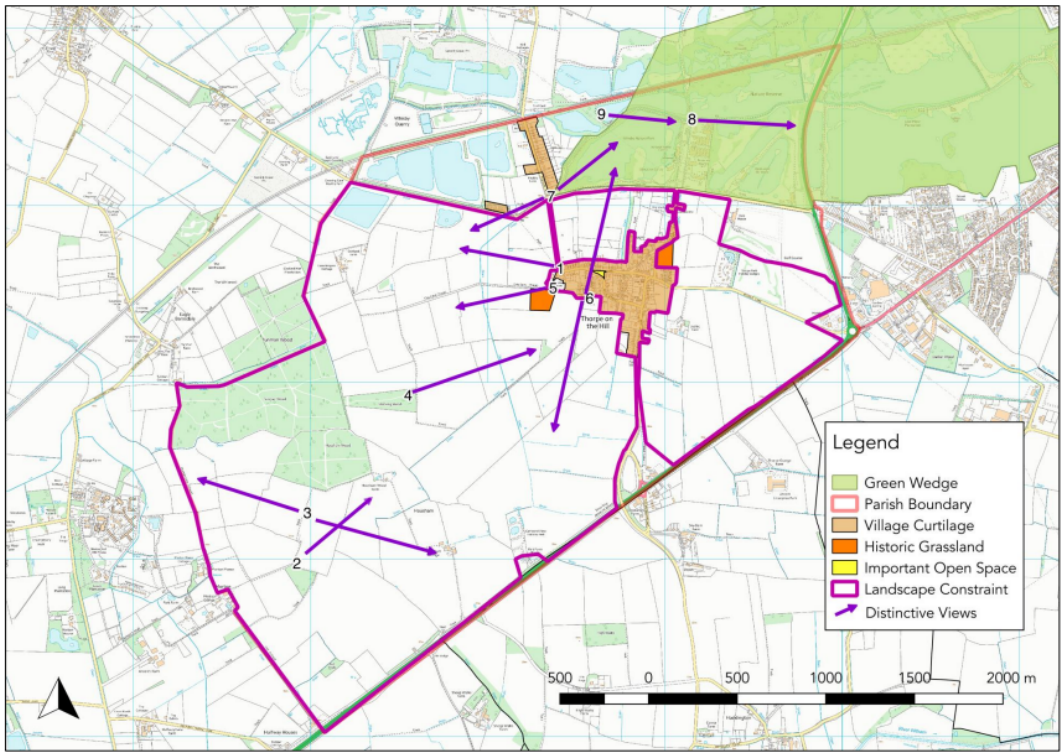
6.10. The modern Parish lies north of the Fosse Way and was enclosed in 1774. Several versions of the map recording the subdivision of the landscape and the newly-created field boundaries have survived. Using these maps it has been calculated that there has been something like a thirty percent loss of hedged field boundaries (by length) since the late eighteenth century. This relatively small loss-rate means that the structure of the post-enclosure landscape and much of its detail, both physically, and in terms of natural environment, has survived into the present day. The hawthorns and the standards are both likely to have been first planted in 1774.

6.11. Map 5 shows those areas where this enclosure landscape, created in 1774, survives well (Historic Enclosure Landscape). As is also characteristic, these areas of historic landscape survival in Thorpe lie predominantly within the former medieval open fields (East Field, Middle Field and West Field). The area of former village common, along the northern edge of the Parish, which was also enclosed in 1774, has now lost almost all of its enclosure boundaries, and an entirely new landscape has been created by gravel extraction.

6.12. Within the predominantly arable enclosure landscape, Thorpe also retains a number of small enclosures of permanent pasture adjacent to the nucleated settlement, where the remains of the medieval open-field agriculture can still be seen in the form of rare ridge-and-furrow earthworks. These particular areas are shown as Historic Grassland on Map 5.

6.13. The Parish Council has identified a number of distinctive views that need to be considered in development proposals within the Parish. These are shown by direction on Map 5 and also described in further detail at Appendix 2.

Map 5: Landscape character and features



7. Design

Policy 6: Design and Character of Development

Development should complement the established character of Thorpe on the Hill, taking into account the Village Character Assessment and the Thorpe on the Hill Design Guidance. In so doing, development should, where appropriate, take account of:

a) the impact of new buildings and structures on important views in and out of the village (as identified in the Design Guidance) and on the setting of the village within the wider landscape;

b) the visual impact of materials used for external walls and roofs, ideally selected from a locally distinctive palette;

c) the ways in which the overall form, scale, shape and proportions of new buildings and extensions relate to neighbouring buildings and impact on the character and appearance of the village as a whole;

d) the visual importance of defining boundaries - particularly boundaries between public and private realms - in ways that are consistent with the mixture of hedges and brick walls that traditionally contributed to the character and distinctiveness of the village;

e) locally distinctive architectural features and styles that can be incorporated into the construction of new buildings and structures; and,

f) incorporating best practices in the provision of Sustainable Urban Drainage.

Proposals for development should demonstrate how the above factors have been taken into account.

7.1. The design quality of new developments is important to local people and it is clear from responses to the consultations that have been carried out that there is a desire for new buildings to be sited, designed and constructed so as to complement and strengthen Thorpe on the Hill's character and identity.

7.2. Policy 6 does not seek to stifle design innovation, nor resist modern designs where they are appropriate, particularly in respect to sustainable design and construction. This policy merely seeks to ensure that development proposals are carefully considered and designed in a manner, which is complimentary to the existing village context. It aims to see that new development, as well as alterations and extensions to existing buildings, are in keeping with the character. For most development it will be helpful to check that it is compatible and complementary with the key characteristics of the village. Wherever possible, new development should help to strengthen, reinforce or where necessary, restore distinctive landscape character.

7.3. Further detail on the character of Thorpe on the Hill is set out in the 'Character Assessment' and should be used as a basis for understanding the character of the village and progressing development proposals, which respond positively to this character. The Design Guidance emerged from the Character Assessment work and sets out a number of core design principles, recommendations for materials and other distinguishing features as well as a series of key village-scape views around the village that should be respected. Both documents form part of the evidence base for this Neighbourhood Plan and are available to view on the Parish Council's website.

7.4. Information submitted with planning applications should provide sufficient information to explain how the guidance and considerations referred to above have been taken into account in the design of the proposed development.

7.5. In line with the National Planning Policy Framework, this policy requires that development should contribute positively and ensure the design responds to the local character and history of the Parish.

Bassingham Neighbourhood Plan (November 2017)

8. Transport

Objective	Policy Index
Connect new housing into Bassingham with good pedestrian, cycle and bus connections.	T1: Transport considerations in new development.
Plan public transport to better meet users' needs.	T1: Transport considerations in new development.
Ensure new development does not result in a decrease in road safety.	T1: Transport considerations in new development.

This section of the Plan explains how the Neighbourhood Plan will ensure that proposals are robustly assessed to ensure that opportunities for more sustainable choices in transport and movement are realised, and that no unacceptable reduction in road safety results from new development.

OBJECTIVE - CONNECT NEW HOUSING INTO BASSINGHAM WITH GOOD PEDESTRIAN, CYCLE AND BUS CONNECTIONS.

8.1 Cars are essential for many people in rural villages such as Bassingham but to address the challenges presented by the additional numbers of vehicle journeys generated by new and recent development, movement must be managed by optimising access to public transport, and encouraging walking and cycling, so as to reduce car journeys. Bassingham has remained "walkable" in terms of access to services and facilities, and the overall aim is to ensure that any significant residential or other major development is located within walking distance from the village core.

OBJECTIVE - PLAN PUBLIC TRANSPORT TO BETTER MEET USERS' NEEDS.

8.2 The provision of public transport services cannot be directly delivered by the Neighbourhood Plan, so policy T1 promotes the Parish Council's long-term aspirations for extending and improving both the extent and frequency of public transport provision in and around the village to improve public transport users' needs.

8.3 The Local Transport Plan is prepared by the Highway Authority in consultation with all those who have influence on the transport system. This includes neighbouring authorities, district and parish councils as well as transport operators. The Parish Council will continue to engage in the Local Transport Plan process, continuing to work with Lincolnshire County Council (as Highway Authority) to identify and secure opportunities for extending and improving public transport provision that arise across the Neighbourhood Plan period.

OBJECTIVE - ENSURE NEW DEVELOPMENT DOES NOT RESULT IN A DECREASE IN ROAD SAFETY.

8.4 Community consultation raised issues relating to the cumulative impact of recent developments on existing highways and levels of on street parking. It is considered important that new development coming forward over the Neighbourhood Plan period robustly addresses such issues and certainly does not make matters worse.

POLICY T1: Transport considerations in new development.

Where it is appropriate and proportionate, planning applications should be accompanied by information which demonstrates how the following considerations have been addressed:

- Provision of safe walking and cycling routes in the immediate area of the site with consideration given to the need to maintain and enhance walkable access to services and facilities in the village, and to the surrounding open countryside;
- Opportunities to extend existing routes for walkers and cyclists, including routes linking into the surrounding countryside, as well as into the village, and to accommodate people of all ages and abilities, including those with pushchairs and wheelchairs;
- How use of materials, provision of off road parking and shared services and traffic calming measures can encourage low vehicle speeds throughout the development;
- How the proposals link with public transport;
- Impacts of the traffic arising from the development; and
- Identified impacts that will result in an unacceptable reduction in highway safety

11. Environment, Design and Sustainability.

Objective	Policy Index
New development should reinforce the character and quality of Bassingham and result in energy efficient and sustainable development.	ES1: Achieving Design Quality ES2: Achieving Green Design ES3: Listed Buildings, Conservation Area and Built Heritage
Maintain and enhance the existing open space and green infrastructure network within the village, and ensure new development includes a level of open space and green infrastructure to match the existing standards of provision in the village.	ES4: Landscape and Countryside Surrounding the Village
Facilitate sustainable energy, without compromising the inherent landscape and countryside quality surrounding the village.	ES5: Renewable Energy Schemes

OBJECTIVE - NEW DEVELOPMENT SHOULD REINFORCE THE CHARACTER AND QUALITY OF BASSINGHAM AND RESULT IN ENERGY EFFICIENT AND SUSTAINABLE DEVELOPMENT.

This section of the Plan includes polices to ensure design of new development continues to be of a high standard, secures energy efficient "Green Design" and sets out the special considerations and approaches to development affecting the villages Built Heritage assets.

11.1 The Parish Council wants to work in co-operation with developers to achieve the highest possible standards of design and construction. This means creating developments that are more cost effective to run, more secure, minimise their environmental impact and provide healthy living conditions, at the same time as respecting the area's rich heritage and distinctiveness.

Further information on what contributes to the local distinctiveness, character and aesthetic qualities of Bassingham is provided in the Bassingham Conservation Appraisal (2016) and Natural England's National Character Area profile for Area 48 Trent and Belvoir Vales (2013).

