



Little Crow

Solar Park

Little Crow Solar Park, Scunthorpe

ENVIRONMENTAL STATEMENT

CHAPTER 6

LANDSCAPE AND VISUAL

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6 LANDSCAPE AND VISUAL IMPACT

6.1 INTRODUCTION

6.1.1 Pegasus Group has prepared this Landscape and Visual Impact Assessment (LVIA) Technical Chapter in relation to the proposed construction, operation, maintenance and decommissioning of a ground mounted solar park and associated battery energy storage system with an intended design capacity of over 50MWp (megawatts peak) over an area of approximately 225 hectares. The development site is located to the east of Scunthorpe Steelworks. The assessment has been carried out by Chartered member of the Landscape Institute.

6.1.2 The purpose of this LVIA is to review the development site and its surrounding context in order to describe and identify the relative level of effects arising as a result of the proposed development, in relation to:

- the features and character of the local landscape; and
- the visual amenity of people who view the development site.

6.1.3 The judgements provided within the LVIA may then inform the planning balance to be carried out by the determining authority.

6.1.4 The LVIA is supported by the following Figures:

- Figure 6.1 Site Context
- Figure 6.2 Topography
- Figure 6.3 LVIA Viewpoints
- Figure 6.4 Environmental Designations
- Figure 6.5 Landscape Character Areas
- Figure 6.6 Landscape Masterplan/Mitigation Plan
- Figure 6.7 Exclusion Zone Reserved for Future Mitigation Planting, (if required)

6.1.5 The LVIA is supported by the following Appendices:

- Appendix 6.1 Assessment Criteria (Document Ref 7.17 LC TA6.1).
- Appendix 6.2 Assessment Viewpoint Photographs (Document Ref 7.18 LC TA6.2).
- Appendix 6.3 Viewpoint Assessment (Document Ref 7.19 LC TA6.3).
- Appendix 6.4 Photomontage Visualisations (Document Ref 7.20 LC TA6.4).
- Appendix 6.5 Detailed Landscape Proposals (Document Ref 7.21 LC TA6.5).

6.2 ASSESSMENT APPROACH

Methodology

6.2.1 In accordance with published guidance, landscape and visual effects are assessed separately, although the procedure for assessing each of these is closely linked. A clear distinction has been drawn between landscape and visual effects as described below:

- Landscape effects relate to the effects of the proposals on the physical and other characteristics of the landscape as a resource in its own right and its resulting character and quality;
- Visual effects relate to the effects on specific views experienced by visual receptors and on visual amenity more generally.

Landscape and Visual Impact Assessment Process

6.2.2 The assessment of landscape effects follows a recognised process set out below:

- Identify the baseline landscape resource (i.e. individual landscape elements and landscape character) and its value;
- Describe any mitigation measures proposed to avoid, reduce and ameliorate potential adverse impacts and to maximise the beneficial impacts of the development;
- Evaluate the sensitivity of the landscape resource to the type of development proposed;
- Identify predicted landscape impacts of the development;
- Evaluate the magnitude of change to the baseline landscape resource; and
- Assess the level of residual effect of the development on the landscape.

6.2.3 The assessment of visual effects follows a similar process as set out below:

- Identify a 'bare earth' Zone of Theoretical Visibility (ZTV) for the development using digital terrain data (i.e. the geographical area where views of the development are theoretically possible with a bare earth scenario);
- Identify potential visual receptors for the development (i.e. groups of people who would have views of the development);
- Describe any mitigation measures proposed to avoid, reduce and ameliorate potential adverse impacts and to maximise the beneficial impacts of the development;
- Evaluate the sensitivity of the visual receptor groups to the type of development proposed;
- Describe the nature of the baseline views (usually illustrated by a photograph) and the predicted visual impacts of the development on the views of each receptor group;
- Evaluate the magnitude of change in the view of the receptor groups;
- Assess the level of residual effects on the views from representative receptor groups and on overall visual amenity.

Baseline Information and Assumptions

6.2.4 The baseline landscape resource and visual receptors were identified in part through a desk-based study of published landscape character studies, relevant planning policy guidance, aerial photography and Ordnance Survey mapping. In addition, site visits were conducted during August 2017, January 2018 when the viewpoint photographs were taken and August 2019 when further photography was taken for the photomontage visualisations.

6.2.5 Access during site visits was restricted to publicly accessible locations and within the land ownership of the client. No access was possible to private properties, which were assessed from the nearest available publicly accessible vantage point. Therefore, some assumptions have been made regarding views from private properties. These assumptions have been based on professional experience and interpretation of available desktop data as well as land use and vegetation present at the time of the site visits.

Study Area

6.2.6 Following preliminary desktop research and field work, the study area for the LVIA (used to understand the wider context of the development site's location) was taken to be 5km from the Order Limits. Any views of the proposed development beyond this distance would be negligible and unlikely to give rise to any effects greater than minor.

Assessment of Significance

6.2.7 This LVIA takes the precautionary approach that all effects, unless stated otherwise, are assessed as adverse. The criteria used as guidance in assessing the significance of the effects of the development are outlined in **Appendix 6.1** (Document Ref 7.17 LC TA6.1).

Legislative and Policy Framework

6.2.8 A full and detailed consideration of planning policy is contained in the accompanying Planning Statement. This section provides an overview of the planning policy framework relevant to the landscape and visual matters considered in this LVIA.

6.2.9 At a national level The National Planning Policy Framework (NPPF 2, 2018) sets out the priorities for planning in England and places significant emphasis on the presumption in favour of sustainable development. At a local level, the current development plan consists of the 'North Lincolnshire Local Plan' (adopted 2003) and the emerging documents of the Local Development Framework.

National Planning Policy

National Planning Policy Framework (February 2019)

6.2.10 The NPPF sets out the Government's national policy on land use planning in England. The primary principle of the NPPF is the presumption in favour of sustainable development, which is set out at Paragraph 10 as follows:

"So that sustainable development is pursued in a positive way, at the heart of the Framework is a presumption in favour of sustainable development (paragraph 11)."

