Landscape Science Consultancy Ltd

VICARAGE DROVE SOLAR FARM
LAND NORTH WEST OF BICKER, LINCOLNSHIRE

LANDSCAPE VISUAL IMPACT ASSESSMENT

REV B

FOR

RENEWABLE CONNECTIONS DEVELOPMENTS LTD

August 2021

Landscape Institute
Registered practice

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1.0 Introduction

1.1 Background

Landscape Science Consultancy (LSC) Ltd was commissioned by Renewable Connections Developments Ltd to conduct a Landscape Visual Impact Assessment for a proposed solar farm development on a parcel of land at Vicarage Drove, Bicker, near Boston, Lincolnshire, hereafter referred to as the 'Site'. The assessment defines the existing landscape and visual baseline, assesses the sensitivity to change and considers the effect of the Proposed Development on the landscape and its visual resources over an area centred on the Site and defined by the anticipated visual envelope – hereafter referred to as the 'Study Area'.

1.2 Site Location

The Site is centred at TF 18693 39182 within the Natural Character Area 46: The Fens and the local landscape character area A1 Holland Reclaimed Fen. The area is not a designated landscape.

The Site comprises eight fields approximately 80.36ha in size and located on flat, arable farmland to the west of the village of Bicker. On the flat topography views into the Site are determined by the existing screening from vegetation and/or buildings and the elevation of the viewer.

The Site is intentionally located in close proximity to the Bicker wind farm and the South Forty Foot Drain. The 13 turbines, electricity generating station and the associated infrastructure create a prominent vertical, industrial element in the landscape. A high power (400kV/275kV) National Grid pylon route runs from south east to north west across the landscape and a plethora of local poles and wires cross the landscape on both sides of the South Forty Foot Drain. The area of apparent industrialisation has been expanded by the addition of the substation for the Triton Knoll Onshore Substation which is located to the north, and the Viking Link interconnector converter station, which is to be currently being constructed within an area to the south; both close enough to link to the existing generating station.

The selected Site is therefore positioned in close proximity to other built form relating to renewable energy and, because of this proximity, the wind turbines and infrastructure have been incorporated into the discussion of the landscape baseline. The existing features, including the now completed Triton Knoll onshore substation and the Viking Link converter station that is being constructed are an integral part of the Site environs and it is not logical to separate them out for a separate cumulative assessment.

The South Forty Foot Drain forms a strong physical and visual barrier as the western boundary of the Site. The surrounding landscape is dominated by the geometric appearance of the large, regular-shaped arable fields frequently defined by drainage ditches, with associated occasional hedges and small

woodland blocks near to settlements. Additional screening has been developed alongside the electricity generation station.

The land parcel lies approximately 2.5km north west of the village of Bicker, and ~2km north west of Northorpe, with the villages of Swineshead and Donington approximately 3.2km and 2.6km to the north-east and south east respectively. Other residential dwellings and farmsteads in the vicinity are often isolated along the minor roads.

1.3 Proposals

The 'Proposed Development' known collectively as the 'Vicarage Drove Solar Farm', is for the installation of solar panels and associated infrastructure of inverters and battery storage units within an area already characterised by wind energy turbines, pylons and substations.

The design aims to be sympathetic to the local landscape and the need to retain as much of the sense of openness for those experiencing the landscape is recognised. Consequently, the proposed layout is closely associated with the existing industrialised elements in order to minimise visual intrusion into the wider open landscape. Existing structural landscape features such as scattered scrub and undermanaged hedgerows that have developed in association with the existing wind farm and infrastructure provide some screening and will be retained and linked to the proposed boundary planting.

In order to integrate the Proposed Development into the local landscape and to address the need to mitigate landscape and visual effects as far as is reasonably possible, a landscape scheme with native planting has been designed to establish new planting and reinforce existing perimeter planting; to develop the structure of the local landscape; and to minimise the long-term effect.

1.4 Study Area

It is accepted practice within landscape and visual assessment work that the extent of the Study Area is broadly defined by the visual envelope of the proposed development and the anticipated extent of the Zone of Theoretical Visibility (ZTV).

The Study Area has, therefore, been defined by the ZTV, and within that an assessment of the views of the Proposed Development which may be experienced. Following initial consideration of a wider zone, a Study Area of 2km radius from the Site was considered appropriate to cover potential significant landscape and visual effects.

1.5 Landscape Assessment Report

The key aims of the assessment are to determine for the main receptors the likely effects of the proposal on the local landscape character and the key landscape elements that contribute to the landscape resource; and to identify visual

receptors and the potential effects arising from the Proposed Development to visual amenity.

Through a defined and methodical approach based on methodology set out in the *Guidelines for Landscape and Visual Impact Assessment 3rd Edition (2013)* (GLVIA3) the sensitivity of the landscape, the magnitude of change on the resource as a result of the development and the effects are predicted in terms of their significance, relating to the magnitude of any changes and the sensitivity of the landscape and visual receptors in accommodating the development. The assessment uses a structured methodology that combines both objective assessment and subjective assessment based on professional judgement.

The reasoning behind the judgements is set out in the text with supporting tables and matrices. To assist decision makers, the effects are predicted in terms of the significant and non-significant effects, relating to the magnitude of any changes and the sensitivity of the landscape and visual receptors in accommodating the development. Based on the outcome of the assessment, mitigation measures are outlined which would remedy adverse landscape or visual effects by reducing or removing the effects in order to integrate the development into the wider area over the longer term.

The conformance of the proposals to relevant National guidance and core policies within the South East Lincolnshire Local Plan is discussed.

2.0 Planning Policy Context

2.1 National Planning Guidance

National Planning Policy 2021

The National Planning Policy Framework ('NPPF') sets out the Government's planning policies for England and how these are expected to be applied (MoHCLG, 2021).

- **Policy 20(d)** advises that strategic policies should set out an overall strategy for the pattern, scale and quality of development, and *'make sufficient provision for conservation and enhancement of the natural, built and historic environment, including landscapes and green infrastructure, and planning measures to address climate change mitigation and adaptation';*
- **Policy 130(c)** advises that planning policies and decisions should ensure that developments '*are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities)';*
- **Policy 155(a)** deals directly with renewable energy provision and stipulates that in order to help increase the use and supply of renewable and low carbon energy and heat, plans should *'provide a positive strategy for energy from these sources, that maximises the potential for suitable development, while ensuring that adverse impacts are addressed satisfactorily (including cumulative landscape and visual impacts)';*
- **Policy 155(b) '***consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure their development'; and*
- **Policy 155(c)** *'identify opportunities for development to draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers'.*
- **Policy 157** requires that in determining planning applications local planning authorities should expect new development to:

  a) comply with any development plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable; and

  b) take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption.

- **Policy 158** advises that when determining planning applications for renewable and low carbon development, local planning authorities should:

  a) not require applicants to demonstrate the overall need for renewable or low carbon energy, and recognise that even small-scale projects

provide a valuable contribution to cutting greenhouse gas emissions; and

b) approve the application if its impacts are (or can be made) acceptable. Once suitable areas for renewable and low carbon energy have been identified in plans, local planning authorities should expect subsequent applications for commercial scale projects outside these areas to demonstrate that the proposed location meets the criteria used in identifying suitable areas.

- **Policy 174(a)** relates to conservation and enhancement of the natural environment and states that Planning policies and decisions should contribute to and enhance the natural and local environment by: *'protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
- **Policy 176** relates to National Parks, the Broads and AONB's where '*great weight should be given to conserving and enhancing landscape and scenic beauty'.*
- **Policy 177(c)** states that consideration of such applications should include an assessment of '*any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated'.*

2.2 National Policy Statement EN1 July 2011

Recommendations for criteria for good design are given in section 4.5 and on landscape and visual effects, including mitigation, in Section 5.9.

2.3 Planning Practice Guidance for Natural Environment 2014

The planning practice guidance provides recommendation on the enhancement and conservation of landscapes with particular reference to renewable and low carbon energy.

2.4 Local Policy

The Site lies within Boston Borough Council. Boston Borough Council forms part of the South East Lincolnshire Joint Strategic Planning Committee. The Committee is a partnership of Boston Borough, South Holland District and Lincolnshire County Councils who are working together to plan the future of South Holland District and Boston Borough.

The following documents contain policies and background information that are of relevance in the current assessment:

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

The Local Plan sets out an overall vision of how South East Lincolnshire and the settlements within it should develop, and the strategic objectives that will ensure key spatial issues are addressed.

Policy 29: The Historic Environment

Distinctive elements of the South East Lincolnshire historic environment will be conserved and, where appropriate, enhanced. Opportunities to identify a heritage asset's contribution to the economy, tourism, education and the local community will be utilised including:

- The historic archaeological and drainage landscape of the Fens;
- The distinctive character of South East Lincolnshire market towns and villages;
- The dominance within the landscape of church towers, spires and historic windmills;

To respect the historical legacy, varied character and appearance of South East Lincolnshire's historic environment, development proposals will conserve and enhance the character and appearance of designated and non-designated heritage assets, such as important known archaeology or that found during development, historic buildings, conservation areas, scheduled monuments, street patterns, streetscapes, landscapes, parks (including Registered Parks and Gardens), river frontages, structures and their settings through high-quality sensitive design.

A. Listed Buildings

1. Proposals 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 preservation and does not involve activities or alterations prejudicial to the special architectural or historic interest of the Listed Building or its setting.
2. Proposals involving the demolition of Listed Buildings will not be permitted, unless in an exceptional case, or wholly exceptional case (depending on their grade) where a clear and convincing justification is made in line with national policy.
3. Proposals that affect the setting of a Listed Building will be supported where they preserve or better reveal the significance of the Listed Building.

B. Conservation Areas

Proposals within, affecting the setting of, or affecting views into or out of, a Conservation Area should preserve (and enhance or reinforce, as appropriate) features that contribute positively to the area's character, appearance and setting. Proposals should:

1. Retain buildings/groups of buildings, existing street patterns, historic building lines and ground surfaces;

2. Retain architectural details that contribute to the character and appearance of the area;
3. Where relevant and practical, remove features which are incompatible with the Conservation Area;
4. Retain and reinforce local distinctiveness with reference to height, massing, scale, form, materials and plot widths of the existing built environment;
5. Assess, and mitigate against, any negative impact the proposal might have on the townscape, roofscape, skyline and landscape;
6. Aim to protect trees, or where losses are proposed, demonstrate how such losses are appropriately mitigated against.

C. Archaeology and Scheduled Monuments

1. Proposals that affect archaeological remains, whether known or potential, designated or non-designated, should take every reasonable step to protect and, where possible, enhance their significance.
2. 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.
3. 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.
4. 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, undertaken by a suitably qualified person, and approved by the Local Planning Authority.
5. Any work undertaken as part of the planning process must be appropriately archived in a way agreed with the Local Planning Authority.

D. Registered Parks and Gardens

Proposals that cause substantial harm to a Registered Park or Garden, or its setting will not be permitted, unless in an exceptional case, where a clear and convincing justification is made in line with national policy.

E. Enabling Development

Proposals for enabling development adjacent to, or within the setting of, a heritage asset and used to secure the future of a heritage asset through repair, conservation, restoration or enhancement will only be permitted where:-

1. it will not materially harm the heritage values of a heritage asset or its setting;
2. it avoids detrimental fragmentation of management of the heritage asset:
3. it will secure the long-term future of the place and, where applicable, its continued use for a sympathetic purpose;

4. it is necessary to resolve problems arising from the inherent needs of the heritage asset rather than the circumstances of the present owner or the purchase price paid
5. sufficient subsidy is not available from any other source;
6. it is demonstrated that the amount of enabling development is the minimum necessary to secure the future of the heritage asset and that its form minimises harm to other public interests; and
7. the public benefit of securing the future of the heritage asset through such enabling development decisively outweighs the dis-benefits of breaching other policies within the Local Plan and national policy.

F. Development Proposals

Where a development proposal would affect the significance of a heritage asset (whether designated or non-designated), including any contribution made to its setting, it should be informed by proportionate historic environment assessments and evaluations (such as heritage impact assessments, desk-based appraisals, field evaluation and historic building reports) that:

1. identify all heritage assets likely to be affected by the proposal;
2. explain the nature and degree of any effect on elements that contribute to their significance and demonstrating how, in order of preference, any harm will be avoided, minimised or mitigated;
3. provide a clear explanation and justification for the proposal in order for the harm to be weighed against public benefits; and
4. demonstrate that all reasonable efforts have been made to sustain the existing use, find new uses, or mitigate the extent of the harm to the significance of the asset; and whether the works proposed are the minimum required to secure the long-term use of the asset.

Policy 31: Climate Change and Renewable and Low Carbon Energy

A. Climate Change

All development proposals will be required to demonstrate that the consequences of current climate change has been addressed, minimised and mitigated by:

1. employing a high-quality design;
2. the adoption of the sequential approach and Exception Test to flood-risk and the incorporation of flood-mitigation measures in design and construction to reduce the effects of flooding, including SuDS schemes for
3. all ‘Major’ applications;
4. the protection of the quality, quantity and availability of water resources, including for residential developments, complying with the Building Regulation water efficiency standard of 110 litres per person per day;
5. reducing the need to travel through locational decisions and, where appropriate, providing a mix of uses;

6. incorporating measures which promote and enhance green infrastructure and provide an overall net gain in biodiversity as required by Policy 28 to improve the resilience of ecosystems within and beyond the site.

B. Renewable Energy

With the exception of Wind Energy the development of renewable energy facilities, associated infrastructure and the integration of decentralised technologies on existing or proposed structures will be permitted provided, individually, or cumulatively, there would be no significant harm to:

1. visual amenity, landscape character or quality, or skyscape considerations;
2. Residential amenity in respect of: noise, fumes, odour, vibration, shadow flicker, sunlight reflection, broadcast interference, traffic;
3. highway safety (including public rights of way);
4. agricultural land take;
5. aviation and radar safety;
6. heritage assets including their setting; and
7. the natural environment.