11.2 Where a Design and Access Statement is required this is an appropriate vehicle to demonstrate consideration of how the provisions of the Neighbourhood Plan Design Policies have been taken into account.

11.3 The Neighbourhood Plan will seek to ensure that all new development built in the Bassingham Neighbourhood Plan area reflects building styles and materials used over many years.

ES1: Achieving Design Quality

Planning applications for new development which plans positively for the achievement of high quality and inclusive design which conserves local distinctiveness and the character and aesthetic qualities of Bassingham as a traditional Lincolnshire rural settlement will be supported. Planning applications should demonstrate how development proposals design out crime where a Design and Access Statement is required.

11.4 Further information on measures to design out crime is provided in the series of Design Guides produced by Secured by Design and from Crime Prevention Design Advisors.

11.5 Encouraging energy efficient, low carbon development as part of sustainable design is an important part of the UK strategy to reduce emissions. Improved energy efficiency within the village's future housing stock and other new buildings will also contribute to reductions in running costs.

11.6. It is often a place's heritage that makes it special. That distinctiveness not only gives local people a sense of belonging or identity and a feeling of pride in a place, but it can help to attract investment to an area, for example by attracting visitors.

11.7 By its very nature, the local heritage of Bassingham is valued by the community and therefore it is important for it to be protected at the most local level by those who treasure it most.

11.8 It is the aim of the Neighbourhood Plan to help protect those areas and features in the village which are valued locally and ensure that they remain in productive use where appropriate. It may help to ensure that potential new development is properly integrated with what is already there and does not result in the loss of local distinctiveness. It can also identity opportunities for improvement and the challenges that will need to be faced.

11.9 Addressing how best to integrate new development into an existing place can encourage people to be innovative, taking into account what is special about a place often demonstrates that off-the-shelf design and construction might not be appropriate. It encourages sensitive development of historic buildings and places that can invigorate an area, stimulating investment, entrepreneurship, tourism and employment.

11.10 The National Planning Policy Framework highlights the need to consider the environment (including landscape) within the planning process. Landscape provides a framework for people to think about what gives their area its sense of place, and to manage change in a way which makes a positive contribution to the character of an area. Recognising landscape in the Neighbourhood Plan provides an opportunity to identify what makes the landscape surrounding the village of Bassingham unique, and to ensure that its special qualities and distinctive characteristics are protected, and enhanced, through the Neighbourhood Planning process.

ES3: Heritage Assets

Heritage assets and their settings will be conserved and, where appropriate, enhanced, to maintain the quality of Bassingham's built heritage and historic environment. Any development proposal affecting heritage asset or its setting should contribute positively to conserving and enhancing the asset.

Where a Design and Access Statement is required it should provide sufficient detail for proposals to be properly understood and a Heritage Statement may be necessary depending on the scale and significance of the impacts of the proposal. Requirements for information supporting such proposals may include:

- Drawings showing the proposal in relation to surroundings including elevations and sections;
- Three-dimensional drawings from single multiple viewpoints; and
- Rendered elevations to demonstrate the proposed palette of materials.

Design and Access Statements should include detail of how the proposal has taken account of the content of the latest Conservation Area appraisal.

OBJECTIVE - MAINTAIN AND ENHANCE THE EXISTING OPEN SPACE AND GREEN INFRASTRUCTURE NETWORK WITHIN THE VILLAGE, AND ENSURE NEW DEVELOPMENT INCLUDES A LEVEL OF OPEN SPACE AND GREEN INFRASTRUCTURE TO MATCH THE EXISTING STANDARDS OF PROVISION IN THE VILLAGE.

11.11 Assessment of landscape and visual impacts requires a systematic and robust approach, as outlined in best-practice guidance from the Landscape Institute and Institute of Environmental Management and Assessment (Third Edition May 2013). This is normally undertaken by landscape professionals.

11.12 Information on green infrastructure in the Neighbourhood Area is included in the Central Lincolnshire Green Infrastructure Study (2011).

ES4: Landscape and Countryside Surrounding the Village

Planning applications for new development outside the Settlement Boundary will be supported which are consistent with the Local Plan Policy LP2 and Policy LP55 and which demonstrates how the following considerations have been addressed;

- Contribution to a green infrastructure network;
- Utilising soft boundaries, such as tree lined native hedges;
- Including characteristic landscape features, including scattered trees, farmsteads and copses, in new landscape design;
- Conserving hedges and the field pattern they create or provide replacement planting where their loss cannot be avoided;
- Exploring opportunities for landscaping and planting to connect to existing routes and green infrastructure within the village; and/or
- Avoidance of the best and most versatile agricultural land (Grades 1,2 and 3a) in preference for use of poorer quality land.

OBJECTIVE - FACILITATE SUSTAINABLE ENERGY, WITHOUT COMPROMISING THE INHERENT LANDSCAPE AND COUNTRYSIDE QUALITY SURROUNDING THE VILLAGE.

This section of the Plan includes polices to secure appropriate domestic and commercial renewable energy schemes, while making sure that these can be accommodated without affecting existing amenity and important local assets, especially landscape quality.

11.13 Existing climate change poses a global challenge. We are responsible at a local level for ensuring the protection of our environment and landscape by mitigation of such change where possible.

11.14 Any significant adverse impact on the character of the village, and its landscape settings will offset sustainability gains. It is therefore important that all

schemes, from a domestic scale up to commercial schemes in the countryside surrounding the village are rigorously assessed and regulated.

11.15 It is expected that all energy generating infrastructure and its installation will comply with the Microgeneration Certification Scheme where appropriate.*

ES5: Renewable Energy Schemes

Any proposal requiring a planning application for energy generating schemes and infrastructure using renewable energy sources, and new Renewal Energy Scheme development will be supported in the Neighbourhood Plan Area provided that:

- On householder/domestic schemes, and any other schemes located within the Settlement Boundary, the energy generating infrastructure is located as close as practicable and is proportionate to the scale of the existing buildings and proposed development it is intended to serve.
- The siting, scale and design of any energy generating infrastructure does not compromise public safety, allows continued safe use of public rights of way, and does not adversely affect existing amenities.
- Any technologies and infrastructure used to generate energy should not detract from the rural, visual and historic character of the village and the surrounding landscape setting and environment.
- Adjoining land uses are not adversely impacted in terms of noise, vibration, or electromagnetic interference.
- Where appropriate the energy generating infrastructure and its installation complies with the Microgeneration Certification Scheme (*).

* The Microgeneration Certification Scheme (MCS) is an internationally recognised quality assurance scheme, supported by the DECC.

Design and Character of Development

71. The residents of Coleby are very proud of the village's distinctive character and are keen to maintain this as new development takes place within the parish.

72. Coleby's position at the top of the Lincoln ridge dominates over the Lowfields to the west of the parish. The views from the top of the ridge over the surrounding countryside, as well as the views from surrounding areas to the church are considered to form a key part of Colbey's identity. With the majority of the village included in the Conservation Area, a total of 11 Listed Buildings, a Historic Garden at Coleby Hall, and many buildings on NKDC's Local List, there is a rich history that must be recognised and respected in any new development (see Appendix 5).

73. The following design policy provides a positive framework for the achievement of high quality and inclusive design that will help Coleby to retain its strong sense of place. It aims to ensure that development proposals are designed in a manner appropriate to the context and that contributes to and enhances the local character of Coleby.

74. Coleby is a rural village and residents have noted many benefits of living in the Parish including the size and make-up of the village, peacefulness and village feel and ease of access to the open countryside. Whilst it is recognised that Coleby has to accommodate some growth, residents have clearly expressed a desire to retain the small village feel and to ensure new developments maintain and, where possible, enhance the local character.

75. The Neighbourhood Plan Working Group has commissioned the Coleby Character Assessment (see Appendix 6) that identifies key aspects of local character, design principles and unique features, views and vistas. This Character Assessment should be used as a tool to inform the design of residential proposals for developers, architects, planners and the local community. It is also intended to ensure that new development is not only of high quality but also appropriate in character to the existing environment and context. The Coleby Character Assessment forms the evidence base for this design policy and planning applications should be accompanied by sufficient information to explain how the Character Assessment has been taken into account in the design of the proposed development.

76. The surrounding countryside, landscape and natural features within Coleby contribute to the character of the area and its sense of space. In order to retain the village feel the areas of countryside surrounding the village will be retained. Of particular importance is the visual "buffer zone" separating the village from the busy A607 provided by the tract of land that comprises the recreation ground north of Rectory Road and the undeveloped land between Rectory Road and Dovecote Lane. This separation is an important feature of the village's setting, and contributes to its character as a traditional rural settlement. It forms part of the Lincoln Cliff Landscape Area and is considered part of the "gateway" to the village on the approach along Rectory Road and Dovecote Lane.

77. The importance of the land separating the village from the A607 was recently recognised in NKDC's decision to refuse planning permission for residential development on Rectory Road (Ref: 16/1043/OUT). Retaining this area of separation is an important principle that the Parish Council will continue to support. Furthermore, important natural features and assets such as mature trees and areas of Local Green Space will be protected and enhanced.

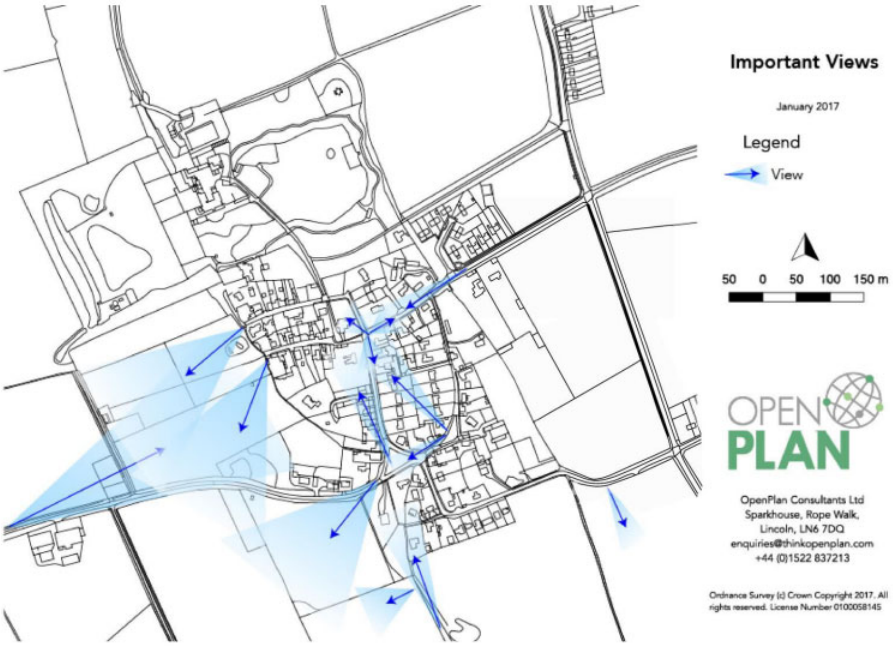
Policy 3: Design and Character of Development