6.2.11 "For **plan-making** this means that:

- a) plans should positively seek opportunities to meet the development needs of their area, and be sufficiently flexible to adapt to rapid change;**
- b) strategic policies should, as a minimum, provide for objectively assessed needs for housing and other uses, as well as any needs that cannot be met within neighbouring areas, unless:**
 - i. the application of policies in this Framework that protect areas or assets of particular importance provides a strong reason for restricting the overall scale, type or distribution of development in the plan area; or**
 - ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.**

6.2.12 For decision-taking this means:

- c) approving development proposals that accord with an up-to-date development plan without delay; or**

d) where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless:

- i. the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed; or**
- ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.”**

6.2.13 Section 12: Achieving well designed places - Paragraph 127 states that:

“Planning policies and decisions should ensure that developments:

a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;

b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;

c) 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);

d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;

e) optimise the potential of the development site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and

f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.”

6.2.14 Section 15 Conserving and enhancing the natural environment - Paragraph 170 states that the planning policies and decisions should contribute to and enhance the natural and local environment by:

“a) 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);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services –

including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

- c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;**
- d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;**
- e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and**
- f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.”**

6.2.15 The Framework states at paragraph 171 that:

‘Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.’

Planning Practice Guidance

6.2.16 The Government has published online Planning Practice Guidance (PPG) which for the first time provides all planning practice guidance in one web-based resource.

6.2.17 The PPG draws heavily on the NPPF and other relevant Planning Policy Guidance and also reiterates that Landscape Character Assessment should be used as a tool to help understand the character and local distinctiveness of the landscape and the features that give it a sense of place.

Local Planning Policy

North Lincolnshire Local Plan

6.2.18 At a local level, the current development plan consists of the ‘North Lincolnshire Local Plan’ (adopted 2003) and the emerging documents of the Local Development Framework. Relevant policies with respect to landscape and visual matters include:

- LC7 Landscape Protection
- LC12 Protection of Trees, Woodland and Hedgerows
- LC15 Landscape Enhancement

Scoping

6.2.19 The following landscape and visual comments were provided in The Planning Inspectorate Proposed Little Crow Solar Park Scoping Opinion dated January 2019. These comments have been set out in the following table with an additional column added setting out the responses to each of the matters.

6.2.20 In addition to the comments set out in the January 2019 Scoping Opinion, further information was also verbally requested by PINS in a meeting in February 2019 for a strategic landscape plan which would respond to and be implemented in the event of extensive tree felling or tree loss occurring in the adjacent woodlands surrounding the Order Limits.

6.2.21 The matters set out in the table are discussed further as necessary within in the chapter

Table 6.1: Extract of Aspect based scoping tables from Scoping Opinion for Little Crow Solar park (4.1 Landscape and Visual Impact)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's Comments	Response
4.1.1	6.13, 6.14, and 6.15.	<p>National Character Areas (NCA)</p> <p>The Applicant suggests that the development would only be visible from a small proportion of the wider landscape within NCA 45 and as such, no changes to key identified landscape characteristics are anticipated and a national scale assessment is not required</p>	<p>A national scale assessment that examines the effects of the Proposed Development on National Character Area (NCA) 45: Northern Lincolnshire Edge with Coversands is proposed to be scoped out.</p> <p>The Inspectorate considers that in light of the location and setting of the Proposed Development, adjacent to the Scunthorpe Steelworks complex, well-screened by vegetation, and with limited visibility from the wider landscape, effects at the national scale are unlikely.</p> <p>However, given the need for the Applicant to review the Zone of Theoretical Visibility (ZTV) and redefine the study area (both of which have been based upon below-maximum height parameters), the Inspectorate is of the opinion that impacts to the NCA should not be scoped out. The ES should present the findings of the final ZTV and how this influences the study area including the potential for significant effects to the NCA. Any assumptions made which are relevant to the findings of the assessment e.g. the longevity of screening plantation woodland should be taken into account</p>	<p>An assessment of effects on the National Character Area 45 has been added in.</p> <p>The Screened ZTV has been reset to up to 3.5m maximum panel height.</p> <p>The study area remains at 5km following review of the Screened ZTV.</p> <p>Figure 6.7 Exclusion Zone Reserved for Future Mitigation Planting, (if required). has been prepared to respond to any potential future changes in the screening baseline. E.g. removal or loss of existing woodland surrounding the Order Limits.</p>

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ID	Ref	Other points	Inspectorate's Comments	Response
4.1.2	6.5	The Development Site and its Landscape Features	<p>The Inspectorate notes that Gokewell Priory Farm has not been considered within the context of landscape and visual effects.</p> <p>Gokewell Priory Farm is located within the Order Limits but is undesignated, and therefore has not been captured within the proposed scope of assessment. However, the Guidelines for Landscape and Visual Impact Assessment (GLVIA) 3rd edition, which the Applicant proposes to adopt, requires that the LVIA assessment considers the importance of local landmarks with a 'sense of place and history' and that 'contributes to identity'. As such, the Inspectorate recommends that Gokewell Priory Farm is considered as part of the landscape and visual impact assessment.</p>	References to the former Gokewell Priory Farm have been added including noting that the scheme includes a construction exclusion zone in this part of the development site.
4.1.3	6.6, 6.35, 6.83, 6.84, and 6.85.	Public Rights of Way	Upon establishing the final ZTV, the Applicant should reconsider the potential for impacts to users of public footpaths 214 and 212, as well as the several other footpaths that have been identified within the vicinity of the development site. If significant effects are likely these should be assessed and presented within the ES	Public right of way Footpath 214 runs through the Order Limits with potential visibility
4.1.4	6.27, 6.39 and 6.79 Appendices 6.1, 6.2, 6.3, 6.4,	Zone of Theoretical Visibility (ZTV) and scope of study area/ visual receptors.	<p>Scoping Report paragraph 6.27 states that a ZTV plan has been mapped on the assumption that the proposed panels would have a height of 3m. However, the panel dimensions provided in Chapter 4 of the scoping report are stated to be up to 3.5m tall. Consequently, the ZTV plan may be unrepresentative of the full extent of visibility.</p> <p>In order to demonstrate that the full extent of the Proposed Development has been assessed, the ZTV should be based on maximum height parameters. The ES should clearly evidence and justify the final extent of the ZTV used in the assessment of landscape and visual impacts and ensure that any assessment of significance is based on this maximum extent.</p>	<p>The Screened ZTV has been reset to up to 3.5m maximum panel height.</p> <p>The study area remains at 5km following review of the Screened ZTV.</p>

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			<p>Scoping Report paragraph 6.39 states that the study area for the LVIA will be established 5km from the Order Limits. As the study area is in part defined by the ZTV, the ES should evidence and justify the final extent of the study area.</p> <p>Viewpoint locations that have been identified through ZTV analysis should also be reviewed to confirm whether they remain appropriate. The ES should explain the reasons supporting the inclusion of each viewpoint to be assessed and details of any consultation on the viewpoints with relevant consultation bodies.</p>	
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ID	Ref	Further points (in addition to those set out in the response)	Inspectorate's Comments	Response
-	Verbal comment during meeting on 11.02.19	Existing woodland around the Order Limits.	Provide a strategic planting plan which would respond to and be implemented in the event of extensive tree felling occurring in the adjacent woodlands surrounding the development site.	Figure 6.7 Exclusion Zone Reserved for Future Mitigation Planting, (if required). has been prepared to respond to any potential future changes in the screening baseline. E.g. removal or loss of existing woodland surrounding the Order Limits.