Provision should be made for post-construction monitoring and the removal of the facility and reinstatement of the site if the development ceases to be operational.

Proposals by a local community for the development of renewable and low-carbon sources of energy, in scale with their community's requirements, including supporting infrastructure for renewable energy projects, will be supported and considered in the context of contributing to the achievement of sustainable development and meeting the challenge of climate change and against criteria B1-7.

Adopted Local Plan for Central Lincolnshire (April 2017)

The Site abuts the North Kesteven District Council area, which lies to the west. The South Forty Foot Drain marks the boundary between the two Local Authorities. North Kesteven forms part of The Central Lincolnshire Joint Strategic Planning Committee, which was established in October 2009. Central Lincolnshire refers to the combined area covered by the City of Lincoln, North Kesteven and West Lindsey. These three councils have come together in a formal partnership with Lincolnshire County Council to prepare a joint Local Plan for the area. The Local Plan was adopted in April 2017.

Policy LP18: Climate Change and Low Carbon Living

Development proposals will be considered more favourably if the scheme would make a positive and significant contribution towards one or more of the following (which are listed in order of preference):

Reducing demand: by taking account of landform, location, layout, building orientation, design, massing and landscaping, development should enable

occupants to minimise their energy and water consumption, minimise their need to travel and, where travel is necessary, to maximise opportunities for sustainable modes of travel;
Resource efficiency: development should (a) take opportunities to use sustainable materials in the construction process, avoiding products with a high embodied energy content; and (b) minimise construction waste;
Energy production: development could provide site based decentralised or renewable energy infrastructure. The infrastructure should be assimilated into the proposal through careful consideration of design. Where the infrastructure may not be inconspicuous, the impact will be considered against the contribution it will make;
Carbon off-setting: development could provide extensive, well designed, multi-functional woodland (and, if possible, include a management plan for the long-term management of the wood resource which is produced), fenland or grassland. The Central Lincolnshire Biodiversity Opportunity Mapping (or subsequent relevant document) should be used to guide the most suitable habitat in a particular area.

In principle, proposals will be supported where occupiers of existing developments (whether that be a dwelling(s) or business(es)) are seeking to reduce their resource use. However, the authority's preference, if options exist, is as set out above.

Proposals which address one or more of the above principles (whether in relation to an existing development or as part of a wider new development scheme) which are poorly designed and/or located and which have a detrimental impact on the landscape, the amenity of residents, or the natural and built environment, will be refused.

Policy LP19: Renewable Energy Proposals

Proposals for Wind Energy Development
This Local Plan does not identify areas which are suitable for wind energy development.

As such, proposals for wind energy development will only be permitted if:

- the proposal is in an area that has been identified as suitable for wind energy development in an adopted 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.

Proposals for Non-Wind Renewable Energy Development
Proposals for non-wind renewable technology will be assessed on their merits, with the impacts, both individual and cumulative, considered against the benefits of the scheme, taking account of the following:

- The surrounding landscape and townscape;

- Heritage assets;
- Ecology and diversity;
- Residential and visual amenity;
- Safety, including ensuring no adverse highway impact;
- MoD operations, including having no unacceptable impact on the operation of aircraft movement or operational radar; and
- Agricultural Land Classification (including a presumption against photovoltaic solar farm proposals on the best and most versatile agricultural land).

Proposals will be supported where the benefit of the development outweighs the harm caused and it is demonstrated that any harm will be mitigated as far as is reasonably possible.

Renewable energy proposals which will directly benefit a local community, have the support of the local community and / or are targeted at residents experiencing fuel poverty, will be particularly supported.

Policy LP25: 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 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; and

c. provide clear justification for the works, especially if these would harm the significance of the asset or its setting, so that the harm can be weighed against public benefits. Unless it is explicitly demonstrated that the proposal meets the tests set out in the NPPF, permission will only be granted for development affecting designated or non-designated heritage assets where the impact of the proposal(s) does not harm the significance of the asset and/or its setting.

Development proposals will be supported where they:

d. Protect the significance of designated heritage assets (including their setting) by protecting and enhancing architectural and historic character, historical associations, landscape and townscape features and through consideration of scale, design, 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.

The change of use of heritage assets will be supported provided:

g. the proposed use is considered to be the optimum viable use, and is compatible with the fabric, interior, character, appearance and setting of the heritage asset;

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 lost or altered to facilitate the change of use.

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 preservation and does not involve activities or alterations prejudicial to the special architectural or historic interest of the Listed Building or its setting.

Permission that results in substantial harm to or loss of a Listed Building will only be granted in exceptional or, for grade I and II* Listed Buildings, wholly exceptional circumstances.

Development proposals that affect the setting of a Listed Building will be supported where they preserve or better reveal the significance of the Listed Building.

Conservation Areas

Development within, affecting the setting of, or affecting views into or out of, a Conservation Area should preserve (and enhance or reinforce it, as appropriate) features that contribute positively to the area's character, appearance and setting. Proposals should:

j. Retain buildings/groups of buildings, existing street patterns, historic building lines and ground surfaces;

k. Retain architectural details that contribute to the character and appearance of the area;

l. Where relevant and practical, remove features which are incompatible with the Conservation Area;

m. Retain and reinforce local distinctiveness with reference to height, massing, scale, form, materials and lot widths of the existing built environment;

n. Assess, and mitigate against, any negative impact the proposal might have on the townscape, roofscape, skyline and landscape;

o. 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.

Policy LP26: 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.

Development proposals will be assessed against the following relevant design and amenity criteria.

Design Principles
All development proposals must take into consideration the character and local distinctiveness of the area (and enhance or reinforce it, as appropriate) and create a sense of place. As such, and where applicable, proposals will be required to demonstrate, to a degree proportionate to the proposal, that they:

a. Make effective and efficient use of land;

b. Maximise pedestrian permeability and avoid barriers to movement through careful consideration of street layouts and access routes;

c. Respect the existing topography, landscape character and identity, and relate well to the site and surroundings, particularly in relation to siting, height, scale, massing, form and plot widths;

d. Not result in the visual or physical coalescence with any neighbouring settlement;

e. Not result in ribbon development, nor extend existing linear features of the settlement, and instead retain, where appropriate, a tight village nucleus;

f. Incorporate and retain as far as possible existing natural and historic features such as hedgerows, trees, ponds, boundary walls, field patterns, buildings or structures;

g. Incorporate appropriate landscape treatment to ensure that the development can be satisfactorily assimilated into the surrounding area;

h. Provide well designed boundary treatments, and hard and soft landscaping that reflect the function and character of the development and its surroundings;

i. Protect any important local views into, out of or through the site;

j. Duly 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;

k. Use appropriate, high quality materials which reinforce or enhance local distinctiveness, with consideration given to texture, colour, pattern and durability;

l. Ensure public places and buildings are accessible to all: this should not be limited to physical accessibility, but should also include accessibility for people with conditions such as dementia or sight impairment for example.

Amenity Considerations

The amenities which all existing and future occupants of neighbouring land and buildings may reasonably expect to enjoy must not be unduly harmed by or as a result of development.

Proposals should demonstrate, where applicable and to a degree proportionate to the proposal, how the following matters have been considered, in relation to both the construction and life of the development:

m. Compatibility with neighbouring land uses;

n. Overlooking;

o. Overshadowing;

p. Loss of light;

q. Increase in artificial light or glare;

r. Adverse noise and vibration;

s. Adverse impact upon air quality from odour, fumes, smoke, dust and other sources;

t. Adequate storage, sorting and collection of household and commercial waste, including provision for increasing recyclable waste;

u. Creation of safe environments.

Similarly, proposals for development adjacent to, or in the vicinity of, existing 'bad neighbour' uses will need to demonstrate that both the ongoing use of the neighbouring site is not compromised, and that the amenity of occupiers of the

new development will be satisfactory with the ongoing normal use of the neighbouring site, taking account of criteria m to u above.

South Kesteven District Council Local Plan 2011- 2036 (Adopted January 2020)

EN1: Landscape Character

Development must be appropriate to the character and significant natural, historic and cultural attributes and features of the landscape within which it is situated, and contribute to its conservation, enhancement or restoration.

In assessing the impact of proposed development on the Landscape, relevant Landscape Character Appraisals should be considered, including those produced to inform the Local Plan and Neighbourhood Plans. Consideration should also be given to the Capacity and Limits to Growth Studies produced for Grantham and Stamford and the Points of the Compass Assessments prepared for the Larger Villages.

EN6: The Historic Environment

The Council will seek to protect and enhance heritage assets and their settings in keeping with the policies in the National Planning Policy Framework.

Development that is likely to cause harm to the significance of a heritage asset or its setting will only be granted permission where the public benefits of the proposal outweigh the potential harm.

Proposals which would conserve or enhance the significance of the asset shall be considered favourably. Substantial harm or total loss will be resisted.

Proposals will be expected to take Conservation Area Appraisals into account, where these have been adopted by the Council.

Where development affecting archaeological sites is acceptable in principle, the Council will seek to ensure mitigation of impact through preservation of the remains in situ as a preferred solution.

When in situ preservation is not practical, the developer will be required to make adequate provision for excavation and recording before or during development.

RE1: Renewable Energy Generation

Proposals for renewable energy generation will be supported subject to meeting the detailed criteria as set out in the accompanying Renewable Energy Appendix 3 and provided that:

a. The proposal does not negatively impact the District's agricultural land asset;

b. The proposal can demonstrate the support of affected local communities;

c. The proposal includes details for the transmission of power produced;

d. The proposal details that all apparatus related to renewable energy production will be removed from the site when power production ceases; and

e. That the proposal complies with any other relevant Local Plan policies and national planning policy.

3.0 Assessment Methodology

3.1 General

The methodology is based on standard best practice guidance contained in Guidelines for Landscape and Visual Impact Assessment 3rd Edition (GLVIA3) Landscape Institute and Institute of Environmental Management and Assessment (2013) and follows the linear progression outlined in GLVIA3 Figure 5.1. The aim of the assessment is to establish the planning context, scope and key receptors for both the landscape character and visual baselines.

It should be noted that the guidance contained within the above is not prescriptive, allows for qualitative assessment and considerable scope is given to the individual practitioner to tailor specific assessment methodologies to the requirements of each proposed development.

Whilst quantitative measurements are employed where practicable the GLVIA3 guidance explains that a degree of professional expertise and judgement should be exercised during the LVIA process and that these judgements should be '*appropriate and proportional*' (GLVIA3 para 1.17 p9). Professional opinions are given within a framework of '*clear and transparent methods so that the reasoning applied at different stages can be traced and examined by others*' (GLVIA3 para 2.24 p21).

3.2 Landscape Character

3.2.1 Landscape Baseline

The landscape baseline is informed by a desk study of existing landscape assessments, capacity studies and then informed by site specific and study area field observations. The baseline provides an understanding of the landscape in the Study Area including the constituent elements, the character, the way it varies spatially, the geographic extent, history, condition, the way in which the landscape is experienced and the value attached to it.

Desktop Assessment

Various sources are accessed to support an initial desktop assessment of landscape character and value within the Survey Area including:

- Designated landscapes such as National Parks and Areas of Outstanding Natural Beauty;
- National guidance;
- Landscape Character Assessments (National, Regional and Local where available);
- Landscape Capacity and Sensitivity Studies

- Local Supplementary Planning Policy documents or similar which identify the priority and value of the landscape at a local scale;
- Status of individual groups or features such as Conservation Areas, Listed Buildings, Historic Assets and Cultural Heritage elements;
- Landscape elements of local or community interest such as local green spaces or allotments.
- Determine the Zone of Theoretical Visibility (ZTV) to indicate the potential visibility of the Proposed Development within the landscape and assist choice of viewpoints.

Following the identification of landscape components above which define the landscape character of the Study Area and outline the landscape receptors, the assessment is further informed by the determination of the Zone of Theoretical Visibility (ZTV) to indicate the potential visibility of the Proposed Development within the landscape and identify the visual receptors. These inform field studies and assist in the choice of representative viewpoints.

Application Site Visit

The results of the initial desktop assessment are then verified, modified or amended through a Site visit to establish local-scale relevance to further develop the Landscape Baseline.

Notes and photographs are taken on landscape components which contribute towards overall landscape character such as land use, topography, drainage and vegetation. The way in which the individual components interact to influence the general impression of the landscape and nature of the views is also assessed.

Following the identification of landscape components above which define the landscape character of the Study Area and outline the landscape receptors, the assessment is further informed by the determination of the Zone of Theoretical Visibility (ZTV) to indicate the potential visibility of the Proposed Development within the landscape and identify the visual receptors. These inform field studies and assist in the choice of representative viewpoints.

Photographs are taken to assist the reader in visualising the landscape and assessing the effects of the proposals. The photographs, whilst taken with a camera and lens to offer the equivalence of the human eye, are no substitute for in the field observations and the reader is invited to do such and determine in their own right the extent and nature of the views identified.

3.2.2 Assessment of Landscape Effects

The introduction of a development into a landscape can add a feature which may affect the 'sense of place' in its vicinity but within the wider area becomes part of the existing characteristics.

Landscape effects consist of changes in the fabric, character and quality of the landscape which it is predicted would result from the construction and operation of the proposed development – *assessing the effects on a landscape as a resource in its own right (GLVIA3).*

The effect on landscape character areas and on the key characteristics within the areas, therefore, depends on the attributes of the receiving landscape and the characteristics of the proposed development.

Defining Landscape Resource

Using the landscape baseline and Site visit and considering the development proposals in question, the effects on the wider landscape character can be predicted and described.

As well as the overall character of the area the key characteristics and receptors of the landscape are identified as those components of the landscape that contribute to the whole which are likely to be affected by the scheme. The interactions between these receptors and the Proposed Development are then described. Changes considered include direct, indirect and cumulative effects, short-, medium- and long-term effects, temporary and permanent effects, and both positive and negative effects.