1. **Development proposals will be supported where they have regard to the Coleby Character Assessment, and particularly where they:**
   a) **Respect the archaeological, historic and natural assets of the surrounding area, and take every opportunity, through design and materials, to reinforce local character and a strong sense of place;**
   b) **Recognise and reinforce local character in relation to height, scale and space between buildings;**
   c) **Would not result, either in isolation or cumulatively with any other development proposals, in the area of separation between the village and the A607 being unacceptably reduced either physically or visually;**
   d) **Respect local landscape quality ensuring that the views and vistas shown on** Figure 12 **are maintained wherever possible;**
   e) **Retain mature or important trees of good arboricultural and / or amenity value; and**
   f) **Respond to and enhance the setting of Local Green Spaces and other valued green spaces, such as green verges.**



Figure 11 - Stone walls and grass verges are a feature of Coleby village

Figure 12 - Important Views



Access to the Countryside

82. The Coleby area is well served by footpaths and other public rights of way, which enable recreational access to the local countryside for residents and visitors to the area. These features are highly valued by residents and are an important feature of the Coleby lifestyle. In particular, the Viking Way that runs from Rutland Water and passes through Lincoln en route to the Humber intersects with the village. At its point along the western edge of the village, the vista over the Trent Valley is particularly enjoyed and treasured by the community. The Viking Way and other local routes are shown on Figure 15.

83. New development may offer an opportunity to improve existing footpaths and other routes, and may in some circumstances, be able to contribute to the creation of new ones.

84. Unacceptable adverse impacts on footpaths and rights of way are changes that will reduce public enjoyment and amenity value such as the closure of footpaths or re-routeing of paths that reduce accessibility or the loss of adjacent landscape and wildlife features.

Policy 5: Access to the Countryside

1. **In order to maintain and enhance access to the countryside, links to existing footpaths and rights of way shown in** Figure 15 **as well as improvements to footpath surfaces and signage will be sought in connection with new development for appropriate uses, where feasible.**

2. **Development resulting in an unacceptable adverse impact on existing footpaths and rights of way will not be supported.**

Figure 14 - Residents prize the countryside and views

Figure 15 - Footpaths and Public Rights of Way

Lincolnshire Minerals and Waste Local Plan

Sustainable Development

7.14 The National Planning Policy Framework states that policies in Local Plans should follow the approach of the presumption in favour of sustainable development so that it is clear that development which is sustainable can be approved without delay. All plans should be based upon and reflect the presumption in favour of sustainable development, with clear policies that will guide how the presumption should be applied locally.

7.15 The Plan is based on the principle of delivering sustainable minerals and waste development in Lincolnshire (see Chapter 4). Any development that accords with the Plan is therefore sustainable and the County Council will aim to progress it without delay. Development management will be the main means by which the Plan will deliver sustainable minerals and waste development in Lincolnshire.

Policy DM1: Presumption in favour of sustainable development

When considering development proposals, the County Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. It will always work proactively with applicants jointly to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.

Planning applications that accord with the policies in this Local Plan will be approved without delay, unless material considerations indicate otherwise.

Where there are no policies relevant to the application or relevant policies are out of date at the time of making the decision then the County Council will grant permission unless material considerations indicate otherwise – taking into account whether:

- **Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole; or**
- **Specific policies in that Framework indicate that development should be restricted.**

Natural and Historic Environment

7.41 The NPPF states that, in preparing Local Plans, local planning authorities should set out environmental criteria, in line with the policies in the Framework, against which planning applications will be assessed so as to ensure that permitted operations do not have unacceptable adverse impacts on the natural and historic environment. When determining planning applications, it states that local planning authorities should ensure, in granting planning permission for mineral development, that there are no unacceptable adverse impacts on the natural and historic environment.

7.42 As detailed in the Spatial Portrait of Lincolnshire (Chapter 3), there are many natural and built environmental assets, high-grade agricultural land and areas at risk of flooding within the County. It is important to protect certain areas or features from the negative aspects of minerals and waste development. The plan therefore provides for the protection and enhancement of all Lincolnshire's environmental assets: the historic environment; the natural environment incorporating designated sites and areas, landscape and biodiversity; and water resources. The policies are also aimed at protecting assets that do not already have protection through national policy such as aspects of the historic environment; Lincolnshire's landscape; water resources, including flooding; and matters relating to biodiversity and geodiversity. Each of these is considered in more detail in the following paragraphs.

Historic Environment

7.43 The NPPF defines a heritage asset as a building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage assets are an irreplaceable resource and should be conserved in a manner appropriate to their significance. These assets include both designated and non-designated assets. Designated heritage assets have statutory protection and are assessed at the highest significance, they include scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites. Non-designated assets are usually recorded in the County Historic Environment Record (HER) along with designated assets, these are generally of regional and local importance but may have an equal significance to designated assets. The significance of a heritage asset derives not only from its physical presence, but also from its setting.

7.44 Lincolnshire's identity and sense of place is closely linked with its rich heritage, it is a unique resource that contributes to the character of the county and can be vulnerable to damage from development. Historic assets can be harmed or lost through alteration or destruction of the asset itself or its setting and weight will be given to its conservation. Conflicts may arise between protecting our heritage and meeting the need for minerals or providing important waste facilities. Proposals for minerals and waste development should therefore include appropriate measures to

minimise the impact of development on Lincolnshire's heritage, historic environment and archaeology.

7.45 By addressing heritage considerations before planning applications are submitted, there is greater scope to avoid or minimise any potential adverse impacts. The Council will advise on the need for applicants to discuss their proposals with in-house specialist officers and bodies such as Historic England. Local history groups and societies can also be a source of useful information. The County Historic Environment Record (HER) holds information on known heritage assets, and should help in the prediction of the likelihood of encountering currently unknown heritage assets of historic and archaeological interest.

7.46 Where development proposals have the potential to affect heritage assets including features of historic or archaeological importance (whether known or unknown), they should be accompanied by an assessment of the significance and setting of the assets and the potential impact of the development proposal on those assets. Such an assessment should be proportionate to the significance of the asset and include consultation of the HER, and where appropriate, the results of field evaluation. More detailed evaluation could be required dependent on site specific details.

7.47 Details of any proposed mitigation measures should also be provided, along with provision for the recording and archiving of information in relation to any heritage assets to be lost. Where the potential exists for unknown assets to be encountered in the course of the development, provision must be made for monitoring and recording. The Lincolnshire Archaeological Handbook provides more detailed guidance to developers and is freely available from the Lincolnshire County Council website.

7.48 The NPPF states that, when considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. It states that substantial harm to or loss of designated heritage assets of the highest significance should be wholly exceptional. Where a proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, the NPPF states that local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss.

Policy DM4: Historic Environment

Proposals that have the potential to affect heritage assets including features of historic or archaeological importance (whether known or unknown) should be accompanied by an assessment of the significance of the assets and the potential impact of the development proposal on those assets and their settings.

Planning permission will be granted for minerals and waste development where heritage assets, and their settings, are conserved and, where possible enhanced.

Where any impact on heritage assets is identified, the assessment should provide details of the proposed mitigation measures that would be implemented. These should include details of any conservation of assets and also of any further investigation and recording of heritage assets to be lost and provision for the results to be made publicly available.

Where adverse impacts are identified planning permission will only be granted for minerals and waste development provided that:

- **the proposal cannot reasonably be located on an alternative site to avoid harm; and**
- **the harmful aspects can be satisfactorily mitigated; or**
- **there are exceptional overriding reasons which outweigh the need to safeguard the significance of heritage assets which would be harmed.**

7.71 The NPPF states that local planning authorities should take into account the economic and other benefits of the best and most versatile agricultural land. Where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of higher quality. In addition, it states that local planning authorities should put in place policies to ensure that the reclamation of mineral sites safeguard the long term potential of best and most versatile agricultural land.

7.72 The Agricultural Land Classification (ALC) system classifies land into five grades with Grade 3 subdivided into 3a and 3b. Best and most versatile agricultural land is defined as Grades 1, 2 and 3a. Lincolnshire has a high proportion of best and most versatile agricultural land, which is the basis for its prosperous agricultural industry. As a result, it will not always be practicable to locate development on lower quality agricultural land, particularly minerals development that can only take place where the minerals are found. For mineral sites containing "significant" areas of best and most versatile agricultural land, the long term potential of this agricultural land should still be safeguarded. This can be achieved by restoring the land back to agriculture using, if appropriate, the low level restoration techniques outlined in Chapter 8. Alternatively, such techniques could also be used for providing opportunities for nature conservation after-uses, whilst at the same time protecting the potential of the best and most versatile agricultural land. For example, wet grassland could be created by managing the water levels to allow for both livestock grazing and to encourage birds. Such land could then be re-drained for arable use, should the need arise in the future. In considering whether a site contains "significant" areas of best and most versatile agricultural land, the County Council will have regard to the amount of land involved, what proportion of the overall site this constitutes and how this land is distributed within the site.

Policy DM12: Best and Most Versatile Agricultural Land

Proposals for minerals and waste development that include significant areas of best and most versatile agricultural land will only be permitted where it can be demonstrated that:

- **no reasonable alternative exists; and**
- **for mineral sites, the site will be restored to an after-use that safeguards the long-term potential of the best and most versatile agricultural land.**

MINERAL SAFEGUARDING

Safeguarding Mineral Resources

5.80 The NPPF states that, in preparing Local Plans, local planning authorities should:

- define Minerals Safeguarding Areas and adopt appropriate policies in order that known locations of specific minerals resources of local and national importance are not needlessly sterilised by non-mineral development, whilst not creating a presumption that resources defined will be worked; and define Minerals Consultation Areas based on these Minerals Safeguarding Areas;
- set out policies to encourage the prior extraction of minerals, where practicable and environmentally feasible, if it is necessary for non-mineral development to take place.

5.81 A Mineral Safeguarding Area is not a proposed area of extraction and does not mean that proposals will be permitted within the area. The main purpose of the MSA is to protect a mineral resource for the long term for future generations. It should also be borne in mind that just because there may be no economic need for the minerals now that may not be the case in the future.

5.82 The British Geological Survey (BGS) publication, 'Mineral safeguarding in England: good practice advice' (2011), recommends that a good starting point for identifying MSAs is the BGS's mineral resources maps. It suggests that modifications to the resource extent are most likely to result from the provision of additional or more detailed geological information obtained through consultation. The BGS good practice advice states that MSAs that are not considered of any great national or regional importance and that occur extensively over the area of a MPA could be reduced in size.