Consultation

6.2.22 A summary of consultation responses to date is provided in Table 6.2 below:

Table 6.2: Summary of Consultation

Consultee	Summary of response	How response has been addressed
<p>██████████, Owner of West and Manby Woodland (March 2019)</p>	<p>"The long-term conservation and enhancement of these woods [West and Manby] is the key objective of our ownership and active management of these woods, and so my queries relate entirely to protecting the woodland for now and for future generations."</p>	<p>As set out in the Arboricultural Survey, Impact Assessment and Protection Plan produced by Barton Hyett at para 11.15 under Tree protection fencing it is stated that, "It</p>

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	<p>The letter sets out several observations and queries relating to the woodland edge and protection of the ancient woodland and individual trees including the following, of relevance to Landscape and Visual matters:</p> <ul style="list-style-type: none"> • Will a tree protection plan be prepared to protect the woodland edge during the construction phase? • The buffer is noted as being 15m – will there be potential to increase this buffer to offer enhanced protection of the ancient woodland? 	<p>is considered that the development site’s security fencing, to be erected around the periphery of the development site would act as an effective tree protection barrier if erected before any construction works commence on site.”</p> <p>The offset from the majority of the woodland is 10m between the Order Limit and the proposed security fence. This offset from the Order Limit is increased to 15m adjacent to the ancient woodland.</p> <p>The proposed panels would be located typically 5m beyond the security fencing and therefore 10m is considered to be a sufficient minimum offset from general areas of woodland increasing to 15m adjacent to the ancient woodland.</p>
<p>North Lincolnshire Council (7th March 2019)</p>	<p><u>Landscape and Visual Impact</u></p> <p>“Having reviewed Chapter 6 of the PEIR I can confirm agreement to the approach to the assessment and mitigation of landscape and visual impacts.”</p> <p>The response also supports the planting of hedgerows adjacent to the security fence and the margins with wildflower seed. In summary the following comments are made:</p> <ul style="list-style-type: none"> • For wildflower seed to be effective the soil conditions must be appropriate and remedial actions may be required. • Maintenance of the hedgerows and wild flower margins must form part of the maintenance proposals for the development site and the lifetime of the project 	<p>Noted.</p> <p>Further information on the delivery of the Landscape proposals is set out in the LEMP (Document Ref 7.28 LC TA7.8) which confirms the requirements for hedgerow planting and maintenance and the sowing of and maintenance of the wildflower seed in line with the comments.</p>

Limitations to the Assessment

6.2.23 There are inherent limitations to any photomontage visualisations included as part of Landscape and Visual Impact Assessments, which are well known and understood. However, whilst they form a useful guide to assist with the LVIA process, none of the assessments set out in this report are reliant on any visual material and instead are based on the professional judgement of the landscape architect undertaking the assessment.

6.3 BASELINE CONDITIONS

Site Description and Context

6.3.1 The development site is located on a localised ridge between the settlements of Scunthorpe to the west and Broughton to the east as shown on **Figure 6.2** Topography. The village of Broughton is separated from the development site by an extensive area of dense woodland. Between the main residential and commercial areas of Scunthorpe, directly adjacent to the western Order Limit, lies the extensive industrial complex of the Scunthorpe Steelworks. To the north the ridge continues approximately 11km to the banks of the Humber Estuary. Also to the north is an area of heathland known as Risby Warren. To the south the ridge runs approximately 35km to the City of Lincoln. A Roman Road, Ermine Street runs adjacent to Broughton to the east of the Order Limits. A secondary scarp slope known locally within Scunthorpe as 'The Cliff' lies to the west. Away from Scunthorpe the landscape is largely rural.

6.3.2 The development site is comprised of arable fields which are bounded and heavily contained by dense woodland to the north, east and south which serve to provide significant screening of the development site from the wider landscape. During the site work, forestry operations were being undertaken in the surrounding woodland and logs were being stored in piles. It is not however apparent that any areas are being clear felled in such a manner that would open up any additional views of the development site.

Baseline Survey Information

The Development Site and its Landscape Features

6.3.3 This section provides a description of the landscape features within the Order Limits and their context within the surrounding study area. The landscape context of the development site and immediate surrounding area is shown in **Figure 6.1** Site Context.

6.3.4 A Public Right of Way (Footpath 214 on the Definitive Rights of Way map, (Document Ref 2.39 LC DRW / APP-043)) crosses the development site. Site work identified that, as it is used on the ground, the route does not follow the exact alignment as it is shown on OS mapping, and instead follows the line of a track which runs within the Order Limits. (This diversion to the track is shown on the Definitive Map (Document Ref 2.39 LC DRW / APP-043)).

Landform and Topography

6.3.5 In terms of landform the development site lies on the edge of a localised ridge, raised slightly above the surrounding landscape, which would generally give potential for it to be visible from much of the wider landscape. However, as the site survey work has confirmed, surrounding woodland encloses much of the development site, and therefore any views remain generally well contained.

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6.3.6 The local ridge forms part of a wider scarp and vale topography as shown on the section on **Figure 6.2** Topography. The development site straddles part of the west facing scarp slope and the east facing limestone plateaux which runs eventually into the lower dip slope towards the River Ancholme.

Land Use, Buildings and Infrastructure

6.3.7 Land use within the Order Limits is agricultural, comprising fields laid down to a mixture of arable and managed grassland. Some forestry operations are being undertaken within the surrounding woodland resulting in the storage of logs in piles next to the main access track through the site. There is no built form within the Order Limits, but a poultry unit is located adjacent to the east, whilst to the west the vast expanse of industrial development associated with the Scunthorpe steel industry lies adjacent to the Order Limit. This area extends for more than 2km beyond which lies the main residential and commercial urban area of Scunthorpe.