Using the landscape baseline and Site visit and considering the development proposals in question, the effects on the wider landscape character can be predicted and described.

Key Landscape Elements

As well as the overall character of the area the key characteristics and landscape receptors are identified as those components of the landscape that contribute to the whole which are likely to be affected by the scheme. The interactions between these receptors and the Proposed Development are then described. Changes considered include direct, indirect, short-, medium- and long-term effects, temporary and permanent effects, and both positive and negative effects.

Assessing Susceptibility of the Landscape to Change

The susceptibility or capacity of the landscape and its key characteristics to accept change, is the degree or ability with which the landscape resource can accommodate the change of the type and scale proposed, without detrimental effects upon its character (*GLVIA3 para 5.40*). It is based upon the vulnerability of the landscape to modification through the introduction of new features, or the loss of existing components. It is influenced by the condition and nature of the receiving landscape and the expectations of users of that landscape.

Determining the susceptibility of a landscape receptor is a subjective process and incorporates considerations of landscape form, type, land cover, vegetation type, value, scale, access and context. Table 01 is used to assist in the assessment of

whether the local landscape has the potential to accommodate the Proposed Development and whether undue consequences would occur to the landscape as a result of the Proposed Development.

Table 01: Landscape Character Factors

Factor	Accommodation Within Landscape More Achievable	Potential for Accommodation Within Landscape Reduced
Landform	Absence of strong topographical variety. Featureless, convex or flat	Presence of strong topographical variety or distinctive landform features
Landscape Pattern and Complexity	Simple, regular or uniform	Complex, rugged, irregular
Settlement and Man-made influences	Presence of contemporary structures for example utility infrastructure, industrial, roads and tracks in the landscape	Absence of modern development, presence of small scale, historic or vernacular settlement, roads and tracks.
Inter-visibility between adjacent landscapes	Little inter-visibility with adjacent sensitive landscapes or viewpoints	Strong inter-visibility with sensitive landscapes. Forms an important part of the view from sensitive viewpoints
Perception – remoteness/tranquillity	Close to visible signs of human activity and development	Physically or perceptually remote, peaceful, tranquil.

From an assessment of the factors above, the categorisation of a landscape's susceptibility to a proposed development is determined from Table 02.

Table 02: Landscape Susceptibility Categorisation

Susceptibility	Impact of Proposals Criteria
High	It is likely that the undue consequences would occur to this landscape from the Proposed Development. Rarer landscape type. Landscape not easily recreated.
Medium	Undue consequences may occur to this landscape from the Proposed Development. Mitigation possible.
Low/Negligible	It is unlikely that the undue consequences would occur to this landscape from the Proposed Development. Common landscape type. Minimal alteration. Mitigation possible.

Assessing Value of the Landscape

The value of the landscape is the relative value attached to the landscape by society, which may include different viewpoints from different stakeholders *(GLVIA3 p157*), including an assessment of replaceability and the contribution to the wider landscape value.

This is largely informed by the results of the various background data assessments and may take into account statutory and non-statutory designations as well as other sources which imply a local or regional value. The criteria used in this assessment are set out in Table 03.

Table 03: Landscape Value Categorisation

Value	Typical Evaluation Criteria
National/International High	Internationally recognised or nationally valued landscape (National Parks, Areas of Outstanding Natural Beauty, National Scenic Landscapes) with strong landscape structure and many distinct features worthy of conservation. Not replaceable.
Local Medium	Landscapes designated locally or regionally (eg. Area of High Landscape Value, Regional Scenic Area etc.); or non-designated landscapes where there is evidence to indicate that a relatively higher value is attached. Difficult to replace. Contributes to the wider value.
Community Low	A landscape which is appreciated by the local community but has little or no wider value recognition. Replaceable. A minor contributor to the wider landscape value.
Limited/Negligible	A despoiled or degraded landscape which shows little evidence of the attachment of value or merit by the local community.

Assessing Sensitivity of the Landscape

The material effects on the landscape character are defined by the scale of the character area, the layout of the proposal and how it relates to the character of the receiving landscape.

To assist the judgement process of the potential effects the sensitivity range of the landscape is arrived at through a combination of the susceptibility (derived from Table 02) and value (derived from Table 03) of the landscape. The matrix used for assessing sensitivity is set out in Table 04 below.

Table 04: Landscape Sensitivity Categorisation

		Landscape Susceptibility		
		High	**Medium**	**Low**
Landscape Value	**National/International**	High	High-Medium	Medium
	Local	High-Medium	Medium	Medium-Low
	Community	Medium	Medium-Low	Low
	Negligible	Low	Low-Negligible	Negligible

Assessing Likely Magnitude of Landscape Change

The magnitude of landscape change is generally considered to be the degree, nature and duration of change to the landscape brought about by the Scheme. This includes consideration of the size and scale of the Proposed Development, the geographical extent, and the duration and reversibility of landscape effects.

Key characteristics within the landscape that give the area a distinct sense of place are considered separately from the character areas to determine how each key characteristic is altered individually by the proposals. The assessment uses the same matrices above.

The scale of effect, small, medium and large, covers the geographical area over which effects may be felt. Duration may be permanent, long-term temporary over 10 years, medium term between 2 – 10 years or short term between 0-2 years.

Whilst the interplay of these considerations require assessment on a case-by-case basis, the outline criteria for assessing magnitude are outlined in Table 05.

Table 05: Magnitude of Landscape Change

Magnitude	Criteria
Large	Total loss of, or major change to, elements, features or characteristics of the landscape baseline. *i.e.* introduction of elements considered to be totally uncharacteristic when set within the attributes of the receiving landscape.
Medium	Partial loss of or change to elements, features or characteristics of the landscape. *i.e.* introduction of elements that may be prominent but may not necessarily be considered to be substantially uncharacteristic when set within the attributes of the receiving landscape.
Low	Minor loss of or change to elements, features or characteristics of the landscape. *i.e.* introduction of elements that may be prominent but may not be uncharacteristic when set within the attributes of the receiving landscape.
Very Low	Very minor loss or change to elements, features or characteristics of the landscape. *i.e.* introduction of elements that are not uncharacteristic with the surrounding – approximating to the 'no change' situation.

Assessing Overall Landscape Effect and Significance

The overall **significance** of the impact to the landscape is arrived at through a combination of the sensitivity of the landscape (calculated as per Table 04) and the magnitude of the predicted effect (calculated as per Table 05). The matrix used for assessing overall significance of landscape effect is set out in Table 06 below.

Table 06: Illustrating the Overall Effect of Significance Through Correlation of Sensitivity and Magnitude of Impact.

		Landscape Sensitivity			
		High/High-Medium	**Medium/Medium-Low**	**Low/Negligible**	**Negligible**
Magnitude of Landscape Impact	**Large**	Major	Major-Moderate	Moderate	Slight
	Medium	Moderate-Major	Moderate	Slight	Slight-Negligible
	Low	Moderate	Slight	Slight-Negligible	Negligible
	Very low	Slight	Slight-Negligible	Negligible	Negligible

The emphasis of the assessment is on '*significant effects*' and the approach to the assessment must be proportional to the scale of the project that is being assessed and the nature of its likely effects. For this assessment 'significant effects'

resulting from the development would be those that result in a Major or a Major-Moderate effect.

A major effect would:

- Be at complete variance with the character (landform, scale and pattern);
- Permanently degrade, diminish or destroy the integrity of a valued characteristic feature, element or the setting;
- Cause a landscape with a high value or a high susceptible to change to be permanently and irreversibly changed; and
- Cause a sense of place to be lost.

A major effect is, therefore, an important consideration in the planning process.

A major-moderate effect would:

- Be at considerable variance with the landscape character;
- Degrade or diminish the integrity of the valued characteristic features, elements or their setting;
- Cause a landscape of high value or with a high susceptibility to change to be distinctly changed; and
- Cannot fully be mitigated and may cumulatively amount to a substantial effect.

A major-moderate effect is, therefore, a material consideration in the planning process.

A Moderate effect would be of a lesser degree of significance to the above but may be considered a significant effect in planning terms depending on site conditions and potential to mitigate and would also be a consideration in the planning process.

Effects towards the higher level of the scale (Major) are those judged to be the most important in planning terms whilst those towards the bottom of the scale are of lesser concern (*GLVIA3 para 3.35*). Intermediate ratings such as Minor-Moderate indicate an effect that is greater than Minor but less then Moderate.

Whether the effects are adverse, neutral or beneficial is identified based on professional judgement (*GLVIA3 para 2.15*). Adverse or Beneficial effects can be determined from the same rating. Major Beneficial would be as significant in a positive way as Major Adverse would be negative.

3.3 Visual Receptors

3.3.1 Visual Baseline

The visual baseline aims to establish the area in which the Site may be visible, the different groups of people who may experience views of the Site, the places where they will be affected, and the nature of the views and visual amenity at those points.

Desktop Assessment

The visual baseline assessment commences with a desk-based analysis of the Study Area to identify potential locations where views of the Site are possible. This includes an analysis of landform and existing screening.

The visual envelope refers to the area of land within which there are views of any part of the proposed development – this is scoped using the desktop assessment of the ZTV and then modified and verified in the field, taking into account the influence of any intervening screening features such as vegetation and buildings.

Application Site Visit

The results of the initial desktop assessment and ZTV are then verified, modified or amended through Site visits to establish local-scale relevance to develop a Landscape Baseline. Two Site visits were undertaken in April 2021.

Notes are taken on landscape components which contribute towards the overall experience of potential receptors of the views such as land use, topography, drainage and vegetation. The way in which the individual components interact to influence the general impression of the landscape and nature of the views is also assessed.

Photographs are taken to assist the reader in visualising the landscape and assessing the effects of the proposals. The photographs, whilst taken with a camera and lens to offer the equivalence of the human eye, are no substitute for in the field observations and the reader is invited to do such and determine in their own right the extent and nature of the views identified.

The views from a range of potential visual receptors are qualified and quantified including:

- People living in and visiting the Study Area;
- People working in the Study Area;
- People moving through the Study Area on transport links such as road and rail as well as footpaths and bridleways;
- People visiting landscapes or attractions within the Study Area where the landscape contributes to the experience;

- People engaged in various types of recreational activity within the Study Area including areas of cultural importance.

Viewpoints

Viewpoints were selected on the basis that they provide potential views of the Proposed Development from a variety of directions, a range of distances and from a variety of receptor types – residential, recreational and transportation routes that are representative of the varying image of the Proposed Development in the landscape.

Viewpoints are of value in assessing the scale and magnitude of effect of the Proposed Development and are selected to represent where the greatest effects are anticipated. The specific viewpoints in the report, therefore, aid the assessment of the scale, duration and extent to which the Proposed Development affects the quality of the view.

Photographs were taken at a number of representative viewpoints which were identified based on the findings of the desktop study and Site visit. These are either representative, illustrative or specific locations within the Study Area where views of the Proposed Development may occur.

In line with guidance on landscape photography issued by the Landscape Institute the photographs were taken following the Landscape Institute Technical Guidance Note 06/19. Photograph panoramas were taken from potential receptor locations at a height of 1.5 m with a Canon EOS400D camera using a 50 mm equivalent focal length. The single frames were stitched together to form a panoramic view using digital software. Optical distortion and parallax error were avoided using a tripod, 3-way tripod head, 3-way levelling base and a micro positioning plate.

The single frames were stitched together to form a panoramic view using digital software. Optical distortion and parallax error were avoided using a tripod, 3-way tripod head, 3-way levelling base and a micro positioning plate.

Photographs are subsequently presented in Appendix A as Figures A1-A13 of this report along with metadata regarding location, aspect and conditions as well as annotations to illustrate the location of the Proposed Development.

3.3.2 Assessment of Visual Effects

Sensitivity of Visual Receptor

The sensitivity of the visual receptor to changes is a function of the occupation or activity that the people experiencing the view are engaged with, as well as the extent to which their attention may be focussed on the views.

A broad characterisation of the visual receptors more and less likely to be susceptible to change is set out in Table 07.

Table 07: Illustrating the Criteria Which Would Make a Visual Receptor More or Less Susceptible to Change.

Sensitivity of Visual Receptor	Criteria
High Sensitivity	Residential properties within 0.5 km of the Site where direct views from rooms/gardens/curtilage can be gained.
	Recreational users of public rights of way, Long Distance Footpaths and National Way Footpaths within 0.5 km of the Site with direct views from valued viewpoints.
	Visitors to nationally advertised attractions tourist Sites, Heritage Monuments, and National Trust Sites that are within 0.5 km of the Site with direct views and where visual amenity is very important to its enjoyment.
Medium Sensitivity	Residential properties within 0.5 km of the Site with oblique or partially screened views or glimpses of the Site can be gained.
	Residential properties between 0.5 and 2 km from the Site with direct views.
	Public houses, restaurants etc. within 0.5km with direct views.
	Recreational users of public rights of way, Long distance and National Way footpaths between 0.5 km and 2.0km of the Site with direct views.
	Road users within 0.5 km of the Site with direct/full views.
	Visitors to nationally advertised attractions tourist Sites, Heritage Monuments, National Trust Sites between 0.5 km and 2.5km of the Site with direct views and where visual amenity is very important to its enjoyment.
	Educational and Recreational facilities within 0.5 km of the Site with direct/full views.
Low Sensitivity	Work and industrial Sites with limited opportunity to appreciate views of the Site.
	Road users beyond 0.5 km of the Site with limited opportunity to appreciate views.
	Residents, Recreational users of public rights of way with limited opportunity to appreciate views. Educational and Recreational facilities, Tourist Sites and Heritage Monuments beyond 2km.

This assessment also takes into account the value of the view experienced, taking into account the following considerations:

- Recognition of the value attached to particular views, for example in relation to heritage assets;
- Indicators of value attached to views by visitors, for example inclusion in guidebooks or interpretative materials.