5.83 A combination of expert geological opinion and knowledge on the extent of mineral resources together with consultation with the minerals industry has provided the County Council with broad geological resource information for minerals within Lincolnshire. Information contained on the Minerals Resources map published by the BGS in the 'Mineral Resource Information in Support of National, Regional and Local Planning: Lincolnshire' report (2002) has been supplemented by work carried out by the BGS for the County Council in 2010 to assess which sand and gravel deposits are of economic importance and where they are located.

5.84 The County Council has concluded that deposits of sand and gravel, limestone and blown sand in Lincolnshire are of current or future economic importance. The broad extent of these deposits is indicated on Figure 1.

5.85 The County Council does not have sufficient detailed knowledge of the nature and extent of suitable building stone resources to identify potentially workable materials. The quality of stone and suitability for working as building stone is very variable. It would therefore be difficult to

identify potentially workable building stone resources for safeguarding except on a detailed site specific basis.

5.86 It is, however, proposed to safeguard potential sources of building stone for the repair and conservation of Lincoln Cathedral and Lincoln Castle, due to their importance not just as historic buildings but also as a major tourist attraction and symbol of Lincoln and indeed the County. The location of these potential sources is indicated on Figure 2.

5.87 The County Council does not consider that chalk is an economically important mineral in Lincolnshire and that, given its widespread occurrence, it does not need to be safeguarded, with the exception of permitted chalk workings as shown in Figure 3. Chalk is not a nationally important resource, and it is not a scarce mineral. The majority of the chalk resource in Lincolnshire also lies within the Lincolnshire Wolds Area of Outstanding Natural Beauty.

5.88 Ironstone deposits in the county are not considered to have any future economic significance as a source of iron, given the decline of the steel industry in the UK and their low grade quality. Whilst they could be worked as a source of building stone or low quality aggregate, they are not considered to be of current or future economic importance.

5.89 It is not proposed to define MSAs for hydrocarbons as prospects can only be identified after extensive exploration activity. In any event, oil and gas deposits are found at much greater depths than other minerals exploited within the County and are therefore less threatened by surface development.

5.90 Incompatible development close to a MSA may lead to sterilisation of part of the resource. The BGS good practice advice suggests that it may therefore often be appropriate to extend the MSA beyond the resource boundary to take account of such risks, the extent of which will vary between minerals and the likely method of extraction. The County Council proposes to extend the boundary of MSAs beyond the area of the resource to prevent residential development encroaching on a mineral extraction to the extent that the amenity of residents could be affected by noise, visual intrusion or blast vibration. The resource areas shown on Figure 1 include a buffer zone of 250m around sand and gravel and blown sand resources and 500m around limestone resources to ensure an adequate safeguarding margin.

5.91 The BGS guidance advises that, in urban areas, MPAs should define MSAs to highlight the potential for extracting minerals beneath large regeneration projects and brownfield sites. In Lincolnshire, however, such opportunities are probably limited to small scale building stone operations to provide stone for Lincoln Cathedral/ Lincoln Castle. Other mineral resources that are present do not generally lend themselves to prior extraction in built-up areas because of the nature of their extraction methods, and the possibility of such circumstances arising seems too slim to warrant safeguarding. The resource areas shown on Figure 1 consequently exclude mineral deposits within settlements with a

population in excess of 1000 and a minimum area of 20 hectares, however in such cases a 250m buffer extending into the urban area has been retained in order to avoid sterilisation by proximal development at the urban edge.

5.92 In two-tier planning areas such as Lincolnshire, safeguarding of mineral resources can be achieved only through county and district councils co-operating in the exercise of their respective planning powers over land with potential for mineral extraction. This can be facilitated by defining Minerals Consultation Areas (MCA). This will provide the mechanism for district councils to consult the County Council before granting planning permission, on any planning applications they receive for non-mineral developments which fall within the boundary of a MCA, and which would be likely to affect the winning and working of minerals.

5.93 The County has therefore defined Minerals Consultation Areas (MCA) to coincide with the extent of the resources within the Mineral Safeguarding Areas. The MCA will also cover the safeguarding of mineral sites and associated infrastructure (Policy M12). District Councils within the County will be supplied with a copy of the MCA along with the development criteria that the County Council wish to be consulted on. It will be the responsibility of the District Councils to ensure that the MCA is used when considering planning applications or future developments and that the County Council is consulted on developments located within the MCA.

5.94 Within a Minerals Safeguarding Area, except for the exemptions set out in policy M11, applications for non-minerals development should be accompanied by a Minerals Assessment in accordance with the latest guidance from the British Geological Survey (currently set out in Mineral Safeguarding in England: Good Practice Advice, reference OR/11/046). This should provide an appropriate assessment of the minerals resource including an estimate of the economic value, its potential for use in the forthcoming development and an assessment of whether it is feasible and viable to extract the mineral resource ahead of development to prevent unnecessary sterilisation. Where prior extraction can be undertaken, the assessment should also include an explanation of how this will be carried out as part of the overall scheme.

5.95 Following the assessment of the mineral resource, the Mineral Planning Authority will make a judgement about the likelihood of the mineral being worked in an environmentally acceptable manner and may advise the District Council that any development on or near mineral reserves should not proceed before the mineral is extracted, or that steps are taken to avoid sterilisation of the deposit.

5.96 Some minor development is unlikely to sterilise mineral reserves, such as small extensions to existing buildings or sites. However, this will depend on the location of the development and the type and extent of the mineral concerned. For instance a building proposed in the middle of a small building stone resource could lead to sterilisation.

Policy M11: Safeguarding of Mineral Resources

Sand and gravel, blown sand and limestone resources that are considered to be of current or future economic importance within the Minerals Safeguarding Areas shown on Figure 1, together with potential sources of dimension stone for use in building and restoration projects connected to Lincoln Cathedral/Lincoln Castle within the areas shown on Figure 2, and chalk resources included on Figure 3, will be protected from permanent sterilisation by other development.

Applications for non-minerals development in a minerals safeguarding area must be accompanied by a Minerals Assessment. Planning permission will be granted for development within a Minerals Safeguarding Area provided that it would not sterilise mineral resources within the Mineral Safeguarding Areas or prevent future minerals extraction on neighbouring land. Where this is not the case, planning permission will be granted when:

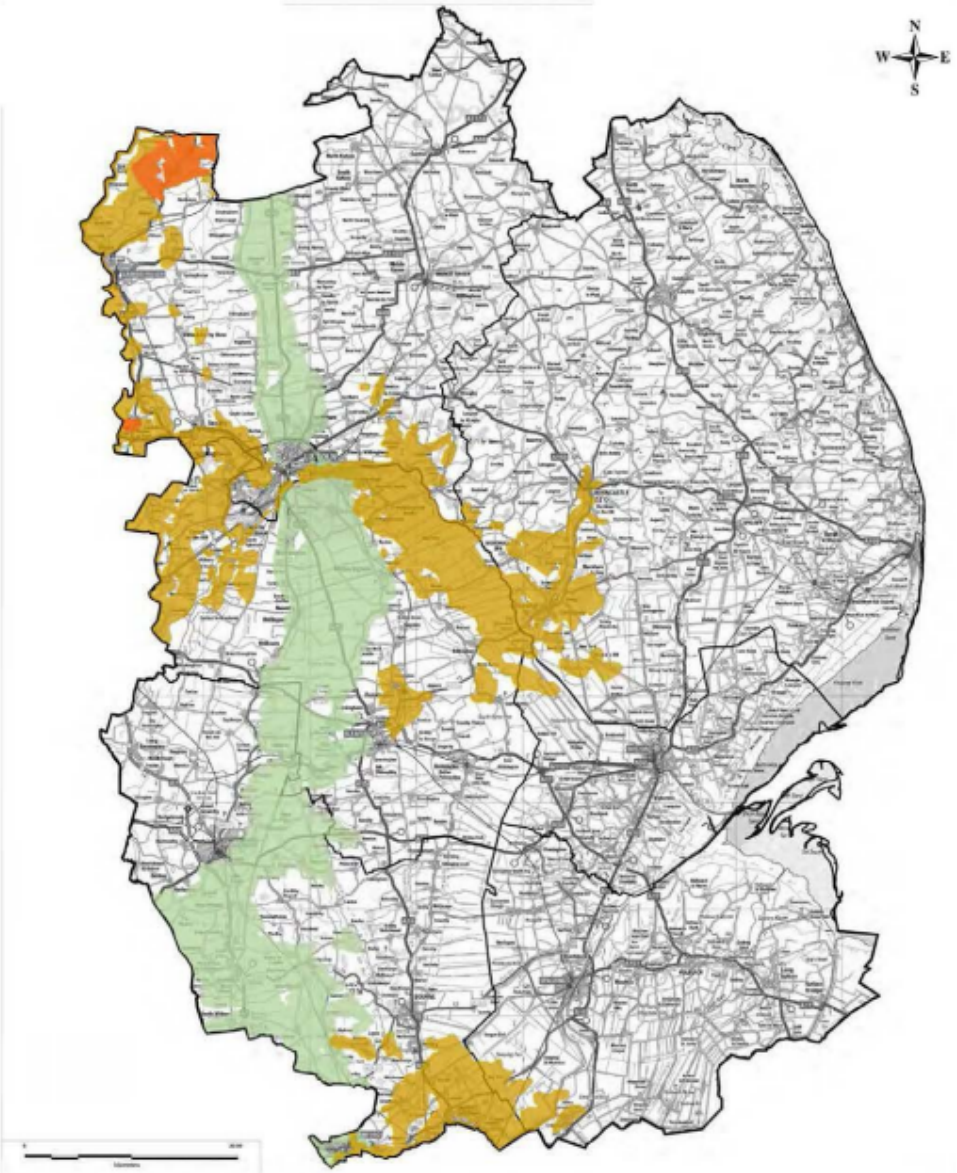
- **the applicant can demonstrate to the Mineral Planning Authority that prior extraction of the mineral would be impracticable, and that the development could not reasonably be sited elsewhere; or**
- **the incompatible development is of a temporary nature and can be completed and the site restored to a condition that does not inhibit extraction within the timescale that the mineral is likely to be needed; or**
- **there is an overriding need for the development to meet local economic needs, and the development could not reasonably be sited elsewhere; or**
- **the development is of a minor nature which would have a negligible impact with respect to sterilising the mineral resource; or**
- **the development is, or forms part of, an allocation in the Development Plan.**

Exemptions

This policy does not apply to the following:

- ***Applications for householder development***
- ***Applications for alterations to existing buildings and for change of use of existing development, unless intensifying activity on site***
- ***Applications for Advertisement Consent***
- ***Applications for Listed Building Consent***
- ***Applications for reserved matters including subsequent applications after outline consent has been granted***
- ***Prior Notifications (telecommunications; forestry; agriculture; demolition)***
- ***Certificates of Lawfulness of Existing or Proposed Use or Development (CLEUDs and CLOPUDs)***
- ***Applications for Tree Works***