6.3.8 A triple row of power lines cuts across the development site. The lines pass through the adjacent woodland but without opening up large gaps through which the development site can be seen.

Landscape Character

6.3.9 Landscape Character is an expression of pattern within the landscape resulting from particular combinations of the natural and historical factors that make one place different from another. This results in areas that have a unity of character and a distinctive sense of place when viewed from a landscape-wide perspective.

6.3.10 Published Landscape Character Assessments that cover the Order Limits have been interrogated and are detailed below, (see also **Figure 6.5** Landscape Character):

- Natural England National Character Area Profiles, (NCA 45 Northern Lincolnshire Edge with Coversands);
- North Lincolnshire Landscape Character Assessment & Guidelines, North Lincolnshire Council, 1999 (SPG5)

National Character Areas (NCA)

6.3.11 The Order Limits fall within NCA 45: Northern Lincolnshire Edge with Coversands. Key characteristics presented in the character area description are as follows:

“NCA 45: Northern Lincolnshire Edge with Coversands:

- **Elevated arable landscape with a distinct limestone cliff running north-south, the scarp slope providing extensive long views out to the west.**
- **Double scarp around Scunthorpe of ironstone, and extensive areas of wind-blown sand, the Coversands, giving rise to infertile soils supporting heathland, acid grassland and oak/birch woodlands, with rare species such as woodlark and grayling butterfly.**
- **Underlying limestone supporting small areas of calcareous grassland.**

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- **Few watercourses on the plateau, which lies between the rivers Trent and Ancholme which flow into the Humber and is cut through in the south by the River Witham.**
- **Productive soils on limestone plateau giving rise to a large-scale landscape of arable cultivation with extensive rectilinear fields and few boundaries of clipped hedges or rubble limestone, supporting birds such as grey partridge and corn bunting.**
- **Semi-natural habitats of acid and calcareous grassland and broadleaved woodland are small and fragmented, and often associated with disused quarries.**
- **Limited woodland cover, with patches of both broadleaves and conifers associated with infertile sandy soils, elsewhere occasional shelterbelts.**
- **Long, straight roads and tracks, often with wide verges; Ermine Street follows the route of a key Roman north-south route.**
- **Nucleated medieval settlement patterns following major routes, especially Ermine Street; sparse on higher land, with springline villages along the foot of the Cliff and some estates and parklands.**
- **Other development comprises the major settlements of Lincoln and Scunthorpe, with their prominent landmarks of the cathedral and steelworks, and several active and re-used airfields prominent on the ridgetop.**
- **Vernacular architecture and walling, especially in villages, of local warm-coloured limestone with dark brown pantiles.**
- **Several ground features, especially on the plateau, include prehistoric burial mounds, Roman artefacts and abandoned medieval villages.**

6.3.12 Whilst this national scale assessment is useful in providing a broad contextual overview of landscape character, it is not intended to be applicable at a site-specific level and therefore it would be unlikely that the site displayed all of the above characteristics. However, the development site is part of an elevated arable landscape overlaying the limestone ridge with limited field boundaries, Risby Warren to the north of the development site is formed from Coversands deposits, Ermine Street a Roman Road lies to the east, and the Scunthorpe Steelworks complex to the west of the development site is very prominent. These elements are typical of the landscape character and context in which the development site is located. In terms of characteristics which are atypical of the wider NCA, of particular note are the extensive coniferous woodlands immediately surrounding much of the Order Limits.

North Lincolnshire Landscape Character Assessment (LCA) & Guidelines, (1999)

6.3.13 The North Lincolnshire LCA identifies six Character Areas that cover North Lincolnshire, each of which are further sub-divided into component local landscape types. The site is located in the 'Lincolnshire Ede Character Area'. This Character Area is sub

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divided into 11 local landscape types of which two, Wooded Scarp Slope (WWS) which contains the lower (western portion of the site) and Heathy Woodland (HW) which contains the upper (eastern portion of the site) are of relevance to the development site, as shown in Figure 4 Landscape Character. The key characteristics of these landscape types, (of relevance to the proposals) are identified as:

Table 6.3: Landscape Types within site area.

Wooded Scarp Slope (Western portion of the site)	Heathy Woodland (Eastern portion of the site)
<p>i) Sinuous scarp slope overlain by coversands and designated as an Area of High Landscape Value.</p> <p>ii) West facing slopes are extensively wooded with small areas of arable farmland, pasture, scrub and rough grass.</p> <p>iii) Where vegetation is limited, views towards Scunthorpe are extensive, otherwise the landscape is well enclosed and of intimate scale.</p> <p>iv) Significant areas have been left to nature, resulting in mainly deciduous woodland with birch, pine, larch, oak, gorse and rhododendron.</p> <p>v) Ecologically important area, with three sites of Nature Conservation Interest.</p>	<p>i) Elevated, gently undulating landscape of deciduous and coniferous woodland containing areas of open scrub and heathland.</p> <p>ii) Attractive character, intimate and enclosed, within the woodland contrasting with more open heath areas.</p> <p>iii) Contains three SSSIs (Broughton Far Wood, Broughton Alder Wood and Risby Warren) and is designated as an Area of High Landscape Value. Ancient replanted woodland at Far Wood, West Wood and Spring Wood.</p> <p>iv) Views to the west towards Scunthorpe restricted by vegetation.</p> <p>v) Local historical interest provided by Ermine Street, a Roman road that bisects the woodland.</p>

6.3.14 Within the North Lincolnshire Landscape Character Assessment & Guidelines (1999) the Order Limits are within the 'Lincolnshire Edge' Character Area, and straddles the 'Heathy Woodland' and 'Wooded Scarp Slope' sub areas. The following extract from Part 1 of the Character Assessment under Landcover and Wildlife is of note in relation to the character of the site:

'Much of the area close to Scunthorpe is blighted by current and former industrial activity. The former rural landscape structure has been lost and the present appearance is degraded and unattractive. However, in the more rural landscape away from Scunthorpe the scenery has been degraded by agricultural intensification. Despite this, woodland blocks remain locally prominent landscape elements.'

6.3.15 In Part 2 of the Landscape Character Assessment, Landscape Strategy and Guidelines the document notes for the Heathy Woodland Landscape Type that in peripheral woodland areas, consideration should be given to the restoration of lowland heathland. Under Wooded Scarp Slope the document notes that the development of hedgerows should

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be encouraged particularly where linking with woodland blocks, to maximise possibilities for habitat linkage and wildlife dispersal.