Predicting and Describing Visual Effects

The predicted effect of the Proposed Development is described with regards to a range of factors (*GLVIA3 Section 6.26 – 6.28*). This includes the nature of the view; the proportion of the Proposed Development visible; the distance between the receptor and the Proposed Development; whether the view is stationary or transient; and the nature of the changes.

Magnitude of Visual Impact

The magnitude of a visual effect is the degree or scale to which it changes the view, taking into account the following considerations:

- The size and scale of any change including the degree of contrast or integration of new features or changes to the landscape form; the nature of the view of the Proposed Development;
- The geographical extent of any change including the angle of view; the distance of the viewpoint to the Proposed Development' and the extent of the area over which the changes would be visible.
- The duration and reversibility of visual effects.

Whilst the interplay of these considerations require assessment on a case-by-case basis, the outline criteria for assessing magnitude are outlined in Table 08.

Table 08: Criteria Used to Define the Magnitude of Change

Magnitude of Impact	View	Criteria
Very Large	Dominant	The proposals become the dominant feature of the view to which all other elements become subordinate. Commanding, controlling the view.
Large	Prominent	The proposals form a large and immediately apparent part of the view and change its overall character. Standing out, striking, sharp, unmistakeable, easily seen.
Medium	Conspicuous	The proposals form a recognisable element within the view and would be readily noticed by the viewer. Noticeable, distinct, catching the eye or attention, clearly visible, well defined.
Low	Apparent	The proposals constitute only a minor component of the wider view and might not be noticed by the casual viewer. Visible but not obvious.
Negligible	Inconspicuous/ Faint	Only a very small part of the proposals is discernible and/or at such distance that they are scarcely appreciated or they blend into the local landscape. Weak, not legible, near limit of acuity of human eye.
None		The development cannot be seen from the viewpoint.

Consideration is also given to seasonal differences in visibility, where relevant.

Overall Visual Effect and Significance

The overall significance of the impact to the visual receptors is arrived at through professional judgement as to the importance of the change derived from a combination of the sensitivity of the visual receptor (derived from Table 06) and the magnitude of the predicted effect (derived from Table 07).

The matrix used for assessing overall significance of visual effect is set out in Table 09 below.

Table 09: Illustrating the Overall Effect of Significance Through Correlation of Sensitivity and Magnitude of Impact.

		Sensitivity of Visual Receptor		
		High	**Medium**	**Low**
Magnitude of Visual Impact	**Very Large**	Major	Major-Moderate	Moderate
	Large	Major-Moderate	Moderate	Minor-Moderate
	Medium	Moderate	Minor-Moderate	Minor
	Low	Minor-Moderate	Minor	Slight
	Negligible	Minor	Negligible	Negligible
	None	None	None	None

Effects towards the higher level of the scale (Major) are those judged to be the most important in planning terms whilst those towards the bottom of the scale are of lesser concern (*GLVIA3 para 3.35*). Intermediate ratings such as Minor-Moderate indicate an effect that is greater than Minor but less then Moderate.

Whether the effects are adverse, neutral or beneficial is identified based on professional judgement (*GLVIA3 para 2.15*). Adverse or Beneficial effects can be determined from the same rating. Major Beneficial would be as significant as Major Adverse.

4.0 Landscape Character Baseline

4.1 Introduction

To determine the effect of any change of use or future development of a site it is important to fully understand the character of that site and the associated study area. This section considers the published landscape character assessments at Regional and local levels of this area of Lincolnshire and assesses the Site in its own right and how it contributes to the local landscape character.

The condition of the receiving landscape; material effects based on the scale of the proposal; and the key characteristics, the combined elements that give an area its sense of place, also contribute to sensitivity. The key characteristics of the landscape character types / areas are considered along with the scale, openness, topography, patterns of development and land cover, and the contribution of historical assets and land uses.

4.2 Existing Landscape Assessments

4.2.1 National Character Area (NCA)

The Site falls within the National Landscape Character Area (NCA) 46: The Fens which is described as '*a distinctive historic and human influenced wetland landscape noted for the large scale flat open landscape with extensive vistas'.* The NCA is at a relatively coarse scale and is sub-divided into the Regional (RCA) and Local Character Areas (LCA) which provide local detail.

The Fens NCA is a distinctive, historic and human influenced wetland landscape lying to the west of the Wash estuary, which formerly constituted the largest wetland area in England. The area is notable for its large-scale, flat, open landscape with extensive vistas to level horizons. The level, open topography shapes the impression of huge skies which convey a strong sense of place, tranquillity and inspiration.

It is a large, low-lying, flat landscape with many drainage ditches, dykes and rivers that slowly drain towards the Wash, England's largest tidal estuary. The single obvious factor uniting the Fens is the low-lying, level terrain reflecting its geological past. Much of the land is below sea level, relying on pumped drainage and the control of sluices at high and low tides to maintain its agricultural viability. The level horizons and the huge scale of the landscape create a strong sense of isolation and tranquillity, and a distinctive sense of place. There are, typically, large open panoramas and extensive skies, where changing weather patterns have a strong influence on the observer.

Four major rivers drain into the Wash: the Witham, Welland, Nene and Great Ouse. All rivers now have artificial canalised courses that run straight for long distances and are bounded by high banks to contain the watercourse from the lower adjacent fields.

The landscape description in the NCA is broadly representative of the wider landscape but is too generic to provide detail of the landscape at the Site location.

4.2.2 Regional Character Area (RCA)

RCA 2a: Settled Fens and Marshes

The East Midlands Landscape Character Assessment places the Site within the RCA 2a: Settled Fens and Marshes.

The underlying geology of the area is the Jurassic clays upon which successive layers of Quaternary tidal sediments intercalated with peat beds have created a flat landscape with highly fertile soil. The key characteristics of the Regional Character Area are therefore typical of the fenland landscape. The apparent complexity of the landscape character within the area and localised variations in apparent isolation reflect periods and patterns of settlement.

Key characteristics include:

- A low lying flat and open landscape with wide horizons and panoramas encompassing wide skies;
- Fertile soils supporting highly productive arable farming with limited biodiversity interest;
- Successive periods of enclosure creating local variations in character from organic late Saxon enclosures to rigid 19th and 20th century geometric field patterns;
- Field boundaries predominantly defined by wet dykes, sea walls, roads and canalised rivers;
- Few hedgerows, hedgerow trees or woodlands; Large farm buildings and glass houses often associated with industrial scale farming and horticulture.

4.2.3 Local Landscape Character Area (LCA)

The Fens are not homogenous and the locality is further divided by a finer grained assessment into Local Character Areas which provides a more accurate summary of the landscape resource found within the Study Area.

The Site falls within the boundary of Boston Borough and adjacent to the fen landscape of South Kesteven. The wider Study Area also includes the fen landscape of North Kesteven to the west of the South Forty Foot Drain.

Landscape character assessments reviewed include:

- Landscape Character Assessment of Boston Borough 2009
- South Kesteven Landscape Character Assessment 2007

- North Kesteven Landscape Character Assessment 2007.

4.2.3.1 Boston Borough

The Landscape Assessment for Boston Borough was completed in 2009 and the Site falls within two areas: A. The Reclaimed Fen Landscape Type Subdivision A1 Holland Reclaimed Fen and B. The Settled Fen Landscape Character Area sub-division B1 Bicker to Wyberton Settled Fen.

A1 – Holland Reclaimed Fen

The key characteristics are as the RCA above with additional local features. The South Forty Foot Drain with high flood embankments is a key dominating feature to the west of the area, foreshortening the long distance views; and the Bicker wind farm and associated large scale pylons create strong visual landmarks.

The landscape is described as large scale, remote and intensively farmed with a widely dispersed pattern of farmsteads and dwellings.

B1 Bicker and Wyberton Settled Fen

The transition area between A1 and B1 is a created by a slightly elevated arc of land defined by the major road A52 crossing the landscape east/west/east from Boston. To the east of the road, the landscape was settled in earlier periods with a contrasting pattern of winding roads compared to the geometric pattern found in A1 and a settlement pattern developed from Medieval times.

Long distance views to the east are foreshortened beyond the middle distance by the embankments of the South Forty Foot Drain and the views are dominated by the turbines of the Bicker wind farm.

The area appears less remote than A1 but retains a sense of place as a cohesive agricultural landscape.

Visual detractors in the landscape include the existing wind turbines of Bicker Fen and the associated overhead power lines and substation; and the network of local power lines which all form prominent vertical and industrial visual elements in the landscape. Further development associated with the substations linked to the Triton Knoll offshore wind farm and the Viking Link Converter Station are being developed to the immediate north and south of the proposed Site, respectively.

4.2.3.2 North Kesteven

The Fenland LCA is located to the west of the Forty Foot Drain and the characteristics are similar to those described in RCA 2 with the low level, flat relief; geometric field and road pattern; intensively farmed with sparse woodland cover; prominent power lines and large scale agricultural buildings.

4.2.3.3 South Kesteven

Similarly, the key characteristics of the South Kesteven fens list the low, flat terrain, level horizons and large skies; large scale open field divided by drainage ditches and embanked rivers; sparse tree and woodland cover with isolated settlements and individual farmsteads of ten with large agricultural buildings.

4.3 Existing Landscape Designations

The Site is not subject to any Landscape Designations within local policy documents.

4.4 Key Landscape Elements

Within any landscape, key elements contribute to the sense of place.

4.4.1 Statutory Conservation Designations eg. SSSI, SPA or SAC

There are no sites with statutory conservation designations within the 2km Study Area of the Survey Site.

4.4.2 Non-Statutory Designations and Ancient Woodland

Six non-statutory designated sites fall within 2km of the Survey Site all of which are drains. These are listed in Table 10.

Table 10. Non-statutory sites within 2km of the Survey Site

Site Name	Distance from Survey Site	Designation	Primary Ecological Value
South Forty Foot Drain	Adjacent to Survey Site western boundary	LWS	Aquatic and terrestrial botanical assemblages
Mill Drain	1km NW	LWS	Aquatic and terrestrial botanical assemblages
Old Forty Foot Drain	1km NW	LWS	Aquatic botanical assemblage
Old Forty Foot to South Forty Foot Drain	70m NW	LWS	Aquatic botanical assemblage
Broadhurst Drain East	1.6km NW	LWS	Aquatic and terrestrial botanical assemblages
Willow Farm Drain	1km NW	LWS	Aquatic botanical assemblage

4.4.3 Settlement Conservation Areas

There are no Conservation Areas within the 2km search radius.

4.4.4 Scheduled Monuments

There is one Scheduled Monument within the 2km Study Area. This is a Roman saltern in Helpringham Fen, which lies 1km to the south west of the Site, separated from the Site by the South Forty Foot Drain.

4.4.5 Listed Buildings

There are no Listed Buildings within the Site boundary. Listed Buildings are associated with the villages on the edge of the Settled Fen beyond the Study Area in Donington and Bicker and occasional isolated farmhouses.

Three isolated properties are located just outside the Study Area and are listed in the Table 11 below.

Table 11: Listed Buildings within 2km of Site

Name	Grade	NGR	Distance from Site Boundary (m)
Fore Lane Farmhouse and Stable (North of Gauntlet House)	II	TF21903903	2340
Gauntlet House	II	TF22123884	2560
Garage Cottage	II	TF22373816	2950

4.4.6 Registered Parks and Gardens

There are no Registered Parks and Gardens within the 2km Study Area.

4.4.7 Other Designations

No further designations of relevance to the Proposed Development were identified within the Study Area. This includes designations such as World Heritage Sites or Registered Battlefields.

4.4.8 Summary of Local Designations and Status

Table 12 provides a summary of the results of a desktop survey to identify local designated Sites, conservation areas, heritage assets and cultural heritage elements of potential relevance to the 2km Survey Area.

Table 12: Environmental, Cultural and Historical Designations within the 2km Survey Area

Designation	Name and Relationship to Site	Location
Statutory Conservation Designations eg. AONB, SSSI, SPA or SAC	None	
Non-Statutory Conservation Designations	South Forty Foot Drain (adjacent to Site Boundary)	TF18433930
	Mill Drain (1.6km west of Site)	TF17064025
	Old Forty Foot Drain (1km west of Site)	TF17804025

Designation	Name and Relationship to Site	Location
	Old Forty Foot to South Forty Foot Drain (adjacent to north west corner of Site)	TF18193997
	Broadhurst Drain East (1.6km north west of Site)	TF18124127
	Willow Farm Drain (1.1km to west of Site)	TF17754040
Conservation Areas	None	
Ancient Woodland	None	
Scheduled Monuments	Roman Saltern at Helpringham Fen 1km to the south west, beyond the South Forty Foot Drain.	TF17273849
Listed Buildings	Three located over 2km from Site, east of Bicker. Table 11.	
World Heritage Sites	None	
Registered Parks and Gardens	None	
Registered Battlefield	None	

4.5 Land Use and Vegetation

The area demonstrates the intensively farmed nature of the typical fertile soils of the Fenlands with geometric field drains defining the field pattern in the more recently reclaimed areas compared to a less rigid system in the settled landscape.

Shelter belts and occasional small blocks of woodland occur associated with settlement areas, road junctions and isolated farmhouses. A few unmanaged hedgerows remain.

4.6 Settlements

Land use is intensive agriculture and the settlement pattern reflects this. The villages to the east of the Site which lie in the Settled Fen Landscape Character type include Northorpe and Bicker, with satellite settlements such as Bicker Gauntlet and Bicker Bar. Beyond the 2km zone are the larger settlements of Donington and Swineshead which have developed along the A52. The villages appear to have nuclear cores with later linear development along approach roads. Views from the settlements towards the Site vary and depend on local screening afforded by hedges and shelter belts.

Development has spread, with the outskirts of Donington, Northorpe and Bicker extending to just within the 2km zone. Within the majority of the Study Area, settlement on both sides of the Forty Foot Drain is dispersed and isolated, reflecting the pattern of land holdings assigned during the 19th and 20th Centuries.