Figure 1: Lincolnshire Minerals Safeguarding Areas Map



Lincolnshire County Council

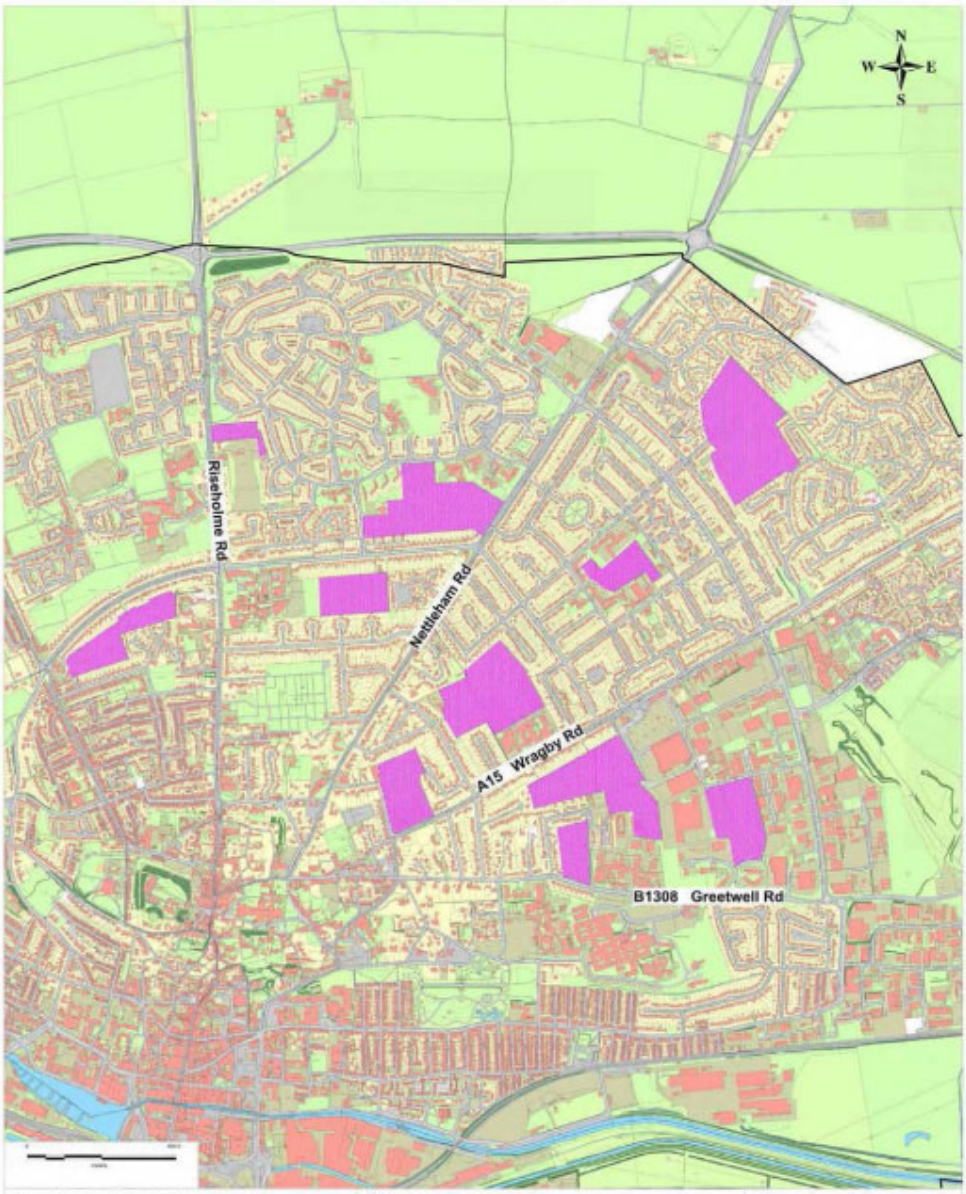
OS Licence 100025370

Key

- Limestone Mineral Safeguarding Area
- Sand & Gravel Minerals Safeguarding Area
- Wind Blown Sand Minerals Safeguarding Area

Lincolnshire COUNTY COUNCIL
Working for a better future

Figure 2 Lincoln Stone Minerals Safeguarding Areas Inset Map



Lincolnshire County Council

Reproduced from the 2014 OS Mapping with the permission of the Controller of Her Majesty's Stationery Office (C) Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to civil proceedings.

OS Licence 100025370

Key

Lincoln Stone Minerals Safeguarding Area

Lincolnshire COUNTY COUNCIL
Working for a better future

Safeguarding of Existing Mineral Sites and Associated Minerals Infrastructure

5.97 The NPPF states that, in preparing Local Plans, local planning authorities should safeguard:

- existing, planned and potential rail heads, rail links to quarries, wharfage and associated storage, handling and processing facilities for the bulk transport by rail, sea or inland waterways of minerals, including recycled, secondary and marine-dredged materials; and
- existing, planned and potential sites for concrete batching, the manufacture of coated materials, other concrete products and the handling, processing and distribution of substitute, recycled and secondary aggregate material

5.98 The future use of mineral sites and associated infrastructure could be constrained if sensitive developments such as housing are permitted nearby. In order to ensure that the supply of minerals is not interrupted, the County Council therefore considers that mineral sites and their associated infrastructure should be safeguarded. This includes aggregates recycling sites; sand and gravel quarries; limestone extraction quarries; chalk extraction quarries; and energy mineral development sites. The sites and facilities to be safeguarded are listed in Appendix 2 and shown on figures 6-12 in Appendix 3.

5.99 Most of the concrete batching plants and other associated minerals infrastructure are co-located at quarries or producers of recycled aggregates. The safeguarded list will indicate those sites which carry out these activities.

5.100 The MCA to be issued by the County Council (see paragraph 5.93 above) will include the mineral sites and associated infrastructure safeguarded by Policy M12, including a 250 metre buffer zone around sites as shown in Figure 3. Local planning authorities will be expected to consult the County Council on proposals for non-minerals development which could affect the use of such sites and facilities. The County Council may advise that development should not be permitted if it would constrain the effective operation of existing sites, or future use of land or associated infrastructure identified for mineral use.

Policy M12: Safeguarding of Existing Mineral Sites and Associated Minerals Infrastructure

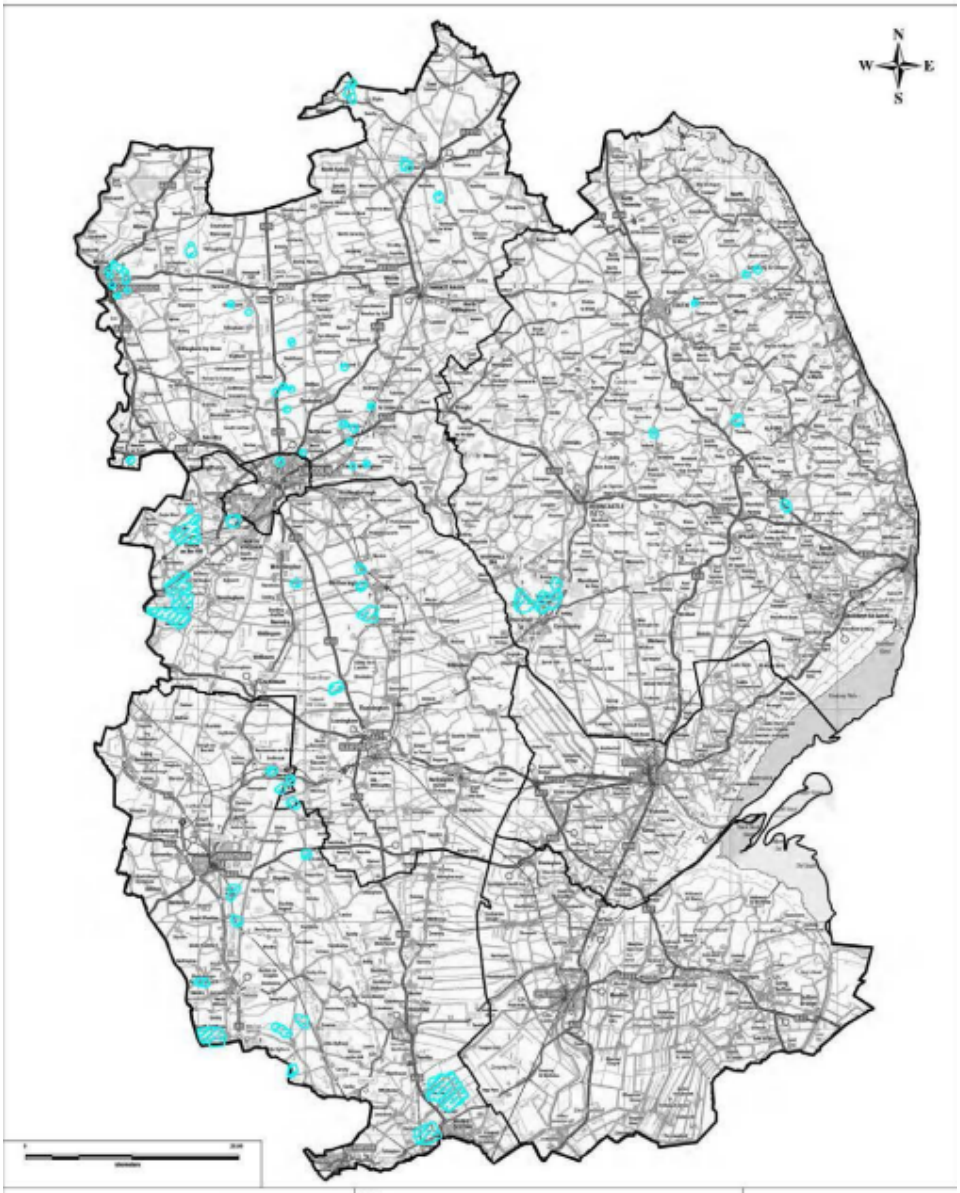
Mineral sites (excluding dormant sites) and associated infrastructure that supports the supply of minerals in the County will be safeguarded against development that would unnecessarily sterilise the sites and infrastructure or prejudice or jeopardise their use by creating incompatible land uses nearby.

Exemptions

This policy does not apply to the following:

- ***Applications for householder development***
- ***Applications for alterations to existing buildings and for change of use of existing development, unless intensifying activity on site***
- ***Applications for Advertisement Consent***
- ***Applications for Listed Building Consent***
- ***Applications for reserved matters including subsequent applications after outline consent has been granted***
- ***Prior Notifications (telecommunications; forestry; agriculture; demolition)***
- ***Certificates of Lawfulness of Existing or Proposed Use or Development (CLEUDs and CLOPUDs)***
- ***Applications for Tree Works***

Figure 3 Lincolnshire Site Specific Minerals Safeguarding Areas Map



Lincolnshire County Council

Reproduced from the 2016 OS Mapping with the permission of the Controller of Her Majesty's Stationery Office (C) Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to civil proceedings.