6.3.16 The development site is within a landscape which is characterised by the adjacent large scale industrial area and the electrical power which the area draws in from the local electricity network. It lies within a farmland area surrounding the town and industry of Scunthorpe, in which in addition to views of the town and the steelworks, pylons cut across the landscape and views include other large scale industry and wind turbines beyond.

6.3.17 The character of the development site is also in part influenced by the adjacent woodland, the extent of which is notable in a Lincolnshire context. There are also valuable heathland habitats in the wider landscape to north, but the development site is in intensive arable production, in keeping with much of the local farmland.

Landscape Designations

6.3.18 There are no Landscape designations within the Order Limits. (See **Figure 6.4** Landscape Designations). As referenced under Heathy Woodland in the North Lincolnshire Character Assessment (See Table 6.1 above) the eastern two thirds of the development site previously fell within an area designated in the North Lincolnshire Local Plan (Adopted May 2003) as an Area of High Landscape Value however this policy was not saved in September 2007 when the Adopted Local Plan was reviewed. Portions of the woodland to the east of the development site are designated as Ancient Woodland.

6.3.19 The assessment of potential effects on features and designated areas concerned with the historic environment (such as World Heritage Sites, Scheduled Ancient Monuments, Listed Buildings and Conservation Areas) does not form part of this assessment. The identification of these however can be important in providing an indication of the value and quality of the wider landscape character as well as an indication of potential sensitive visual receptors and areas from where existing views towards the site are potentially more sensitive to change.

Conservation Areas

6.3.20 The development site does not lie within or adjacent to a Conservation area. Four Conservation Areas lie within the 5km study area as illustrated on **Figure 6.4** Landscape Designations, at Appleby to the north, Scawby to the south and two in Scunthorpe.

Scheduled Monuments

6.3.21 There are no Scheduled Monuments within the development site. The closest lies to the south of the site at Raventhorpe medieval settlement earthworks immediately south west of Raventhorpe Farm.

Listed Buildings

6.3.22 There are no Listed Buildings within the development site. The site and grounds of the former Manby Hall lies to the immediate south west of the Order Limits. This property fell into total ruin in the Mid part of the last century it is no longer standing, it is not subject to a statutory designation.

Other Heritage Features

6.3.23 The Archaeological Evaluation at Appendix 8.5 (Document Ref 7.34 LC TA8.5) notes the archaeological background of the development site which includes the site of a former Cistercian Nunnery known as Gokewell Priory located in the northern part of the

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development site, established in the 12th Century and dissolved in the 16th Century. Gokewell Priory Farm was established in the 12th Century and material from the former Priory may have been used in the construction of the farm. Gokewell Priory Farm was itself abandoned and demolished in the late 20th Century.

6.3.24 An exclusion zone covering the site of Gokewell Priory, within which no development works will take place has been built into the layout. This will be marked with a fence screened by a native hedgerow

Baseline Visual Receptors

Extent of Visibility

6.3.25 In general, the position of the development site on a localised ridge ought to make it notable in the landscape but the woodland surrounding the site limits the potential for views to the north, east and south. Furthermore, the large built form of the steelworks to the west of the development site, particularly the long rolling mills, limits the majority of potential views from the town.

6.3.26 A 'screened' Zone of Theoretical Visibility (ZTV) plan (**Figure 6.3** LVIA Viewpoints) has been produced which illustrates the theoretical extent of where the proposed development would be visible from, assuming 100% visibility, and includes the screening effect from vegetation and buildings. This has been generated on the assumption that the proposed panels would have a maximum height of 3.5m. Indicative woodland and Building heights are modelled at 15m and 8m respectively.

6.3.27 The screened ZTV plan is a tool to help illustrate locations where views of the proposed development would not be possible so as to allow the focus of baseline studies to be made on those locations where views are theoretically possible.

6.3.28 Following desktop research and site visits, it is evident that the extent of actual visibility of the proposed development is even less than is suggested by the screened ZTV plan. Visibility would generally be limited to the immediate environs of the Order Limits owing to the combined effect of topography, built form particularly in terms of the large buildings associated with the steelworks and the mature plantation woodlands surrounding much of the site.

General views and screening elements

6.3.29 As noted above views within the wider landscape beyond the site are restricted by the scarp and vale topography, and the influence of screening elements in the immediate environs of the site.

6.3.30 To the north, the development site is largely enclosed by plantation woodland. A series of power lines cut across the development site but the resulting channels through the woodland do not open strong lines of visibility into the site. To the north of the woodland immediately surrounding the Order Limits are further woodland blocks surrounding further agricultural fields. Two residential properties lie within the farmland to the north of the development site, High Santon Farm and Springwood Cottage. The screened ZTV indicates that there is some potential for views of the scheme from the boundaries of Spring Wood Cottage. In the wider more open agricultural landscape to the north beyond mosaic scrubland landscape of Risby Warren the screened ZTV indicates some potential for views from areas along Risby Road and to the south of Appleby.

6.3.31 To the east woodland cover is even stronger with a thick plantation woodland occupying all the land between the Order Limits and the settlement of Broughton

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approximately 1km to the east. A series of permissive footpaths run through the main body of this woodland. A public right of way runs north west from Broughton through the woodland where it exits adjacent to the north eastern portion of the development site and then crosses through the development site towards the settlement of Santon to the north and the steelworks. Views from the pathways within the woodland are very limited and contained by the vegetation. As well as the vegetation restricting views from the east the topography also serves to limit visibility. The development site largely lies across the scarp slope angled towards the west. The screened ZTV indicates patches of potential visibility in the wider landscape, (**Figure 6.3** LVIA Viewpoints). A residential property Herron Lodge lies within the woodland from which no potential views are available.

6.3.32 To the south, woodland also wraps almost continually around the southern Order Limit. A series of power lines cut through the woodland but again very limited views are gained of the development site along these corridors. To the south of this woodland, the landscape becomes more open where the land use is predominantly arable. A portion of this ground is now occupied by the Ravensthorpe Solar Farm which is visible from the adjacent A18 to the south and sections of the M180 also to the south. The screened ZTV indicates potential for views of the development site from the more open farmland areas to the south west.

6.3.33 To the immediate west lies the extensive estate of the Scunthorpe Steelworks including the furnaces and the rolling mills. This creates a large area of mixed industrial use including buildings, pipes, railways, gas holders and chimneys between the Order Limits and the main commercial and residential areas of the settlement of Scunthorpe. The screened ZTV indicates that the majority of potential visibility lies within the area occupied by the steelworks with more limited potential within the settlement of Scunthorpe itself.