4.7 Transport Infrastructure

4.7.1 Roads

The local road pattern includes the A52 trunk road on the margin of the Settled Fen, over 2km to the south, linking the older villages with a more organic pattern of minor winding roads connecting the villages to the geometric pattern of minor roads across the open fens. Some minor roads traverse the landscape in close proximity to the Site, including Bicker Drove.

In Area A1, the linear minor roads and tracks linking farmsteads and isolated dwellings such as North Ing Drove, Bicker Drove and North Drove are truncated by the South Forty Foot Drain, and the lack of through traffic increases the sense of remoteness.

To accommodate traffic associated with the Viking Link Converter Station a 2.4km access road and a bridge over the Hammond Beck are to be constructed.

4.7.2 Public Rights of Way

Public Rights of Way within the Study area are illustrated on Figure 04 and are linked to the settlements, drains, tracks and minor roads across the landscape. Within the Study Area segments of 19 PRoWs occur, including a section of a National Trail, the Cross Britain Way. No footpaths cross through or immediately adjacent to the Site.

The Cross Britain Way is a long-distance footpath extending 280 miles from Boston to Barmouth on the west coast of Wales. Within the Study Area the route passes west from Donington and follows the North Ing Drove road out to the South Forty Foot Drain before continuing south along the embankment.

Assessment of the five PRoWs to the west of the South Forty Foot Drain, PRoW 10, 17, 14/15 13/16 and 18, were included in the initial assessment. The embankment of the Drain has the potential to limit long distance views towards the east and prevent views of the Site where it is high enough to do so.

5.0 Avoidance Measures

5.1 Design

Established principles of design have been incorporated into the layout, taking a range of constraints into consideration to minimise effect, with additional mitigation planting where appropriate.

The proposed solar farm site comprises an area of up to 80.36 hectares onto either a fixed or tracking mounting system set within the existing geometric field pattern. With the topography of the Site being basically flat with very minor variations in the levels, only sections of the solar panels would be viewed from any one direction, reducing the potential visual impact. Elevated views from the South Forty Foot Drain embankments are more significant.

The layout of the panels has been designed to be sympathetic to the local landscape, with panels set close to the existing wind turbines, the electricity generating station and the new Triton Knoll and Viking Link sub-stations. The integration of the Proposed Development with the surrounding landscape pattern and structure is addressed by the mitigation embedded into the proposals including the retention of features within the landscape, such as the existing drain lines. Where hedgerows are sparse and non-existent, new boundary features would be created by native indigenous hedging.

A buffer of 20m would be maintained to the east of the South Forty Foot Drain and a buffer of 11m would be maintained against all boundary drains and 5m from internal drain margins.

Any existing scattered shrubs at the base of the South Forty Foot Drain embankment and the developing vegetation associated with the existing infrastructure would be retained.

The arrays of solar panels would be mounted on pile-driven metal frames, supported by metal posts with no concrete foundations. The arrays of solar panels, set out in rows, would not exceed a maximum of approximately 2.75m in height; would be dark blue/black in colour with an aluminium (or similar) frame; and are designed to maximize sunlight absorption whilst controlling glint and glare to receptors, particularly road users. The manufacturer's finish would control glint and glare.

The other associated infrastructure, such as the inverters, would be set largely within the area of the panels. Please refer to the Development Zones Plan and Indicative Site Layout Plan, Figure RNC004 PL-01 Rev 09, forming part of the planning application for more detail in terms of where specific infrastructure would be located within the Site. The taller battery unit would be set by the existing electricity generating station and, although standing above the panels will be of a lower and smaller size to the electricity generating power station and would possibly be unnoticed by a casual viewer.

Security fencing to a height of approximately 2.0m, coloured to blend into the landscape, would be installed along the outer edges of the solar farm, in order to restrict access. This would be sited inside the outermost vegetation, with a buffer ensuring that access is available for hedge trimming and maintenance. With the buffers between the proposed planting, the security fence and any access tracks required the panels would be set nearly 20m from the base of the South Forty Foot Drain embankment and 11m from bank top of the boundary drains. The aim of the boundary planting is that the maturing vegetation would screen the fencing and panels in the long-term. CCTV cameras would be set on the security fence at approximately 3-4m height and 5m spacing.

No permanent lighting is proposed.

Landscape planting aimed to reduce effects following Year 1 is outlined in Section 8.0.

5.2 Layout

The 'Proposed Development' is illustrated in the Illustrative Site Layout RNC004 PL-01 Rev 09. The panels would be arrayed in two discrete blocks adjacent to, and around, the existing wind turbines, set in an area of landscape that is degraded by the existing electricity generating station and associated pylons and cables. The landscape containing these elements does not reflect the characteristics described in the broader landscape descriptions.

At Year 1 it is recognised that the installation of solar panels represents a change from the existing view containing wind turbines, the electricity generating station, pylons and sub-stations, to one with additional solar arrays at ground level creating an additional industrial element of a different appearance, scale and proportion.

The key characteristics of form and pattern of the geometric landscape would be retained and the spacing between the arrays would allow the development of a grassland sward between and beneath, retaining an agricultural element to the Site. The panels would have a low profile in the landscape compared to the existing and proposed features. The panels would be visually overshadowed by the Bicker wind turbines and associated infrastructure; the local network of pylons and overhead wires in the area and the two additional substations that are being constructed to support offshore energy resources.

In the context of the flat landscape, the solar panels would not be a prominent feature compared to the existing industrial features when viewed from areas beyond the immediate environs.

5.3 Construction Phase

The majority of impacts arising from the Construction Phase would relate to disciplines such as transportation, noise, air pollution and ecology considerations.

Activities would include the delivery and removal of construction materials; site ground preparation; erection of housing using construction machinery and material hauling, layout of infrastructure and final landscaping.

The construction phase would last for a period of 24 weeks including time for ground preparation, the installation of panels and other equipment and landscaping.

5.4 Operational Phase

The operational stage would be for 40 years, during which time there would be no planned changes to the structures. Access visits would occur for maintenance of the panels and ground maintenance. Such activities would be visually integrated into the local industrial area.

5.5 Decommissioning Stage

The panels and associated structures are not permanent and would be removed after 40 years. The ground would revert back to open arable fields as required.

The temporary and reversible nature of a solar farm is an important consideration in assessing effects.

6.0 Assessment of Landscape Character Effects Year 1

6.1 General

In accordance with GLVIA3 guidance, a project and site-specific appraisal of the local character area was undertaken both as a desk top exercise and then verified in the field. The following section considers the local landscape character of the Study Area and the Site and its surroundings.

In doing so, it acknowledges where the broader assessments apply or where there is divergence due to local factors. This assists in determining where guidance and strategies defined at a larger scale may or may not be applied to individual sites.

The potential effect of the Proposed Development on the landscape character area is assessed based both on the attributes of the receiving area and the characteristics of the proposed development. The condition of the receiving landscape; material effects based on the scale of the proposal; and the key characteristics, the combined elements that give an area its sense of place, also contribute to sensitivity. The key characteristics of the landscape character types / areas are considered, along with the scale, openness, topography, patterns of development land cover, contribution of historical assets and land uses.

In order to assess whether the wider landscape character would be affected, the potential effect on both the landscape character type and the key characteristics that contribute to the sense of place within that landscape, are considered.

The Site of the proposed solar farm is approximately 80.36 ha in size and is located within existing flat and open agricultural land to the west and south of the existing wind farm at Bicker Fen, South Lincolnshire illustrated in Figure 01. Renewable power generation is already a prominent component of the land use within the Study Area.

Given the flat topography and limited hedgerow planting in the locality it is recognised that the area to the east of the South Forty Foot Drain will theoretically experience a wide zone of visual intrusion which declines with distance due to the flat topography. Therefore, the LVIA report advises that mitigation planting should take place around the boundaries of the Site in order to break up the visual mass and provide a natural screen.

6.2 Landscape Character

6.2.1 Description

Study Area

As has been shown in Section 4.0 Landscape Baseline, Figure 01, within the Study Area the landscape reflects minor variations of the key characteristics that have been identified within the broader description of the Fens NCA.

The local character areas within 2km are typical flat open fen topography lying between 2m AOD and 4m AOD and the occurrence of minor topographical variations within that range would probably be unnoticed by the casual viewer. To the east the slight level changes mark the transition to the Settled Landscapes B1 with a gradual rise towards 4m AOD where the settlements of Donington and Swineshead are located.

Both the Regional and more local landscape character area descriptions emphasise the contrast between the geometric drainage and settlement pattern of the 19th and 20th Century compared to the 'more organic' development of the road patterns in the settled area during and after medieval times. This is demonstrated in the Study Area by the geometric field pattern and isolated farmhouses that reflect the 19th century settlement pattern in the landscape local to the Site and, to the east, the older villages.

A range of key landscape elements such as the existing vegetation, the footpaths, and the heritage assets within the settlements also contribute to the appreciation of the landscape at a community level.

Set within the fen landscape there is the existing wind energy infrastructure; prominent vertical visual features that are seen over a wide distance. With the prominent features associated with renewable energy the area is not considered to be an example of a typically tranquil fen landscape.

Site

The Site is located within the open agricultural landscape adjacent to the Bicker wind farm which is visually significant. The turbines and associated infrastructure dominate the landscape by the Site. The Site itself encompasses a group of arable fields defined by the geometric pattern of field drains with the prevailing relief on the Site lying between 2m Above Ordnance Datum (AOD) in the south towards a slightly elevated area of a minor ridge of 3m AOD in the north west corner.

The minor variations in the topography are illustrated in the Flood Risk Assessment report.

The South Forty Foot Drain provides a strong boundary feature to the west, with long distance views truncated by the raised flood embankments. The elevation height of the embankments is not fixed and varies along the lengths of both the west and east embankments immediately adjacent to the Site. From LIDAR the length of eastern embankment adjacent to the Site is approximately 4.5m AOD rising to 5.2m AOD towards the southern area of the Site. The parallel western embankment lies approximately 4.9m AOD at the northern end rising to 6.1m AOD at the southern end.

The Site is open and exposed with very little existing vegetation and contributes to the wider fen landscape but this contribution diminishes with the juxtaposition with the Bicker wind farm and associated infrastructure. The very

nature of the flat landscape provides the potential for creating a well-screened development which, in the long-term, would have a localised influence on the landscape character.

The panels would be located in fields adjacent to the existing wind turbines extending the apparent industrialisation of the area and the location is designed to visually contain the effect within the area already affected by the wind turbine site. The sub-station and battery storage facility would be set alongside the existing electricity generating station and would possibly not be noticed by the casual viewer.

With static panels, the angle of the panels, set in west east rows facing south would mean that, from the more settled area to the east, only the sides of the panels at the eastern edge of the Site would be seen. On a tracking arrays the face of the panels would be seen during part of the day.

6.2.2 Sensitivity in terms of Susceptibility and Value

Consideration is given as to whether the Proposed Development would alter or adversely affect the wider landscape character area.

The Site itself is not subject to any National, Regional or County designations relating to landscape. The RCA and LCA descriptions do not identify significant landscape value in the site locality nor is there evidence to indicate that a relatively higher value is placed on this area of undesignated landscape other than as an integral part of the wider fen landscape.

The Site falls within the Boston Borough and the 2009 assessment determines that the overall landscape character sensitivity of Area A1 is **Moderate** to **High** and B1 is **Moderate.** However, this is a generalisation for the entire area. The industrial influence around the existing Bicker wind farm with all the associated building and pylons reduces the sensitivity.

There would be a long-term, temporary change from open fields, with views through and beyond the existing turbines, to a new land use creating a different visual appearance at the base of the turbines, one of industrial texture, form and colour and an increase in height.

Within the wider area the Proposed Development would be seen in the context of existing landscape features which create a localised industrial landscape. The flat landscape and existing industrial features reduce sensitivity to change at this location.

The landscape character factors Table 01 indicate that the local landscape could accommodate the proposals – there is an absence of strong topographical variety, a simple regular landscape pattern and a strong presence of industrial elements which are close to visible signs of human activity that reduces the sense of remoteness.

From Table 02 it is determined that, although the addition of solar panels in the landscape has consequences that change the appearance and character of the Site, the industrial presence of the Bicker wind farm and construction of the two substations north and south of the Site diminish the field's contribution to the wider Fen landscape and the adverse effects are localised. Mitigation is possible and the susceptibility to change is given as **Medium - Low.**

In terms of the value of the landscape, Table 03, the landscape has a **Local** value, contributing to the wider fenland setting.

These features result in a localised landscape area with a greater capacity to absorb the proposed change which will not be out of character with the immediate surrounds.

With a susceptibility of **Medium – Low** with consequences likely to the landscape of **Local** value, Table 03, the result is a **Medium – Low** sensitivity to change, Table 04. The landscape in this immediate locality is considered, therefore, to have the capacity in this localised area to absorb the proposed development.

6.2.3 Magnitude of Impact

A solar farm development should be considered in a different category to other forms of development such as residential or industrial. Generally, a solar farm has a less significant development footprint owing to the height, and entails the addition of temporary structures in the landscape, usually retaining the existing field structure, and through mitigation, often enhancing landscape form.

A conclusion in the assessment that an effect may be substantial should not necessarily warrant a planning refusal as the level of effect needs to be qualified with respect to the scale over which it is felt, and the type of the effect. An effect may be locally substantial or substantial with respect to a small number of receptors but not substantial when considered in the wider context.

In respect of a solar farm, consideration is given to any physical changes to the landscape, integration of the development into the surrounding landscape and opportunities for enhancement.

Within the limited extent of the Site it is recognised that the panels would diminish the long distance views and sense of openness adjacent to the wind farm. However, this is offset by the containment adjacent to existing industrial elements and, largely because of the siting by the wind turbines, changes to the landscape character would be of a **Medium** magnitude, Table 05, as it would be introducing elements that are prominent but not considered substantially uncharacteristic when set within the attributes of the receiving landscape.