OS Licence 100025370

Key

Site Specific Minerals Safeguarding Area

Lincolnshire COUNTY COUNCIL
Working for a better future

6. PROVIDING FOR WASTE

Background

6.1 Lincolnshire County Council as Waste Planning Authority (WPA) must provide a policy framework for managing all of Lincolnshire's controlled waste. Such waste, by definition is controlled by legislation and its storage, handling and disposal must meet certain legal requirements. Controlled waste comes from many sources including homes, shops, offices, factories, farms and hospitals. The principal waste streams are *Local Authority Collected Waste, commercial & industrial, construction & demolition, agricultural, and hazardous.*

Box 1: Definitions of different waste types

Local Authority Collected Waste (LACW) This waste stream was previously referred to as Municipal Solid Waste, and the new name reflects a slight expansion in the range of wastes it covers. Most is generated by householders, whether it is collected from the kerbside or taken to recycling points such as Household Waste Recycling Centres. It also includes small quantities of commercial waste which is collected from small businesses by the local authority, as well as non-household waste such as road and pavement sweepings and gully-emptying wastes. Waste collection is largely undertaken by the Waste Collection Authorities' own operatives, but recovery and disposal activities are controlled by the county Waste Disposal Authority in conjunction with third party waste management companies.
Commercial & Industrial Waste (C&I Waste) These wastes are collected, managed and disposed by private waste companies serving businesses of all sizes across all industry sectors. A large proportion of *Commercial* waste is a mix of plastics, paper, card, glass and food waste collected from offices, shops, food outlets, etc. as well as waste metals (equipment, vehicles, machinery) and smaller quantities of chemicals, timber and other waste. The *Industrial* part of the stream comprises a similar range of materials but in different proportions, with larger quantities of chemicals, metals, textiles, and a variety of processing and packaging wastes, but with mixed office wastes also.
Construction, Demolition and Excavation Waste (CD& E Waste) These wastes come from a wide range of new build and regeneration projects as well as road schemes and railway maintenance. Construction & Demolition wastes include structural and groundworks waste (bricks, asphalt, concrete, insulation material) and fittings (wood, plastic, glass, metal). Most of the waste is chemically inert but insulation materials are usually hazardous because they contain asbestos. Excavation waste is primarily soil and stones. As they are often bulky and of low value, these wastes tend to be recycled or re-used at or close to where they are created. In the case of excavation wastes greater quantities are removed for disposal locally at landfill. Therefore, a greater proportion

of this waste stream (compared to others) may be managed at source.
Agricultural Waste Agricultural waste is mostly uncontrolled animal slurry and vegetable matter but many farms also produce 'non-natural' wastes that are controlled, such as scrap metals, batteries, oils, tyres, rubber, glass, plastic and veterinary pharmaceuticals. Virtually all of these wastes are normally managed on the agricultural holdings where they are created.
Hazardous Waste The term hazardous waste has traditionally been used to describe materials such as asbestos, oils, solvents and healthcare wastes. However, broadening of this definition means it now includes everyday items such as fluorescent tubes, televisions, computer monitors (known as Waste Electronic and Electrical Equipment (WEEE) and scrap cars. All of the above waste streams contain variable, but generally small, quantities of hazardous wastes.

6.2 Just under 2 million tonnes of controlled waste was produced in Lincolnshire in 2012 (the latest year for which information is available on all the streams referred to above) and until recently a large percentage of this was disposed of at landfill sites. There is a need to break this cycle and manage waste more sustainably, by moving away from landfill, seeking waste prevention/minimisation and ensuring that as much waste as possible is reused, recycled, composted or subjected to energy recovery. The recent completion of the new Energy from Waste (EfW) facility at Hykeham has resulted in the diversion of a significant quantity of LACW previously sent to landfill. Lincolnshire is already achieving high rates of LACW recycling but it is important to continue to divert more waste away from disposal and to provide the facilities to increase the recycling rates of other waste streams, in particular, for producers of commercial and industrial waste.

6.3 The planning system has a vital role to play in ensuring that suitable sites are identified for waste facilities and that the negative impacts are reduced and the benefits can be positively managed.

WASTE ARISINGS IN LINCOLNSHIRE

6.4 Detailed data on the estimated current arisings, forecasts and indicative capacity gaps (the difference between the current operational waste management capacity and the predicted arisings) have been produced separately from this document and can be found within the latest Lincolnshire Waste Needs Assessment (July 2014) and subsequent addendums dated May 2015 and October 2015 which are available to view or download at www.lincolnshire.gov.uk/mineralsandwaste. The text below summarises the position.

6.5 Future requirements for facilities to manage all waste streams were evaluated through the Waste Needs Assessment (July 2014) which looked at 3 scenarios based on different rates of growth in these wastes, and a

further 3 scenarios assuming different levels of recycling, composting and diversion from landfill.

6.6 The subsequent sections present details of the Council's chosen option of growth with median recycling[10] and details of additional capacity that will be needed reflecting the chosen scenario, which the Council considers to be the most realistic, achievable and delivers the best combination of value for money and resource efficiency.

Local Authority Collected Waste (LACW) Arisings

6.7 Unlike other waste streams, Lincolnshire County Council has up to date information on LACW and in 2012 342,000 tonnes of LACW was generated. The assumptions summarised above have been used to project quantities forward to 2014 and beyond.

6.8 Table 4 shows the quantities of waste forecast under the chosen scenario which includes assumptions about growth and improvement in the quantities of waste diverted from landfill by greater levels of recycling, composting and energy recovery. It indicates the quantity of LACW to be managed will increase by almost 75,000 tonnes over the Plan period. The detailed analysis identifies that small quantities of LACW will need to be managed at sites recycling inert wastes or at hazardous landfill sites.

Table 4: LACW arisings and management requirements 2014-2031 Growth with Median Recycling scenario

	Total arisings	Non-inert recycling	Inert recycling	Composting	Energy recovery	Non-hazardous landfill	Hazardous landfill
2014	400,270	109,462	14,705	81,508	156,038	36,282	2,275
2015	405,934	111,011	14,913	82,662	158,246	36,795	2,307
2016	410,656	112,302	15,087	83,623	160,087	37,223	2,334
2017	415,432	113,608	15,262	84,596	161,949	37,656	2,361
2018	420,265	114,930	15,440	85,580	163,833	38,094	2,388
2019	425,154	116,267	15,619	86,576	165,739	38,537	2,416
2020	430,100	117,619	15,801	87,583	167,667	38,986	2,444
2021	434,021	118,692	15,945	88,381	169,195	39,341	2,467
2022	437,978	119,774	16,090	89,187	170,738	39,700	2,489
2023	441,971	120,866	16,237	90,000	172,294	40,062	2,512
2024	446,001	121,968	16,385	90,821	173,865	40,427	2,535
2025	450,067	123,080	16,535	91,649	175,450	40,795	2,558
2026	454,169	124,202	16,685	92,484	177,050	41,167	2,581
2027	458,310	125,334	16,837	93,327	178,664	41,543	2,605
2028	462,486	126,476	16,991	94,178	180,292	41,921	2,628
2029	466,703	127,629	17,146	95,037	181,936	42,303	2,652
2030	470,959	128,793	17,302	95,903	183,595	42,689	2,677
2031	475,251	129,967	17,460	96,777	185,268	43,078	2,701

[All figures in tonnes]
Source: Lincolnshire Waste Needs Assessment Model 2014

6.9 Comparison of the 2014 total arisings with data for preceding years shows an apparent jump in the quantity of waste that has to be managed. This reflects the effect of the opening of the North Hykeham Energy from Waste facility which generates secondary materials in the form of incinerator bottom ash and air pollution control residues. Both are wastes that have to be managed and therefore the quantity produced must be taken into account when assessing the type and quantity of capacity that is needed.

6.10 The assumptions used to derive these forecasts assume that the high existing level of recycling/composting, and the rapid diversion of a large proportion of residual LACW to the North Hykeham facility means that by 2014/15 the mix of management methods for this stream will have stabilised. This means there is no further increase in landfill diversion and the main issue is therefore the continuing growth of the stream and its impact on the capacity gap for the different management facilities.

Commercial and Industrial Waste (C&I) Arisings

6.11 C&I data specific for Lincolnshire does not exist and the County Council is reliant upon national and comparable regional studies in order to extrapolate county-level estimates. This revision of the needs assessment compared results produced from studies in 2010 (national) and 2009 (for the North West region) and concluded that the latter provided a better estimate of waste quantities and how they are being managed.

6.12 Table 5 shows the arisings and management requirements forecast for the chosen scenario which incorporates assumptions about future waste growth and the quantities requiring different management methods. The total quantity of C&I waste created rises from around 554,600 tonnes in 2014 to almost 609,800 tonnes in 2031 (9.9% growth in total).

Table 5: C&I arisings and management requirements[11] 2014-2031 Growth with Median Recycling scenario

	Commercial arisings	Industrial arisings	Recycling (mixed)	Recycling (metals)	Composting	Transfer & treatment	Energy recovery	Thermal (no recovery)	Land recovery	Landfill
2014	323,175	231,496	232,658	22,653	9,397	48,246	26,361	17,539	28,887	168,930
2015	324,949	232,910	238,171	22,778	9,449	41,488	44,207	17,635	28,371	155,760
2016	326,739	234,331	243,738	22,904	9,500	34,657	62,249	17,733	27,848	142,441
2017	328,534	235,761	249,359	23,029	9,553	27,748	80,488	17,830	27,319	128,969
2018	330,341	237,200	255,035	23,157	9,605	20,761	98,926	17,928	26,782	115,347
2019	332,159	238,647	260,765	23,283	9,659	13,699	117,564	18,027	26,240	101,569
2020	333,985	240,102	266,551	23,411	9,711	6,557	136,404	18,126	25,690	87,637
2021	335,822	241,425	270,554	23,541	9,765	6,593	140,092	18,226	25,831	82,645
2022	337,669	242,751	274,592	23,670	9,819	6,629	143,817	18,325	25,973	77,595
2023	339,527	244,086	278,667	23,800	9,873	6,666	147,579	18,426	26,116	72,486
2024	341,393	245,429	282,778	23,931	9,927	6,702	151,377	18,527	26,260	67,320
2025	343,270	246,778	286,926	24,062	9,981	6,739	155,212	18,630	26,404	62,094
2026	345,159	248,135	291,111	24,195	10,036	6,776	159,086	18,732	26,549	56,809
2027	347,058	249,502	295,334	24,328	10,091	6,813	162,998	18,836	26,695	51,465
2028	348,966	250,874	299,594	24,462	10,147	6,851	166,947	18,938	26,842	46,059
2029	350,887	252,253	303,892	24,596	10,203	6,889	170,935	19,043	26,990	40,592
2030	352,817	253,640	308,228	24,732	10,259	6,927	174,962	19,147	27,138	35,064
2031	354,756	255,036	312,602	24,868	10,315	6,965	179,028	19,253	27,288	29,473

[All figures in tonnes]
Source: Lincolnshire Waste Needs Assessment Model 2014

6.13 The quantities of Commercial and Industrial waste to be managed rise by around 31,500 tonnes and 23,500 tonnes respectively. Collectively, the proportion that is recycled or composted grows from 48% to 57% over the same period (individually the commercial stream achieves 59% recycling and the industrial stream 60%) while the proportion sent for thermal treatment collectively rises from 8% to 33% (individually the commercial stream achieves 35% recovery and the industrial stream 24%) with virtually all the increase being waste from which energy is recovered. As a result of these changes the proportion sent to landfill falls from 30% to 5% for both commercial and industrial. The assumptions used in the model refer specifically to energy recovery using thermal treatment and as a result an increasing proportion of waste is shifted from non-thermal to thermal treatment.