6.3.34 The most notable views of the development site are therefore limited to the public footpath 214 running through and across the development site. There would be very limited visibility in the wider landscape, often limited to possible glimpsed views through very limited breaks in the forestry.

6.3.35 It is noted that there are views of the existing solar development at Ravensthorpe Farm in views from the M180 to the south of the site, but the development site lies behind a band of woodland and intervening steelworks buildings which serve to restrict the potential for any cumulative visibility between the two schemes.

6.3.36 It is also recognised that, from the Wolds landscape to the east of the development site, views can be gained of large scale buildings within steelworks which lie beyond. However, it is understood that the proposed panels would be too low lying to be seen above adjacent woodland and unlike the steelworks would generally not be visible from this area.

6.3.37 Views from within Scunthorpe would most likely be limited to those people living in the upper stories of the high rise residential blocks, as other views from lower lying areas would largely be screened out by steelworks and other large sheds on eastern side of town.

Visual Receptors

6.3.38 As outlined above a number of potential visual receptors exist within the wider landscape. Those that formed the initial basis of the fieldwork study were identified through ZTV analysis and desk based study in advance of the site visit. Through fieldwork observations and an understanding of screening elements and general visibility, the majority of those originally identified were discounted due to an absence of views.

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6.3.39 A number of viewpoint locations have been considered to help represent the nature of views towards the site from the surrounding landscape. The following 11 viewpoint locations have been considered, as illustrated at **Figure 6.3** LVIA Viewpoints, and presented in Assessment Viewpoint Photographs at **Appendix 6.2**. (Document Ref 7.18 LC TA6.2). A viewpoint assessment is also set out at **Appendix 6.3** (Document Ref 7.19 LC TA6.3). and two of the viewpoints have also been used as the basis for the production of photomontage visualisations, presented in **Appendix 6.4** (Document Ref 7.20 LC TA6.4). The viewpoint locations are as follows:

- **Viewpoint 1:** View from Footpath 214, near Little Crow Covert looking southeast across the development site;
- **Viewpoint 2:** View from Footpath 214, to the east of the site looking north across the development site;

6.3.40 The photomontages show the scale and massing of the proposed development in its landscape context from key locations in the surrounding locality and provide a useful tool to aid the judgements made in the LVIA process.

6.3.41 In line with good practice for LVIA, consultation took place with the local authority North Lincolnshire Council regarding the selection of viewpoints for the LVIA via a Preliminary Landscape and Visual Report submitted as part of the pre-application consultation process.

Table 6.4: Viewpoints

Viewpoint Number	Viewpoint Name
1	Footpath 214, near Little Crow Covert
2	Footpath 214, south eastern Order Limit
3	Footpath 212, near Raventhorpe Farm
4	Risby Road, near High Risby
5	A1029, Winterton Road, Scunthorpe
6	Lakeside Parkway, Scunthorpe
7	Holme Lane, Overbridge of M180 motorway
8	Central Park, Scunthorpe
9	Carr Lane, near Worlabby Carrs Farm
10	Holme Lane, Messingham
11	B1207, south of Appleby

Residential receptors

6.3.42 The number of residential properties which offer the potential for residents to experience views towards the site in close proximity to the site are very limited. Those properties which may experience a view of the proposals are Spring Wood Cottage to the

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north of the Order Limits. The Screened ZTV indicates some limited potential for views of the periphery of settlements at Appleby and along Risby Road to the north, around Worlably Cars Farm to the north east, within the settlement of Scunthorpe to the west (most likely people living in the upper stories of the high rise residential blocks), and the periphery of Messingham to the south west.

Users of publicly accessible paths

6.3.43 Footpath 214 runs through the development site from the woodland to the east to Santon and the edge of the of the steelworks to the north west. There is also a footpath south of the Order Limits, Footpath 212, with potential for views from the section to the immediate south of the development site. The whole route runs from the A18 via Ravensthope west of the existing solar farm into and through the woods south of Footpath 214 into Broughton.

6.3.44 There are several other public footpaths in the vicinity of the development site including a network of permissive paths through West Wood to the east. The screened ZTV indicates that none of these routes have the potential to gain views of the proposals.

6.3.45 Within the wider landscape the screened ZTV incorporates some very limited sections of footpaths to the north around Viewpoint 4 at Risby Road, to the east around viewpoint 9 where a footpath runs along the bank of the River Ancholme and to the south west around viewpoints 7 and 10 around the M180 and north of Messingham.

Users of the transport network

6.3.46 Due to the high degree of screening by topography and vegetation present around the site, the number of roads from which motorists and passengers are likely to experience views is very limited. The screened ZTV indicates that the main routes that would have the potential to experience views of the development site would be a short section of the M180 to the south, a section of Risby Road to the north between Scunthorpe and Appleby, some sections of Holme Lane and Northfield Road around Messingham in the vicinity of Viewpoints 7&9. Viewpoint 9 is located at the end of Carr Lane where it crosses the railway line between Scunthorpe and Barnetby. The screened ZTV indicates that all other road users in the wider landscape including those within the residential and commercial areas of Scunthorpe, (represented by Viewpoints 5,6 and 8) would have potential to gain no more than glimpsed views from local roads.

Users of recreational sites

6.3.47 There are no recreational sites within the study area, beyond the local footpath network detailed above, which would have the potential to gain views of the site.

6.4 ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS

6.4.1 The assessment of effects firstly assesses the sensitivity of the landscape resource or visual receptor. An assessment is then made as to the magnitude of the change, in terms of its scale or size.

6.4.2 The assessments of sensitivity of the receptor and magnitude of change are then combined with the duration of the effect and the reversibility of the effect, to assist in determining the relative level of effect on each landscape feature, character area or visual amenity.

Description of the Development

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6.4.3 The proposed development is the construction of a solar farm over 50MWp comprising approximately 225 hectares. The main element of Little Crow Solar Park would be photovoltaic panels with managed grassland below. An operational lifespan of 35 years from date of first export from development would be sought.

6.4.4 There will be electrical connection infrastructure, the point connection to the grid is the existing local 132kV electrical network which runs through the proposed development site. Land will be provided within the Order Limits for ecological mitigation and enhancement, with particular consideration to fauna, flora and bird species. Land between and beneath the panels would be used for biodiversity enhancements and seasonal sheep grazing. Native hedgerow planting would be introduced adjacent to the security fencing along the length of the existing public right of way.