Within the wider Fen area as a whole, the turbines and infrastructure dominate the skyline for an extensive area across the landscape. From a distance, the solar panels would be relatively unnoticed at the foot of the turbines and would not be

a dominant feature in the landscape viewed from much beyond the immediate context. The scale of impact would be of a localised extent and reversible nature and not result in significant change to the overall identified landscape character area. The duration of the impact would be 40 years and long-term temporary, and the effects would be reversible upon removal of the array at the end of its lifespan.

Therefore, the combination of the minor scale of the Proposed Development in relation to the scale of the wider landscape character; the constrained zone of influence being confined within the local area; and the long-term but reversible nature of the proposal would be a minor change within the wider area and result in a **Low** magnitude of change on the wider landscape character area, Table 05.

6.2.4 Overall Significance of Effect

The critical question relating to landscape character is whether the Proposed Development would result in an irremediable harm to the landscape character area within which it is located, and to the adjacent character areas which cannot be mitigated.

The Proposed Development would be located in an area where flat local topography, existing infrastructure and existing mature vegetation would combine to minimise views into the Site from the east. Where local views into the Site are more extensive, the potential effect at Year 1 on the local landscape character would be **Moderate**, Table 06 and on the wider character area of **Slight**, Table 06.

6.3 Adjacent Landscape Character Areas

There is no inter-visibility between the character areas on the west side of the South Forty Foot Drain. To the east the proposals would integrate the development into the landscape and from the wider distances it may not be noticed by the casual viewer or seem out of place in the receiving landscape.

Overall, within the wider area with a **Low** magnitude of change within the landscape character area the overall significance of effect, Table 06, would therefore be **Slight.**

6.4 Consideration of Key Landscape Elements

6.4.1 General

The key landscape characteristics are those features which give the landscape a sense of place and contribute to the appreciation of the landscape at a local and community level. Appreciation of the landscape results from an interplay of the physical, natural and cultural components, and the combination of the key characteristics and spatial distribution create the local landscape.

The Site is set away from the local settlement between minor roads which are truncated and therefore do not experience through traffic. The sense of place is of a developed agricultural landscape with strong anthropogenic influences in the immediate area of the Site.

6.4.2 Land Use

The land use within the Site encompasses existing agricultural land and the change to a solar farm would have an inevitable loss of arable use during the lifespan of the project and a change of appearance to a more rigid industrialised form which would be a long-term, temporary effect. The magnitude of change within the Site would be **Large** as it would be a major change to the landscape baseline at the Site. The significance of the change at Year 1 would be **Major - Moderate.**

6.4.3 Landscape Pattern

The geometric landscape pattern within the Site would not be altered, and the existing delineations of boundary and internal field drains would remain in situ.

No significant impacts are identified to the landscape pattern.

6.4.4 Landform

The solar panels would be sited on the existing landform with any minor excavations required at a micro-scale only. No significant changes to landform are anticipated.

No significant impacts are identified to landform.

6.4.5 Vegetation Structure within the Landscape

Vegetation cover within the Study Area is sparse and includes hedgerows or segments of hedgerows and occasional trees along drain embankments, with occasional small woodland groups and shelter belts around the village edges and around isolated farmsteads. On the flat landscape, hedgerows and scattered scrub along drains and field boundaries are important in terms of visual screening and softening. Existing hedgerows on the Site boundaries mainly occur on the east side where screening planting has established around the Electricity Generating Station.

Further change in the land use would occur with the potential for a grass sward to be established between the arrays during the lifetime of the project. The key aim of the management regime of an established sward over the ground would be to maintain the existing soil structure and high fertility. Planting of native indigenous shrubs would take place along boundaries. This local diversification of the land use and contribution of habitats to the wildlife resource would be a **Slight Beneficial** effect on land use**.**

6.4.6 Cultural and Heritage

The historic, heritage or cultural assets within the Study Area include three Grade II listed buildings and a Scheduled Monument. The setting of these assets is given consideration in the Historical Assets report in relation to any potential change accorded by the proposed development.

6.4.7 Settlements

The settlement pattern within the 2km Study Area is influenced by the physical factors in the landscape. The slight rise in the land to 4m AOD towards the east encouraged the development of a line of villages including Donington, Bicker and Swineshead. The villages are located beyond the Study Area. This sense of urbanisation dominates the views to the east.

Individual farmsteads and residential dwellings are scattered at low density through the landscape.

There would be **no direct impact** arising from the Proposed Development on the settlements or settlement patterns.

Impacts to the visual amenity of properties that could be affected are addressed with regards to residential Visual Receptors in Section 7.0 of this report.

6.4.8 Physical Transport Infrastructure

Roads

The significant transport route on the edge of the Study area is the A52 from Boston to Grantham which runs west-east. On the margins of the Settled Fens the A52 trunk road links the older villages. The road is approximately 2km from the Site and is well-screened and occasionally visible in the distance.

Three minor local roads have potential views of the site: From north to south these are North Drove, Bicker Drove and North Ing Drove, all of which are truncated by the South Forty Foot Drain and therefore do not convey through traffic. Vicarage Drove branches from Bicker Drove as the access drive for the Site. The roads branch into further minor access roads as they approach Bicker and Donington.

The Proposed Development would have **no direct impact** on the physical infrastructure of roads but would affect the views of those using these routes which is discussed in Section 7.0.

Public Rights of Way

A limited network of footpaths is present within the 2km Study Area which have developed as links between the settlements. No change would occur to the existing PRoW routes and **no direct impacts** are identified to the pattern.

Impacts to the visual amenity of footpath users are addressed with regards to recreational Visual Receptors in Section 7.0 of this report.

6.5 Summary

Table 13 summarises the assessment of the significance of effect of the Proposed Development on the landscape character and key landscape characteristics within the 2 km Study Area at Year 1. The adverse effects that are of significance in planning terms are in bold. Residual effects at Year 15 are considered in Section 9.0.

With a susceptibility of **Medium – Low** with consequences likely to the landscape of **Local** value, Table 03, the result is a **Medium – Low** sensitivity to change, Table 04. The landscape in this immediate locality is considered, therefore, to have the capacity in this localised area to absorb the proposed development.

Within the limited extent of the Site, changes to the landscape character would be of a **Medium** magnitude, Table 05, as it would be introducing elements that are prominent but not considered substantially uncharacteristic when set within the attributes of the receiving landscape. In respect of the landscape character area with a **Medium - Low** sensitivity and a **Medium** magnitude of change, the potential effect at Year 1 on the local landscape character would be **Moderate**, Table 06 which is of planning significance.

The combination of the minor scale of the Proposed Development in relation to the scale of the wider landscape character; the constrained zone of influence being confined within the local area; and the long-term but reversible nature of the proposal would be a minor change within the wider area and result in a **Low** magnitude of change on the wider landscape character area, Table 05. With an overall significance of effect on the wider character area of **Slight**, Table 06.

In respect of the key characteristics within the character area**,** the highest degree of effects to the landscape identified as Moderate and of planning significance relate to the change of land use over the Site from arable farming to a more industrial appearance with elements of agriculture retained.

Other aspects of the landscape character receive **Slight** to **No direct impact** and the proposed mitigation planting would have a **Slight-Negligible beneficial** effect in the long-term. The majority of effects are therefore not significant in planning terms.

Overall, it is considered that, with effective mitigation planting on boundaries, the local landscape has the capacity to accommodate the proposed development without long-term deleterious effects on the surrounding landscape character area.

Table 13: Landscape Character - Overall Significance of Effect - Year 1

Receptor	Sensitivity Table 02			Magnitude					Significance of Effect Year 1
Landscape Elements	**Susceptibility**: to specific change/project impact (high, medium, low, negligible)	**Value**: replaceability & contribution to wider value (high, medium, low, negligible)	**Sensitivity** combination of susceptibility and Value (High to negligible)	**Size/Scale**: in relation to element (Major, Moderate, Minor, Negligible)	**Geographic scale:** in relation to element (Site, setting, Local, Landscape, regional)	**Duration**: short, medium, long-term, indefinite, permanent	**Reversibility**: Reversible, partially reversible (extent) irreversible	**Summary**: combination of Size, Scale, Duration, reversibility (High to Negligible)	Combination of **Sensitivity** and **Magnitude** (Very Large to Negligible)
Landscape Character Area A1	Rural landscape with human activity and prominent industrial elements Medium	Local Value Common - a Minor contribution to wider landscape character area Replaceable	Medium – Low	Minor	Visible within immediate setting of Site. Local level.	Long-term temporary	Reversible	Moderate within Site. Low within wider character area due to scale and existing Bicker wind farm.	**Moderate** on landscape character in immediate locality. **Low** on wider landscape character area.
Land Use	Loss of area of arable ground. Commonly found land use in area. Low	Found across study area and beyond. Replaceable. Low	Low	Small scale change	Site level	Long-term temporary	Reversible	**Large**	On Site – **Major** Wider area - Slight to Slight Beneficial due to potential for species rich hedge planting consistent with aims for higher biodiversity.
Landscape Pattern	None	Found across Study Area Replaceable Low	None	Additional planting of field scale Negligible	Site level	Long-term temporary	Reversible	None on Site.	**None**
Land Form	Minimal alteration Negligible	Found across Study Area Negligible	Negligible	Size and scale - Negligible	Site level	Long-term temporary	Reversible	No change	No change

Receptor	**Sensitivity Table 02**			**Magnitude**					**Significance of Effect Year 1**
Landscape Elements	**Susceptibility**: to specific change/project impact (high, medium, low, negligible)	**Value**: replaceability & contribution to wider value (high, medium, low, negligible)	**Sensitivity** combination of susceptibility and Value (High to negligible)	**Size/Scale**: in relation to element (Major, Moderate, Minor, Negligible)	**Geographic scale:** in relation to element (Site, setting, Local, Landscape, regional)	**Duration**: short, medium, long-term, indefinite, permanent	**Reversibility**: Reversible, partially reversible (extent) irreversible	**Summary**: combination of Size, Scale, Duration, reversibility (High to Negligible)	Combination of **Sensitivity** and **Magnitude** (Very Large to Negligible)
Vegetation	Opportunity to re-enforce boundaries, conversion of arable to grassland. Medium	Low Local	Low	Minor	Site level and local level as adding structure to the landscape	Long-term temporary	Reversible	Low	Slight – beneficial
Transport Infrastructure and Public Rights of Way:	No direct effect on location, direction or routes of network.	High	For the majority of footpaths there would be no direct effect. High where impacted within 500m	Minor sections impacted by proposals in relation to the wider footpath network.	Generally at Site level. Settings within view would have a Local effect	Long-term temporary	Reversible	Low due to small scale, effects	No change
Settlement Cultural and Heritage:	The project would not impact directly on these elements. Negligible	The settlement pattern is integral to the landscape character and not easily recreated. High – Medium	No direct effect results in Negligible rating of effect despite perceived value	Minor size of proposals in relation to the settlements. No loss of settlement, built form or change to it	Generally at Site level, although setting in open views may have a Local effect	Long-term temporary	Reversible	Negligible	No change

7.0 Assessment of Visual Effects

7.1 Visual Impacts in the absence of Mitigation

Visual Receptors identified through desktop inspection of the ZTV are illustrated on Figure 04 and 05. A qualitative assessment of their visibility of the Site and the level of view is provided along with existing considerations of relevance such as context and screening. This is informed by the site visit. The Sensitivity of the receptor, Table 07 and the Magnitude of the Change, Table 08 are then detailed to arrive at an assessment of the Overall Degree of Effect, Table 09. The Degree of Effect is assessed with regards to the current onsite conditions which are likely to accurately reflect the conditions at Year 1 of the Proposed Development before any potential mitigation measures have had an opportunity to take effect.

The majority of impacts arising from the Construction Phase would be short-term and would have minimal impact on Visual Receptors. The impacts of Construction Phase effects should be addressed with regards to other disciplines such as transportation, noise, air pollution and ecology considerations; however, it is considered that the assessment of the completed array in Year Zero is sufficient to cover construction-phase visual impacts.

During the Operational phase, impacts would be similar to the existing movements within the agricultural landscape and industrial complex.

7.2 Zone of Theoretical Visibility

The Zone of Theoretical Visibility (ZTV) determined from a computer modelling exercise utilising GIS application), illustrates a bare ground Zone of Theoretical Visibility, Figure 03. This refers to those parts of the landscape within the 2km Study Area where the landform would theoretically permit views of any part of the proposed development.

A 'bare-earth' model takes no account of vegetation such as the woodland screening belts, buildings and other screening features in the landscape, illustrated in Figure 02 which would affect the actual view perceived. In this area, the flat nature of the landscape suggests an extensive ZTV, whereas, in the field, the visual envelope is truncated by distance, and where existing structures and buildings in the landscape and existing vegetation foreshorten the views.

Figure 03, the Zone of Theoretical Visibility illustrates that in this locality the flat topography and settlement pattern have a strong influence on the visual envelope with a limited view from the east looking west, where the established vegetation along drains or settlements reduce and soften views. The greatest potential visibility occurs within an envelope on the east side of the South Forty Foot Drain sharply defined by the elevated embankment and from the open landscape to the south and north.

The ZTV illustrates that the majority of areas where a high visual impact would be potentially experienced are open agricultural fields with little movement or

traffic. The most significant visual effects would be for any occupied properties within 500m of the Site and for walkers along the South Forty Foot Drain footpaths. On this site there are no occupied properties within 500m.

The ZTV, therefore, forms a starting point for assessing visual impacts and is used to identify potential viewpoints or to reject potential visual receptors based on a field visit.

7.3 Visual Baseline

Visual receptors are the groups of people who would experience views of the Proposed Development. For all receptors the degree of effect depends on the landform, built form, vegetation and distance from the Proposed Development.

The landscape within the locality of the Site is dominated by the existing wind turbines and associated infrastructure. Long distance views from east to west are limited by the raised embankments of the South Forty Foot Drain.