Construction Demolition & Excavation Waste (CD&E)

6.14 As noted previously this stream comprises two distinct elements: C&D wastes which are primarily material from the external and interior structures, fixtures and fittings of demolished buildings, as well as material such as concrete and asphalt from demolition sites and unused aggregates and other wastes arising during subsequent construction. Excavation wastes comprise soil and stones only. In line with paragraphs 1 and 8 of the National Planning Policy for Waste, it is recognised that Local Planning Authorities have a role to play in encouraging sustainable construction practices in developments in order to minimise the level of

[11] Land recovery relates to land spreading of materials from the industrial waste stream including paper sludges, gypsum, organic wastes, treated food processing waste (via anaerobic) as digestates and composted food wastes as set out in the Commercial and Industrial Waste Survey 2009 Final Report May 2011 (Jacobs for DEFRA).

C&D waste and ensure the best use of resources. This would be achieved through imposing appropriate planning conditions such as introducing requirements for construction management plans/waste audit programmes.

6.15 As with C&I data, information on these arisings is subject to limitations, the principal source being information reported to the Environment Agency. Material that is re-used at source (for example, crushed concrete and asphalt for sub-base for parking areas; or soil and stones used in landscaping the site) or which is sent to a site deemed to be exempt from waste permitting and reporting and the quantity of these wastes are not recorded. However these wastes are managed using mobile plant and make no demand of the third-party merchant capacity which the Plan must provide for. Moreover, in both cases, any mobile plant and other mobile capacity lies outside the control/remit of the County Council. This means that the quantity of waste estimated using the Environment Agency data is a lower-bound estimate of how much waste is actually being generated but it is still a reasonably accurate indicator of the total management capacity that is needed.

6.16 There is a further complication because much of the waste removed from its source is taken to waste transfer stations where metal, glass, building rubble, etc. is separated and on some of the larger sites the latter material may be reprocessed (crushed into a secondary aggregate) and/or then sent to another site for use or to another transfer station. As a result there is a risk of over-estimating the size of the waste stream by double-counting material as it moves from one waste site to another.

6.17 Data provided by the Environment Agency shows C&D arisings fell from almost 400,000 tonnes in 2008 to around 130,000 tonnes in 2011 although the total rose to just over 220,000 tonnes in 2012. This increase reflects the resumption of house-building, infrastructure and other regeneration projects as the economy began to emerge from recession. Of the 2012 total, only 27% was exported from the county for re-use or disposal elsewhere. As a result a total of just under 165,000 tonnes of local C&D waste was managed at facilities in the county together with over 19,000 tonnes of material imported from elsewhere.

6.18 In contrast the quantity of Excavation waste created has been more erratic, though this is unsurprising as much of it is created in large quantities as a result of specific development projects over a limited time and therefore waste is not necessarily created repetitively each year as is the case for the LACW and C&I streams. Arisings of both Excavation and C&D wastes showed a marked increase in 2012 which reflect initial site preparation work for the North Hykeham EfW plant.

6.19 Table 6 summarises the forecast growth in arisings and how these wastes will be managed over the period 2014-2031. The forecast assumes slow growth in employment rates which will reflect industrial activity and waste creation rates in the mining/quarrying and construction sectors throughout this period. The forecast anticipates 90% of C&D wastes will be recycled by 2031.

Table 6: CD&E waste arisings and management methods 2014-2031 Growth with Median Recycling scenario

	C&D arisings	E arisings	Transfer	Recycling & re-use	Treatment	Landfill
2014	453,150	503,500	330,042	217,885	172,064	236,660
2015	456,322	507,025	325,003	230,960	169,068	238,317
2016	459,517	510,574	319,877	244,208	166,021	239,985
2017	462,733	514,148	314,664	257,629	162,923	241,665
2018	465,971	517,746	309,361	271,226	159,774	243,356
2019	469,234	521,371	303,970	285,003	156,572	245,060
2020	472,519	525,020	298,487	298,957	153,319	246,775
2021	475,827	528,695	292,913	313,094	150,012	248,503
2022	479,157	532,397	287,247	327,413	146,651	250,243
2023	482,511	536,123	281,486	341,918	143,236	251,994
2024	485,888	539,876	275,631	356,610	139,765	253,758
2025	489,289	543,657	269,681	371,491	136,241	255,535
2026	492,715	547,462	263,633	386,563	132,658	257,323
2027	496,164	551,293	257,487	401,827	129,019	259,124
2028	499,637	555,152	251,242	417,286	125,323	260,938
2029	503,135	559,038	244,898	432,941	121,568	262,765
2030	506,656	562,952	238,452	448,797	117,756	264,604
2031	510,203	566,893	231,904	464,852	113,883	266,457

[All figures in tonnes]
Source: Lincolnshire Waste Needs Assessment Model 2014

6.20 Table 6 forecasts an additional 60,000 tonnes each of C&D and E wastes would need to be managed by 2031 compared to the current position.

Hazardous Waste

6.21 The Hazardous Waste (England and Wales) Regulations 2005 redefined the range of waste materials that are defined as hazardous. As a result a number of commonplace items such as televisions and fridges now fall within the scope of the Act because they contain materials or components that are now classified as hazardous. These materials join other hazardous wastes such as residues from chemical production, manufacturing and a wide range of industrial activities which generate most of these materials.

6.22 These materials are normally managed at facilities that handle hazardous wastes exclusively. Unlike LACW and C&I wastes their hazardous properties prevent management of a mixture of materials. They are usually only created in small quantities and this factor combined with the need for specialised facilities means it is unlikely that it will be economically viable to provide a full range of treatment or disposal facilities within a single Plan area. The county currently contains a limited number of hazardous waste sites that provide mainly transfer and bulking capacity with treatment, recycling (where feasible) and disposal occurring at facilities elsewhere and as a result of the factors mentioned above it is unlikely that the Council could plan for a position in which the county becomes fully self-sufficient in managing these materials. Nevertheless,

should proposals for hazardous waste facilities come forward to meet an identified need within the County, they would be favourably considered, subject to accordance with all relevant policies in the Plan.

6.23 In 2012 the county produced 65,800 tonnes of hazardous wastes including large quantities of waste oil and contaminated soil and stones. Around 17,800 tonnes of this material – mainly the former – was managed at facilities in the county with the rest (almost 49,000 tonnes) being sent to specialised treatment or landfill sites elsewhere in the country. At the same time 15,400 tonnes of material was imported for management locally with the result that the county is a net exporter of hazardous waste.

6.24 Table 7 summarises the forecast arisings of hazardous waste over the Plan period. Linking waste creation rates to growth in employment in local industry gives rise to a very modest increase in the total waste created of around 6000 tonnes (10%) over the period to 2031. Hazardous waste transfer stations currently take some wastes from neighbouring authorities but the lack of local treatment, recycling or landfill capacity means this material is bulked into larger loads locally and then removed to facilities elsewhere in the UK. Even when this transiting material is taken into account, the county still has a surplus of 13,400 tonnes of transfer station capacity.

Table 7: Hazardous waste arisings and management requirements 2014-2031 – Growth with Median Recycling scenario

	Arisings	Transfer station	Recycling	Non-thermal treatment	Thermal treatment	Landfill
2014	66,163	17,066	28,664	926	870	18,637
2015	66,527	17,160	28,821	931	876	18,739
2016	66,894	17,255	28,980	936	880	18,843
2017	67,261	17,349	29,139	941	886	18,946
2018	67,632	17,445	29,300	947	890	19,050
2019	68,004	17,541	29,461	952	895	19,155
2020	68,377	17,637	29,623	957	900	19,260
2021	68,753	17,734	29,786	962	905	19,366
2022	69,132	17,832	29,950	968	909	19,473
2023	69,512	17,930	30,114	973	915	19,580
2024	69,895	18,029	30,280	978	920	19,688
2025	70,279	18,128	30,446	984	925	19,796
2026	70,665	18,227	30,614	989	930	19,905
2027	71,055	18,328	30,782	995	936	20,014
2028	71,444	18,428	30,952	1,000	940	20,124
2029	71,837	18,530	31,122	1,005	945	20,235
2030	72,233	18,632	31,293	1,011	951	20,346
2031	72,630	18,734	31,465	1,017	956	20,458

[All figures in tonnes]
Source: Lincolnshire Waste Needs Assessment Model 2014

6.25 The lack of local recycling, treatment or landfill capacity for this stream means that the arisings figures in Table 7 also define the capacity gaps for each management method, which collectively total 49,000 tonnes. Correspondence with authorities in which the majority of Lincolnshire's hazardous waste is managed at present suggests that there is sufficient capacity to continue to accept this waste until at least 2026. For the reasons explained in the opening paragraphs of this section, the economics of managing hazardous waste and the cost justification for new facilities is subject to limitations that do not apply to the same degree to other wastes. As a result the Council considers it unlikely that any type of hazardous waste landfill or treatment plant would be viable within Lincolnshire in the immediate future. Nevertheless the development of sites will be supported provided the capacity available does not exceed the quantity of hazardous wastes generated in the County at the time.

Agricultural Waste

6.26 The limited data on the quantities, types and methods used to manage agricultural wastes comes primarily from Environment Agency surveys in 2003 and 2005, and from Defra surveys of the number of agricultural holdings the last of which was undertaken in 2010. These sources indicate there were 3,680 farm holdings in the county in 2010 producing just over 2,089,000 tonnes of material, making this by far the largest controlled waste stream in Lincolnshire. Over 99% of these wastes are described as organic by-products such as waste milk, straw and slurry which are managed where they originate by burial, disposal to sewer, burning or spreading the material on land for agricultural improvement. Less than 1% of these materials (17,700 tonnes) fall within the category of controlled waste which requires off-site management capacity for recycling (agricultural plastics and other packaging, batteries, tyres and waste equipment and machinery) or incineration (particularly animal by-products and used syringes or needles, all of which are hazardous wastes).