6.4.5 The photovoltaic panels would be laid out in straight arrays set at an angle of c. 20 degrees from east to west across the fields enclosures. The distance between the arrays would respond to topography but would typically be between 3.5 metres to 6 metres. The top north edges of the panels would be up to 3.5 metres above ground level and the south lower edges of the panels would be approximately 0.8 metres above ground level. The arrays would be static.

6.4.6 The arrays would be set within 1.8m high perimeter fencing, (the battery energy storage system would be made secure by a 3.0m high gated palisade security fence and the substation would be enclosed with 2.4m high palisade security fencing with an electrical fence backing of 3m high from ground level). The distance between the proposed perimeter fencing and existing hedges would vary across the development site and at its minimum distance this would be circa 4m. Development would have an 15m buffer zone between the ancient woodland located to the east and a 10m buffer adjacent to other woodland.

6.4.7 The security measures that will accompany the scheme include CCTV.

6.4.8 The existing woodland plantations that surround the various field enclosures would continue to be managed by the landowner as part of its woodland forestry licence. The hedgerows surrounding the field edges will likely be managed via the Landscape and Ecological Management Plan (Document Ref 7.28 LC TA7.8).

Construction

6.4.9 It is recognised that there would be some additional temporary, non-permanent effects during the construction of the proposed development, over and above those assessed as permanent effects associated with the operational phase. The effects would relate to the movement of plant and materials on site during the construction period.

Effects on Landscape Features

6.4.10 There would be no additional temporary effects to the existing landscape features during the construction phase of the development beyond those considered within the assessment of operation stage effects discussed below.

Effects on Landscape Character

6.4.11 The movement of construction vehicles, personnel and materials as the new Solar Park is constructed would be the only additional construction phase effects on landscape character of note. Within the Order Limits and the immediate local area it is considered that there would be an additional medium magnitude of change (over that during the

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operation phase described below). This would result in a temporary moderate additional effect on landscape character, over and above the permanent effects described below. The construction effects within the development site and its immediate locality would be significant, but would be temporary in nature.

6.4.12 Beyond the immediate vicinity of the development site, it is assessed that there would be no greater than an additional low magnitude of change, resulting in no higher than a moderate/minor temporary effect on landscape character, which is not significant.

Effects on Visual Amenity

6.4.13 The movement of construction vehicles, personnel and materials as the new Solar Park is constructed would be the only additional construction phase effects on visual amenity of note. Those using the PROW network which passes through and in close proximity to the development site would generally be the only visual receptors where there would be any notable view of these construction elements. These receptors would experience an additional medium magnitude of change on views as a result of the construction activities. This would result in a moderate temporary visual effect over and above the permanent visual effects described below. These additional effects would be significant, but would be temporary in nature.

6.4.14 Beyond the immediate development site environs, it is assessed that there would be no greater than an additional low magnitude of change on views during the construction phase, resulting in no higher than a moderate/minor additional temporary effect, which is not significant.

Operation

6.4.15 The effects on Landscape Features, Landscape Character and Visual Receptors in relation to the operational phase of the Proposed Development are discussed in turn below.

Effects on Landscape Features

Effects on Landform and Topography

6.4.16 The landform of the development site forms part of a wider large scale topographical landscape feature at a site specific scale the sensitivity of the landform is judged to be medium.

6.4.17 The panels would be installed across the existing fields with minimum disturbance to the ground levels. The only excavations required are those to install the feet of the panels, there is no requirement for any ground re-profiling or remodelling. As such, although effects are considered to endure for the length of the installation the magnitude of change is assessed as very low resulting in a negligible level of effect to landform and topography, which is not significant.

Effects on Land Use, Buildings and Infrastructure

6.4.18 The key change would be to the land use i.e. from an area of agricultural fields to a solar farm with grassland below the panels. The sensitivity of the agricultural land use is judged to be low in that arable land use of this type is common and extensive within this area. The agricultural use of the development site would change from a mix of largely arable fields to an area of solar panels over a land cover of managed grassland.

6.4.19 Very limited trees or hedgerows removal would be required as part of the proposals. As part of the landscape and mitigation proposals extensive lengths of native hedgerows

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are proposed adjacent to development site fencing along the public rights of way with the ground cover beneath the panels managed as a variety of species rich grasslands reflecting local soil types. An exclusion zone covering the site of the former Gokewell Priory and Farm in the northern part of the development site has been built into the scheme.

6.4.20 The magnitude of change on land use is judged as high resulting in a moderate level of effect which is not significant due to the continuation of a similar land cover beneath the panels.

Effects on Landscape Character

6.4.21 The level of effect on landscape character is assessed through determining the sensitivity of the landscape character to a change of the type proposed and the magnitude (scale) of the change. These factors are then combined with the duration and reversibility of the effect, to establish the level of effect on landscape character.

6.4.22 In Landscape and Visual Impact Assessment sensitivity is assessed through a consideration of both the susceptibility to a development of the type proposed and the value attached to the landscape. In the case of the potential for effects on landscape character, susceptibility means the ability to accommodate the proposed development without undue consequences for the existing characteristics of the development site.

6.4.23 The landscape in which the proposed development is located is considered to be of medium susceptibility to the proposed solar development, as the large scale, broad nature, gently undulating landform and simple, consistent landcover of the landscape which forms the development site, are key characteristics that would be capable of successfully accommodating or co-existing with such a development.

6.4.24 In terms of landscape value, what is meant by the value of the landscape in a Landscape and Visual Impact Assessment is the relative value that is attached to the landscape by society as a whole, bearing in mind that different stakeholders may have differing values regarding any given landscape. Consideration of whether there are any formal landscape designations covering a landscape is one element of considering the value, but also relevant is the condition of the landscape, its rarity in the local area, the recreational value it provides, and any ecological or heritage importance the landscape may hold. These are considered alongside its perceptual qualities (such as tranquillity) and any associations which may be held with the landscape, such as if it has been highlighted in art, music or poetry.