The selection of visual baseline conditions from selected viewpoints around the Site are illustrated in Appendix A - Figures A1 to A13.

Viewpoints

Representative viewpoints are summarised in Table 14 below and panoramas given in Appendix A – Figures A1 to A13.

Viewpoint 1

Looking north west from Day's Lane, Northorpe the open view is of a flat landscape punctuated with scattered shrubs along the drains and increased vegetation screening around isolated properties. The view includes the Bicker wind farm and all infrastructure details which are prominent in the middle distance with screening around the substation. The existing screening is such that an open view would occur towards the southern section of the Site. Proposed additional planting around the boundary of the Site would not be out of keeping with the existing landscape pattern.

Viewpoint 2

Looking west from Ing Drove on the perimeter of Bicker village. The flat landscape is punctuated by hedges and trees along the drains which soften views and screen much of the Site. The existing turbines, pylons and overhead cables create vertical elements that are prominent in the view and create a cluttered appearance. Gaps in the existing vegetation allow views of the base of some turbines indicating that, without mitigation, the sides of a section of the solar panels would also be in view in these areas.

Viewpoint 3

From the elevated position on the South Forty Foot embankment looking south east there would be immediate clear views across the backs of panels on the northern section of the Site which would impede the existing views through/between the wind turbines and the infrastructure to the far distance. Looking east, the panels would be set against the existing infrastructure associated with the wind farm. Very little vegetation occurs to soften or screen the panels.

Viewpoint 4

From North Ing Drove which forms part of the Cross Britain Way, looking north there would be a clear open view of the panels at the southern end of the Site. Panels facing the viewer would change the perception of the view. Existing screening occurs at the Electricity Generating Station.

Viewpoint 5

The footpath from North Ing Drove passes along Hammond Beck where users would have an open view of the southern end of the Site looking west. The upper end of the Site would be increasingly screened by the existing electricity generation station and the established screening.

Viewpoint 6

The South Forty Foot Drain embankment looking north provides a clear elevated view of the Site set against the backcloth of the Bicker wind farm and the plethora of associated pylons and cables. There is no screening and the base of the turbines are visible. Panels would create a new level of structure in the landscape and would change the openness of the existing long distance views.

Viewpoint 7

Near Crowe Hall on North Drove looking south west. The view is of an open expansive landscape dominated by the existing wind farm with no screening apart from scattered hedges and shrubs along the drains and around the electricity station in the middle distance. The view would be of the backs of panels which would limit views of the Site as a whole.

Viewpoint 8

Ing Farm on South Drove looking west. Pylons and cables are a dominant feature with wind turbines in the middle distance. The Site would be partially seen between the prominent wind farm structures which occur in the flat open landscape in the middle distance. Localised patches of shrubs and screening around the electricity station partially soften views but the base of some turbines can be seen indicating that without mitigation the sides of the panels would be seen in the far distance.

Viewpoint 9

Cowbridge Road looking west has an open view across the flat landscape with small areas of scattered vegetation occurring in the middle and far distance but the apparent open bases of many turbines indicates that there would be a clear view of the sides of the panels to the east and south west. The central area of the Site would be screened by existing structures and vegetation.

Viewpoint 10

From Back Lane near Gauntlet Farm there are long distance views across the open landscape with significantly more vegetation screening than many other views. The appearance of the bases of the turbines is softened by vegetation suggesting that the sides of the panels would be largely screened except where the vegetation cover is thin.

Viewpoints 11 and 12

Little Hale Drove. Views looking east truncated by the high embankment along the South Forty Foot drain which, on the west side stands approximately 2.9m above ground level. The embankment creates a visual barrier which would block the majority of the view of the Site. The panels would be at a level with the embankment but the CCTV cameras would stand approximately 1m above the embankment top. However, at a distance set against the existing landscape features the visual intrusion of the CCTV cameras would possibly not be noticed by the casual viewer. The camera points would blend into the existing backdrop of pylons.

Viewpoint 13

North Drove. Views looking east truncated by the high embankment along the South Forty Foot drain which, along the southern section on the west side stands approximately 6.1m AOD. The embankment, reinforced by a woodland block, creates a visual barrier which would screen the majority of the view of the Site. The panels would be at a level below the embankment and the CCTV cameras would stand just below the embankment level. Any visibility of the camera points would blend into the existing backdrop of pylons.

Assessment

The Site visit confirmed the variation in visibility of the Proposed Development was dependant on the viewer's location in the flat landscape, presence or absence of vegetation between the viewpoint and the Site and the elevated ground along the South Forty Foot Drain.

The adverse effects that are of significance in planning terms occur within a limited zone of influence in the areas immediately close to the Site.

The area from which views of the Site boundaries may be possible, including potentially oblique and non-significant views of the Site, is from an area looking south and north from the higher ground of South Forty Foot Drain where the panels would change the appearance of the landscape at the base of the turbines and the current view through the turbines would be impeded; the immediate local roads and footpaths near to the Site and the residential properties with open view towards the Site.

With respect to potential long-distance views from the ground to the north and south, distance would render the Site indistinguishable amongst the existing pattern of development and mature screening.

Table 14: Summary of Viewpoints

	Location	Sensitivity Table 07	Magnitude of Effect Year 1 Table 08	Significance of Effect Year 1 Table 09
View point				
1	Days Lane Northorpe	Medium	Low	Minor
2	Ing Drove	Low	Low	Slight
3	South Forty Foot Drain looking south	High	Very Large	**Major**
4	North Ing Drove	Medium	Medium	Minor-Moderate
5	Footpath along Hammond Beck	Medium	Medium	Minor-Moderate
6	South Forty Foot Drove looking north	High	Very Large	**Major**
7	North Drove	Medium	Medium	Minor-Moderate
8	South Drove	Medium	Medium	Minor-Moderate
9	Cowbridge Road	Medium	Medium	Minor -Moderate
10	Back Lane	Medium	Low	Minor
11	Little Hale Drove	Medium	Low	Minor
12	Little Hale Drove	Medium	Low	Minor
13	North Drove	Medium	None	None

7.4 Visual Receptors

Visual receptors are the groups of people who would experience views of the Proposed Development. Visual receptors identified through the desktop assessment and the Site visit are illustrated on Figures 04 and 05.

A qualitative assessment of visibility of the Site, informed by the Site visit, and the level of view is provided along with existing considerations of relevance such as context and screening. The Sensitivity of the receptor and the Magnitude of the Impact is detailed to arrive at an assessment of the Overall Degree of Effect utilising Tables 07 to 09.

For all receptors the degree of effect depends on the landform, built form, angle of view, existing vegetation and distance from the Proposed Development. The Degree of Effect is assessed with regards to the current onsite conditions which are likely to accurately reflect the conditions at Year 1 of the Proposed

Development before any potential mitigation measures have had opportunity to take effect.

7.5 Visual Receptor: Residential

Potential visual receptors for residential properties identified through the desk top assessment of the ZTV are illustrated in Figure 05 Point Visual Receptors and given a unique reference number RRE x. This relates to Residential, Recreational and Employment receptors which are illustrated with indicative or representative point locations.

7.5.1 Settlements

Donington

Receptors within the residential properties of Donington would be over 2km from the Site and would frequently be screened by the built form and existing screen vegetation. Sensitivity would be **Low** and, where views occur, the effects would be of a **Low** magnitude resulting in an overall **Slight** potential significance of effect.

Northorpe

The settlement of Northorpe lies ~2km to the south east of the Proposed Development. Dwellings along the outer edges would be partially screened from the development by established features. Viewpoint 1.

Views are likely to be minor glimpses within a wider vista and whilst the Proposed Development may, in some places, represent a minor additional contribution to the existing renewable energy development within the view, they would not be a novel introduction.

The receptors would be of **Medium** sensitivity and the effects would be of a **Low** magnitude resulting in an overall **Minor** significance of effect.

Bicker

Bicker is located ~2.5km from the Site with linear development along the approach roads. The potential visibility from the village itself would be low but would increase the closer the property is to the Site and from then would be dependent on the degree of existing screening. Along Back Lane the view to the Site would be largely screened by the existing structures and vegetation. Viewpoint 10.

The receptors would be of **Low** to **Medium** sensitivity. The ZTV and field survey indicated that the visual effects would be of a **Low** magnitude resulting in an overall **Minor** to **Slight** significance of effect.

Properties west of the South Forty Foot Drain.

Properties are set some distance from the drain. This combined with the heights of ground level and the embankments make visibility of the panels unlikely but, where the embankment is slightly lower, the CCTV cameras may be seen.

The receptors nearest to the Site at approximately 750m are Brandy Barn and Eau End Farm which are located on the confluence of the Helpringham Fen and the South Forty Foot Drain. The view across towards the Site is opened out by the gap in the embankment although mature vegetation does provide additional screening at ground level. Given the distance from the Site, the properties would be of **Medium** sensitivity. The visual effects would be of a **Medium** magnitude as the solar arrays would be a conspicuous element in the landscape resulting in an overall **Minor -Moderate** significance of effect.

The receptors close to the embankment such as River Farm would have a **High** sensitivity and properties further away such as Coot Hall Farm and properties along South Drove would be of **Medium** to **Low** sensitivity. The ZTV and field survey indicated that the visual effects would be of a **Negligible** to **None** magnitude of effect resulting in an overall **Minor** to **None** significance of effect.

Properties east of the South Forty Foot Drain

Properties within 500m

Within this distance sensitivity of a visual receptor is **High**. However, the properties within 500m illustrated on the OS map include Villa Farm RRE 04; and Poplar Tree Farm RRE 22 both of which are used for storage with no residential element.

Properties within 0.5km to 1km

No properties occur on the east side of the South Forty Foot Drain in this zone.

Properties within 1-2km

The identified receptors include properties along North Ing Drove; Day's Lane Northorpe; Ing Drove; South Drove; Cowbridge Road; Back Lane, Longhedge Drove; and North Drove

For views from properties over 1km with oblique or screened views there would be a **Low** sensitivity, the magnitude of the impacts would be **Low.** With the proposals constituting a minor component of the wider landscape the overall significance of the visual effect would be **Slight.**

7.6 Visual Receptor: Employment

Various residential properties listed above are farmsteads which include a mixed residential and employment use. It is considered that impacts to the residential

amenity is likely to be more significant than employment amenity and therefore these properties are not considered in terms of Employment use.

The sensitivity for employment within the agricultural landscape and the existing industrial site with a view of the Site would be **Low**. The magnitude of the impacts would be **Low** to **Negligible**, with the proposals constituting a minor component of the wider landscape and the overall Significance of the visual effect would be **Slight** to **Negligible**.

7.7 Visual Receptor: Transport Links

Transport links within the Study Areas refers to roads. Consideration of footpaths and bridleways is considered under Recreational Receptors below, given that recreation is anticipated to be the primary purpose for users of the footpaths rather than as a means of moving between destinations eg. commuting.

The receptors using roads within the 2km Study Area included routes along the A52, minor roads within the villages and truncated minor roads extending through the fen areas. None of the local routes passing near to the Proposed Development are classified as scenic routes.

Views from the A52 are limited by distance and views towards the Site across an open landscape are dominated by the Bicker turbines and infrastructure although occasionally screened by vegetation and existing residential development. Where views occur the solar panels would most likely be viewed as a mass within the existing vertical structures The magnitude of the visual effects would be **Negligible** magnitude and the overall significance would be **Negligible.**

Views are limited to users of the minor roads crossing the Fens but as these are truncated by the South Forty Foot Drain the use will be predominantly local. North Ing Road from Northorpe; from the village on Bicker Ing Drove, South Drove and Cowbridge Road would experience views and, on the north side, users of Back Lane from Bicker North Drove, and Longhedge Drove would experience views in. The proposed development would appear as an area set beneath the turbines and therefore not out of character. Where apparent to the casual viewer, the proposed development would only be a minor component in the wider landscape and not a significant effect.

The higher sensitivity of road users would be within 0.5km and categorised as **Medium.** The magnitude of the visual effects for travellers would be of **Low** to **Medium** magnitude and the overall significance would be **Minor -Moderate** to **Minor.** Beyond 0.5km the overall significance would reduce to **Minor.**

7.8 Visual Receptor: Visitors to Landscapes or Attractions

There are no visitor attractions within the Study Area.

7.9 Visual Receptors: Recreational

Recreational receptors within the Study Area are primarily associated with footpaths/trails. Public Rights of Way are linked to the drains and tracks across the landscape. Within the Study Area segments of 19 PRoW occur including a section of the National Trail, the Cross Britain Way.
Potential visual receptors for recreation include:

- The long-distance Cross Britain Way which passes from Donington to Northorpe and along the North Ing Drove to the South Forty Foot where it turns south before passing west parallel to the Bridge End Causeway. Cross Britain Way is a long distance footpath extending 280 miles from Boston to Barmouth on the west coast of Wales. Within the Study Area the route passes west from Donington and follows the North Ing Drove out to the South Forty Foot Drain approximately 1km south of the Site before continuing south along the embankment.
- Various short footpaths extending from Northorpe and Bicker into North Fen and Bicker Fen respectively.
- Connecting Cowbridge Road south to the A52 and beyond following the line of Hammond Beck and the Hammond Drain.
- Footpaths along the South Forty Foot Drain embankment to the west of the Site.

Within 0.5 to 1km ZTV

Within this distance, the sensitivity of receptors using Public Rights of Way would be **High.** Significant views would be experienced from open stretches along Public Rights of Way crossing the landscape:

- PRoWs 01,11,12,19 passing along both banks of the South Forty Foot Drain embankment with elevated views across the Site. From the north, the Site is partially screened at approaches where the substation associated with the Triton Knoll cabling is complete; and from the south the proposed substation for the Viking Link will partially screen the panel from certain locations along the path. Within the current open view encompassing the Bicker wind farm, as well as views to the far distance, walkers adjacent to the Site would be aware of the prominent feature of panel arrays and walkers would experience a **Large** magnitude of change from the existing landscape resulting in a **Major Moderate** significance of effect.
- PROWs 08,07,06 passing to the north culminating on 06 alongside the boundary of the Site by Hammond Beck. Users travelling north would experience open views towards the Site mitigated slightly by distance. Walkers would experience a **Medium** magnitude of change from the existing landscape resulting in a **Moderate** significance of effect.
- PROW 02 along North Fen Drove with views directly towards the Site approximately 1km away walkers would experience a **Large** magnitude of

change from the existing landscape resulting in a **Major Moderate** significance of effect.