6.27 Table 8 summarises the quantities of waste forecast and management methods required. The assessment assumes that there will be no substantive change in intensity, scale or farming techniques during the Plan period and therefore these requirements remain constant over the period 2014-2031. The only exception to this has been the roll-out of Anaerobic Digestion facilities across the county over the last five years. Several of these facilities operate on a merchant basis, taking waste from the same holding and from other sites. However this capacity provides an alternative to existing practices of land-spreading of slurry which may still be the most practical and economically attractive disposal method in most cases.

Table 8: Agricultural waste arisings and management requirements

Total arisings	Managed on-farm	Managed off-farm	Recycling	Thermal treatment	Special incineration	Landfill
2,089,136	2,071,435	17,701	7,066	4,342	5,520	773

[All figures in tonnes]
Source: Lincolnshire Waste Needs Assessment Model 2014

6.28 The residual waste requiring off-site treatment is similar in content to C&I wastes and, therefore, could be managed in existing facilities. There may be a need for a small number of very small transfer facilities in rural locations to aggregate these wastes into larger loads for delivery to C&I waste facilities in the vicinity of the larger towns, however this role can also be performed by the existing network of small non-municipal transfer stations.

Capacity Gaps

6.29 Tables 4-8 present the waste forecasts and establish the capacity requirements throughout the Plan. Local capacity of different waste management facilities has been identified from records provided by the Environment Agency. These figures take account of some new facilities and of known closures but total capacity will be subject to change if other facilities are permitted and become operational in the future, and as new forecasts are published on the waste arisings and their uses. Updates to these will be published in the County Council's Annual Monitoring Reports and should the arisings significantly decrease or increase it would allow the Council to react, in terms of waste site provision, rapidly to changes in economic circumstances. The forecasts are indicative and it is not possible to predict the number or types of facilities required with absolute certainty. However, the tables (4 - 8) do present the best available forecasts and suggest that a broad range of facilities may be required to deal with the treatment of waste up to 2030/31.

6.30 The capacity at some waste management facilities is dedicated to handling a particular waste but it is increasingly common for sites to offer the capability to handle a more diverse range of materials. In some instances this is because some streams comprise similar mixes of wastes (LACW and C&I) or because facilities serve particular groups of users who generate a range of inert and non-inert wastes (Household Waste Recycling Centres). For this reason it is more appropriate to assess capacity gaps according to the waste management function performed. Evaluating the requirements for each waste stream in isolation can mean that the available capacity is over-estimated if part of it is already used to manage other waste streams.

6.31 Table 9 summarises the predicted capacity gaps at three intervals corresponding to key points in achieving the assumed recycling and landfill diversion performance rates. Negative figures identify capacity surpluses. Further detailed information is provided in the Lincolnshire Waste Needs Assessment 2014.

Table 9: Forecast Capacity Gaps by Facility Type 2014, 2020, 2025 and 2031 – Growth with Median Recycling scenario

Function	Wastes	Gap 2014	Gap 2020	Gap 2025	Gap 2031
Mixed waste recycling	LACW / C&I / Agric.	74,743	117,752	144,411	172,273
Specialised recycling	LACW / C&I / Agric.	-334,205	-333,447	-332,796	-332,126
Composting	LACW / C&I	-412,290	-439,901	-435,565	-431,033
Treatment plant	LACW / C&I / Agric.	-123,727	-158,190	-175,059	-193,329
Energy recovery	LACW / C&I	37,988	131,663	158,256	186,153
Specialised incineration	Mainly Haz. / Agric.	22,682	23,296	23,823	24,364
Aggregates recycling	CD&E	-411,410	-114,242	-20,974	157,099
Non-hazardous landfill	LACW / C&I / Agric.	-36,452	-66,990	-90,724	-115,860
Inert landfill	Mainly CD&E but other non-haz.	-11,938	50,875	137,635	148,557
Hazardous landfill	Hazardous	21,685	22,477	23,127	23,796

[All figures in tonnes (rounded)]
Source: Lincolnshire Waste Needs Assessment Model 2014

6.32 The County Council is maintaining its objective of not providing for new inert or non-hazardous landfill capacity above current levels. The needs assessment has identified a capacity gap for inert waste disposal from 2019 gradually increasing to the end of the plan period. Notwithstanding the fact that there is an identified capacity gap from 2019 the County Council maintains the position of not allocating additional sites for new landfill based on the following factors:

- there is a recognised surplus in non-hazardous landfill throughout the plan period;
- a number of existing inert waste landfill sites have end dates extending beyond the Plan period with no planning restrictions on the rate of infilling, the rates could therefore be increased to meet demand and reduce the identified capacity gap; and
- there is the potential for C&D recycling rates to increase over the plan period beyond those planned for in the Waste Needs Assessment, and in such circumstances this would lead to an associated reduction in inert waste landfill requirements.

Notwithstanding the above, if it becomes apparent through the monitoring of the Plan that additional landfill suitable for inert disposal is required, this Plan will be reviewed accordingly. The principal concern now is maintaining improvements in recycling and recovery in line with the waste hierarchy and Strategic Objective d but not on such a scale that landfill operations in the county are no longer economically viable.

6.33 Table 10 shows a summary of the number of new waste facilities that it is considered would address the identified capacity gaps and indicates the average annual capacity that has been assumed in each case. Waste functions for which there is already a surplus are not included.

Table 10: Predicted Requirements for New Facilities

		New facilities needed			
Facility type	Annual capacity	Short term	By 2020	By 2025	By 2031
Mixed LACW & C&I waste recycling	75,000	1	1		1
Energy recovery from LACW & C&I	200,000	1			
Specialised thermal treatment	25,000	1			
CD&E and aggregates recycling	50,000			1	2
Hazardous waste landfill	25,000	1			

[Annual capacity in tonnes]

6.34 Many operational minerals sites that appear capable of recycling waste CD&E materials are currently categorised as transfer stations and it is not clear what capacity is currently available. The requirements above should therefore be regarded as an upper or pessimistic estimate and elements of this capacity may be in use now or be capable of being brought forward as co-located ancillary development, though the contribution it could meet to closing the capacity gap cannot be estimated accurately. Conversely, it has not been possible to model the pattern of waste arisings across the county and there is no certainty that the existing network of sites matches the pattern of need closely. Most facilities are clustered in or near the principal settlements but need for additional, probably small, sites may arise elsewhere although the timing and location cannot be predicted at present. New developments in those locations would have the benefit of serving local requirements, reducing the need to move these bulky wastes some distance across the County.

6.35 The need or not for further waste transfer stations (WTS) has not been included in the assessment of the requirement for future waste sites except where these sites also provide ancillary functions such as aggregates recycling. Such facilities are essential elements of a network of facilities to manage waste but do not actively contribute to recycling

and recovery capacity. The scale of these facilities will depend on many factors, including location and types of waste being dealt with.

6.36 The intention of the County Council is to ensure that sufficient opportunities are identified to allow for new sites to be developed in Lincolnshire to enable the waste tonnages predicted to arise in Lincolnshire to be managed within the County. This would mean that, purely on arisings, the area would be net self-sufficient. But, movements of waste in and out of the County would continue subject to contracts and/or proximity to the nearest waste facility. There may also be specialist facilities which are not present in Lincolnshire to which waste may need to be sent for management. The identified capacity gaps for specialised thermal treatment (typically of agricultural wastes) and hazardous landfill exist already and the management requirement is being met by exporting the wastes to disposal facilities outside the County. The small quantity of materials involved may provide insufficient incentive for the waste industry to bring forward new capacity locally and the County would then continue to rely on external capacity. In order to achieve net self-sufficiency the Plan will still need to provide for a corresponding amount of new capacity for other waste management methods therefore this situation does not reduce the number of new sites that are needed. The Council will also need to co-operate with the Authorities which provide external management capacity to make sure that the facilities will remain available for the duration of the Plan.

Policy W1: Future requirements for new waste facilities

The County Council will, through the Site Locations document, identify locations for a range of new or extended waste management facilities within Lincolnshire where these are necessary to meet the predicted capacity gaps for waste arisings in the County up to and including 2031, as presented in Table 9, subject to any new forecasts published in the Council's Annual Monitoring Reports.

SAFEGUARDING WASTE MANAGEMENT SITES

6.64 Waste sites are an important element of a community's infrastructure, ensuring that waste is dealt with at appropriate locations and that communities take responsibility for their own waste. Gaining permission for such facilities can be a challenging and protracted process in direct opposition to the wishes of parts of the host community. Because of this the Council considers it essential that those waste management sites should be protected. This document is the first stage of replacing the extant Waste Local Plan, the next shall be the production of a Site Locations document where land will be identified as being suitable for future waste uses. To allocate land for waste uses an assessment has to be made of their potential suitability. Once the assessment has been undertaken and the land allocated the Council would not wish to see the ability of the land to be utilised for waste uses prejudiced. Therefore, sites allocated in the Site Locations document will also be protected.

6.65 Such protection should be twofold: to ensure that a site permitted or allocated with a waste use is not redeveloped to another use to retain capacity; and that there remains a sufficient distance between the waste facility and other forms of development or sensitive land uses (for example, housing). The latter requirement is to make certain that non-waste developments are not permitted within the vicinity of a waste management facility, if it would either prevent or prejudice the effective use of that facility. Where new non-waste development involving buildings which would normally be occupied is proposed within 400m of a water recycling centre, the application should be accompanied by an odour assessment report, which considers existing odour emissions of the works at different times of the year and in a range of different weather conditions.

6.66 In two-tier planning areas such as Lincolnshire, the safeguarding of waste sites can be achieved only through county and district councils co-operating in the exercise of their respective planning powers. District Councils will be provided with details on the waste sites in the County and it will be the responsibility of the District Councils to ensure that they are used when considering planning applications or future developments within or near to the boundary of a waste site and that the County Council is consulted. The sites and facilities to be safeguarded are listed in Appendix 2 and mapped in Appendix 3.

6.67 Clearly, if evidence was put forward that there remained no market need for the waste facility in its current location or the operations could be relocated to another acceptable site then a proposal would be acceptable.

Policy W8: Safeguarding Waste Management Sites

The County Council will seek to safeguard existing and allocated waste management facilities from redevelopment to a non-waste use and/or the encroachment of incompatible development unless:

- **alternative provision in the vicinity can be made in accordance with the Development Plan; or**
- **it can be demonstrated that there is no longer a need for a waste facility at that location.**