- PROWs on west side of South Forty Foot Drain, screened by the embankments and existing vegetation walkers would experience a **Negligible** magnitude of change from the existing landscape resulting in a **Minor** significance of effect.

Over 1km

- Along the Cross Britain Way on North Ing Drove walkers would currently experience unimpeded views towards the wind farm and through to the further distance. The addition of solar panels would alter the long distance views towards the north east; a view that would further change with the completion of the substation for the Viking link. The distance reduces sensitivity to **Medium**, walkers would experience a **Medium** magnitude of change from the existing landscape resulting in a **Minor Moderate** significance of effect.
- The ZTV indicates that users of footpaths PRoW 02, 03, 09 on the outskirts of Northorpe would potentially experience views across the open landscape towards the Site. Existing screening reduces the potential visibility. The sensitivity of footpath users at this distance is **Medium**. The magnitude of change would be **Medium** to **Low** with an overall significance of effect of **Minor-Moderate** to **Minor.**

Table 15: Visual Receptors Significance of Effect Year 1

Visual Receptor	Sensitivity Table 07	Magnitude of Effect Table 08	Significance of Effect Year 1 Table 09
Residential - Donington	Low	Low	Slight
Northorpe	Medium	Low	Minor
Bicker	Low to Medium	Low	Minor to Slight
EAST of South Forty Foot Drain **Residential within 0.5km**	High	No residential properties	No residential properties None
Residential within 0.5 km to 1km	Medium	None	None
Residential 1km to 2km	Medium	Low	Minor
WEST of South Forty Foot Drain **Residential within 0.5km**	High	Low	Minor-Moderate
Residential within 0.5 km to 1km **Property Eau End Farm and Brandy Barn** **Remaining properties**	Medium Medium	Medium Low – Negligible	Minor-Moderate Minor – Negligible
Residential 1km to 2km	Medium	Low – Negligible	Minor – Negligible
Employment	Medium	Low to Negligible	Minor to Negligible
Transport Links **A52**	Medium	Negligible	Negligible
Minor Roads within 0.5km	Medium	Medium	Minor Moderate

Visual Receptor	Sensitivity Table 07	Magnitude of Effect Table 08	Significance of Effect Year 1 Table 09
Minor Roads 0.5km – 1km	Medium	Low	Minor
Minor Roads I km to 2km	Low	Negligible	Negligible
PRoW Cross Britain Way	Medium	None	None
South Forty Foot embankments	High	Large	**Major - Moderate**
PRoWs East of Drain 0.5 km – 1km	Medium	Medium	Minor - Moderate
East of Drain 1km to 2km	Medium	Low	Minor
PRoWs West of Drain Within 0.5 km	High	Low – Negligible	Minor Moderate to Minor
West of Drain 0.5km - 1km	Medium	Negligible	Negligible
West of Drain 1km - 2km	Low	None	None

8.0 Mitigation Proposals

8.1 Mitigation Proposals

Mitigation of impacts on the landscape and its visual attributes can be achieved in four ways:

Can the development be located elsewhere? – The applicant has, along with the project team, determined that this location was the most suited for the Proposed Development due to its location in close proximity to the localised industrial landscape created by the Bicker wind farm and the proximity of existing connection infrastructure.

Can the development be changed in terms of the built form, mass, style and character? – These factors have been considered in the design process.

Can the development be screened by or include new landscape elements? – Considered in the design process;

Can offsite compensation of impact be undertaken? – Not required.

8.2 Proposed

The following mitigation planting proposals are integral to the design of the project and are aimed to reduce the effect of the Proposed Development on the local landscape and to integrate the development into the view.

The proposals are located by the Bicker wind farm in order to respect the local distinctiveness of an open rural landscape by minimising sprawl and locating in proximity to the existing industrial elements of greater vertical form. The position of the solar farm takes advantage of the space between the South Forty Foot Drain and the wind farm, thus containing the area of industrialisation in the open landscape. It is appreciated that the proposals will introduce a further change to the local scene with the addition of solar panels around the turbines and sub-stations. The advantage of the Site is the close proximity to the existing elements of renewable energy in the locality of greater scale and proportion. The Site takes advantage of the screening afforded by the features and concentrates the development around the existing development. This influence of the existing manmade form results in a localised lower sensitivity. No lighting is included in the proposals and no light pollution will occur.

In this locality, from certain directions, the vegetation structure is developed and will successfully screen or partially screen the Site from Year 1. Further planting will be an additional feature in the current open landscape adjacent to the South Forty Foot Drain but by connecting it to the existing it will not appear out of place in the local context.

The existing vegetation in the landscape is sparse in places; in others it creates wind breaks and screens, particularly around the settlements. It is essential to

provide some mitigation planting in order to mitigate the adverse landscape and visual effects of the proposed development. It is recognised that the area is open but the recommended linear planting along the ditch lines would not be an alien feature in this landscape; would complement the existing vegetation pattern; and would therefore be appropriate within the local context.

The mitigation design will meet the objectives set out in National policies and in the local policy LP19 as they relate to this Site and would reduce the significance of effect in the areas where a significant visual effect has been identified, as far as reasonably possible. The planting would be based on native species of both trees and hedges to restore and enhance the landscape structure of the area within the Site boundaries and to be in keeping with the local character in terms of species and form.

The landscape mitigation embedded into the proposals will:

- Retain and gap up existing boundary hedges using native indigenous species.
- Plant additional native hedgerow trees to increase form and structure
- Establish species rich grassland under panels.

The planting would be based on native species of hedges to restore and enhance the landscape structure of the area on the Site boundaries and to be in keeping with the local character in terms of species and form.

It is recognised that the proposed planting would take time to mature and become fully effective as a screen. For the purpose of assessment of long-term adverse effects, Year 15 has been adopted as a reasonable time by which planting should be fulfilling the intended function.

Between the panels a grass sward would be created. If sheep grazing is not feasible, the sward would be cut twice a year.

9.0 Residual Degree of Effect - Year 15

9.1 General

Where the effects would be significant in planning terms at Year 1, the residual effects after the proposed mitigation planting has developed have been considered. At this stage, where the effect was not considered to be significant in planning terms at Year 1, the item has been scoped out of consideration.

With mitigation planting, the development would gradually be integrated with the surroundings in a manner that is not out of keeping with the existing landscape and the adverse effects would be reduced. The vertical structures of the wind farm, infrastructure and additional substations would still be prominent features in the landscape but the visual effect of the solar panels at 3.0m high would gradually be reduced and eventually practically screened from views, except for elevated views from the South Forty Foot Drain. By Year 15 the new boundary planting will provide a visual screen around the Site that would not be out of keeping with the existing landscape structure in this locality.

9.2 Residual Degree of Effect: Landscape Character

The proposed planting would be established by Year 15. In the localised area of the Site the openness of the fen landscape would be changed but the boundary planting would contribute a positive beneficial effect on the local landscape character.

By Year 15, the development would form an established feature within the landscape setting. The shrubs would gradually soften the Site as they mature and by Year 15 the Site would be effectively integrated within the local area.

9.3 Residual Degree of Effect: Viewpoint Receptors

The views from the footpaths along the embankment of the South Forty Foot Drain would not be totally screened, but the 20m offset and the softening effect of the proposed planting along the boundary will contribute to reducing the adverse effects of the proposals.

With additional landscape planting based on developing the biodiversity interest of the site, the significance of the change over the long-term would become **Moderate.**

Table 16: Residual Degree of Effect - Viewpoints.

	Significance of Effect Year 1	Mitigation	Residual Significance of Effect Year 15
Viewpoint			
3	**Major - Moderate**	Boundary planting adjacent to embankment managed at 4m height. From elevated view panels would remain conspicuous in the view.	**Moderate**
6	**Major- Moderate**	Boundary planting managed at 3m height. From elevated view panels would remain conspicuous in the view.	**Moderate**

9.4 Residual Degree of Effect: Visual Receptors

The impact of the mitigation measures detailed in Section 8.0 and illustrated in Figure 08 are subsequently considered in terms of individual Visual Receptors in Table 17 below which would have a significance of effect of significance to be of planning concern.

For the purposes of this assessment, the residual impact at Year 15 is only considered for receptors who would experience a significant change to the view. Only two elements reached that level at Year 1: Residences within 0.5km of the site on the east side of the South Forty Foot Drain and walkers along the elevated footpaths on the drain embankments.

The visual envelope within which the proposals would be viewed would be reduced and softened by the proposed mitigation planting.

Table 17: Visual Receptors Year 15

Visual Receptor Name	Degree of Effect Year 1	Potential Mitigation Options	Residual Magnitude Year 15	Residual Degree of Effect Year 15
Properties within 0.5km	**Major - Moderate**	Site Landscaping	Medium to Low	Minor Moderate
Footpath users along South Forty Foot Drain	**Major - Moderate**	Site Landscaping	Medium to Low	**Moderate** – Minor Moderate

After completion of construction, the boundary planting would soften the effects and by Year 15 the Site would be integrated into the landscape. For the majority of visual receptors after 15 years and at a wider distance, the development would have become a recognisable feature of the view, softened by the developing soft landscaping.

For receptors with open views of the panels, the development would be largely screened and the new linear lines of vegetation would have become an accepted part of the landscape.

The magnitude of effect of the development during the operational phase for these receptors would be nearer **Negligible** depending upon the distance, existing features, type of property and screening provided by existing properties, retained trees and new planting.

The overall significance of the visual effects after fifteen years would be **Minor Moderate** for properties on the east side of the South Forty Foot Drain within 0.5km of the site, decreasing to **Negligible to None** effects for receptors at a greater distance.

10.0 Conclusion

10.1 General

Landscape Science Consultancy Ltd was commissioned by DWD LLP to conduct a Landscape and Visual Impact Assessment for a proposed solar farm development at Vicarage Drove, Bicker, Lincolnshire.

The purpose of the assessment has been to:

(i) determine the likely effects of the proposed solar farm development on the existing landscape resource; and

(ii) to determine the likely effects upon the range of potential visual receptors within the study area.

The LVIA has been conducted across a Study Area with a radius of approximately 2km from the Site and incorporates the desktop review, field study, assessment using standard techniques and illustration of potential viewpoints. The assessment concentrates on the construction period, Year 1 and the operational stage up to Year 15. Mitigation proposals are recommended, built within the design process, that retain existing landscape features and aim to create a softened landscape edge.

Following National Guidance, well-established principles of design have been incorporated into the layout taking a range of constraints into consideration to minimise effect. These include:

- the layout and landscaping has been designed to be sympathetic to the local landscape, located by the Bicker wind farm in order to minimise any sprawl across open landscape.
- retaining the existing structural landscape features such the geometric drain pattern and existing vegetation.
- including a comprehensive landscape scheme as mitigation planting where appropriate;
- manage the new hedge lines by the South Forty Foot Drain embankment at 4m height and along boundary drains at 3m height to increase their presence in the landscape and add to the green Infrastructure and biodiversity.

10.2 Landscape Character

Once developed, the Site would become an integral part of the landscape adjacent to the Bicker wind farm. The creation of Site boundary features ensure that the development would, in the long-term, merge into the receiving landscape.

The Site currently contributes a minor element to the intrinsic character of the wider Fen landscape and, in that wider landscape, the visibility of the new panels would be a minor element in a wider vista, which in the long-term would probably not be noticed. Within a local area to the Site, the effect would be more significant and applying the principles of the *Guidelines for Landscape and Visual Impact 3rd Edition* the assessment acknowledges that the Proposed Development would, at Year 1, have a significant adverse effect of **Major-Moderate**.

In respect of key landscape characteristics, the assessment acknowledges that the Proposed Development would, at Year 1, have a significant adverse effect of **Moderate** on the onsite land use, but in the wider context, the significance of effects of all landscape elements would be reduced to **Slight to Negligible** by distance and the existing landscape pattern of topography and established vegetation patterns.

In the long-term, the effects on landscape character would be softened by the proposed mitigation planting which would create linear hedge lines around the Site which would not be out of keeping with the current pattern of vegetation to the east of the Site. It is recognised that the proposals would enclose the long distance views between and under the wind turbines but this would only affect a localised area. By grouping the solar panels around the Bicker wind farm the apparent industrialisation is contained visually.

In respect of the Local Plan policies the Proposed Development would not affect the historic environment, listed buildings, registered parks and gardens or the historic landscape character.

It is considered, therefore, that the proposed development would, in the long-term, not be out of keeping in this locality, would continue to form an integral part of the landscape and the proposed development at the site, with suitable mitigation, would not have a significant adverse effect on the local landscape character.

10.3 Visual Receptors

Given the pattern of the landscape and settlement, potential visual receptors are limited to residential properties close to the Site; and the road users and footpath users close to the Site. The visual envelope of the Site is restricted by the flat topography, in that any form of existing screening is effective. Within the envelope the Proposed Development would be in keeping and the significant visual intrusion of the Proposed Development at Year 1 would be limited to receptors in the immediate surroundings.

The assessment acknowledges that the effects at Year 1 there would be visual receptors who would experience **Major - Moderate** Significance of Effect which is of planning significance and that, at Year 15, walkers along the section of the South Forty Foot Drain would continue to experience a level of effect which, although softened by proposed planting, cannot be fully screened.

Overall, it is considered that, with robust effective mitigation planting on boundaries, the Site has the capacity to accommodate the Proposed Development without significant deleterious effects on the surrounding landscape.

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