6.4.25 The landscape value of landscape within the Order Limits is assessed as medium, due to the landscape being undesignated and the lack of valued features within the development site beyond the single public footpath 214 route which passes through, and is the only publicly accessible element of, the development site. It is acknowledged that the development site has in the past formed part of a local 'Area of High Landscape Value' which provides some indication that it may be within a landscape which is of greater value than other areas of North Lincolnshire. However, this designation has not been part of the adopted Development Plan place since 2007 and it is therefore appropriate to consider the value of the development site on its individual merits which identify a landscape of some value, but not one which is out of the ordinary within its surrounding landscape context. Whilst there are heritage features within the Order Limits that are of interest e.g. the site of the former Gokewell Priory and Gokewell Farm, (within a construction exclusion zone) none of these are listed or scheduled.

6.4.26 With regard to the medium susceptibility and medium value of the landscape it is therefore considered that the landscape is of **medium** sensitivity to the development proposed.

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6.4.27 The screened ZTV on **Figure 6.3** LVIA Viewpoints indicates that the development site is theoretically visible from parts of the landscape which lie within several different published Landscape Character Types and Areas. However, the screened ZTV does not account for the screening effects of all vegetation and built form, with hedgerows and smaller areas of trees not being picked up within its analysis. As such, the actual potential for any visibility of the proposals in the character areas beyond the Order Limits is very limited. This was established during the field work undertaken to these areas as part of the LVIA assessment process.

6.4.28 It was therefore determined at an early stage in the assessment process that there was no potential for any more than a very low impact and a negligible effect on landscape character beyond the immediate environs of the Order Limits. This is further demonstrated in the photography provided for the LVIA assessment viewpoints, in which the very limited visibility of the proposals beyond the Order Limits is clearly demonstrated.

6.4.29 The potential for effects on landscape character is therefore restricted to the local character of the development site and its immediate surroundings, and the two published landscape character areas which cover parts of the development site: 'Heathy Woodland' and 'Wooded Scarp Slope'. Each of these areas including the context of NCA 45 Northern Lincolnshire Edge with Coversands are discussed in turn below.

Effect on the Landscape Character of the Development Site and Immediate Surroundings

6.4.30 The character of the development site is one of an agricultural, heathland landscape, surrounded by woodland to the north, east and south and a large industrial steelworks complex on the lower ground to the west. It is a functional, primarily arable landscape, typical of much of the landscape of North Lincolnshire.

6.4.31 The introduction of the solar panels would represent a direct and notable change to the land use within the Order Limits, and notwithstanding that the ground beneath the panels would be managed as grassland, it is acknowledged that for the lifetime of the development there would be a high magnitude of impact and a major effect on landscape character within the Order Limits and immediate surroundings.

6.4.32 However, the potential for this effect to extend to any notable degree beyond the Order Limits is severely limited by the surrounding land use. To the north, east and south, potential effects would for the most part be curtailed by the adjacent areas of mature woodland. Similarly, to the west, the steelworks complex, which begins also immediately adjacent to the Order Limits, would have a similar effect in providing a barrier which would limit the potential for wider effects on the character of the landscape to occur.

Effect on Landscape Character Areas in the Wider Landscape Surrounding the Order Limits

6.4.33 North Lincolnshire LCA - Heathy Woodland Landscape Type: This character area covers the higher ground of the heathland in the vicinity of the development site and follows a broadly north-south alignment along the ridge landform. As the name suggests other than the proposed development site the landscape is for the most part covered in woodland. As such, this woodland serves to prevent any effects on landscape extending much beyond the Order Limits. The sensitivity of the Heathy Woodland Landscape in the vicinity of the development site is considered to be medium and it is acknowledged that within the Order Limits there would be a localised major effect on landscape character for the lifetime of the development. However, when this is considered in the context of landscape character area as a whole, it is not considered that the primary characteristics of the character area, in particular the woodland, would be diminished by the effects identified on one localised part of the character area.

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6.4.34 North Lincolnshire LCA - Wooded Scarp Slope Landscape Type: This character area covers a relatively narrow section of the gentle western slope of the heathland ridge, which runs on a north-south alignment through the landscape of this part of North Lincolnshire. The character area in the vicinity of the development site is partly wooded and partly arable in its nature, but is heavily influenced by the large steelworks complex which lies immediately adjacent to its west. Again, for that part of the character area in which the development site is located, it is acknowledged that there would be a localised major effect on landscape character for the lifetime of the development. However, with regard to the proximity of the steelworks complex to the west, any effects would not extend beyond the Order Limits. Indeed in the context of the steelworks which serve to heavily influence the landscape of the scarp slope, the effects of the scheme would be limited, and the steelwork would remain the primary influence on the character of the landscape of the slope in this locality.

6.4.35 National Character Area 45 - Northern Lincolnshire Edge with Coversands: This National Character Area comprises a ridge of Jurassic limestone running north from Lincoln to the Humber Estuary. The scarp slope rises prominently from adjacent low-lying land, forming around Lincoln the 'Edge' or 'Cliff'. In the north of the development site is a second lower scarp of Ironstone. In the vicinity of Scunthorpe are the Coversands, post glacial windblown sands which have given rise to mosaics of heathland, acid grassland and oak/birch woodland.

6.4.36 The proposed development would only be visible from a very small proportion of the wider landscape within NCA 45, and at this scale would not result in any change to key identified landscape characteristics of the NCA.

Summary

6.4.37 Overall, it is considered that the potential for effects on landscape character would be extremely limited and localised. Effects would be restricted to a major effect that would not extend beyond the Order Limits and immediate surroundings within the Heathy Woodland and Wooded Scarp Slope character areas. There would be no more than a negligible effect on landscape character on any of the published character areas in the surrounding landscape.

6.4.38 In addition, the nature of the development site, being located within a landscape which is surrounded by woodland on three sides and a large industrial complex on the other, is such that notwithstanding the scale of the development, the primary characteristics of the local and wider landscape, including the character areas in which the development site is located, would not be diminished.

Effects on Visual Amenity

6.4.39 The assessment of visual effects considers the potential for changes in views and visual amenity. The aim is to establish the area in which the development may be visible, the different groups of people who may experience views of the development, the places where they will be affected and the nature of the views and visual amenity (meaning the overall quality and pleasantness to a view).

6.4.40 In accordance with GLVIA3, the assessment of visual effects begins with an assessment of the sensitivity of each visual receptor to residential development. An assessment is then made as to the magnitude of the change in terms of its scale or size. The assessments of receptor sensitivity and magnitude of change are then combined with the duration of the effect and the reversibility of the effect, to assist in determining the relative level of effect on each visual receptor.

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6.4.41 The visual effects of the proposed development on key visual receptors are assessed below. Consideration has been given to seasonal variations in the visibility of the development and these are described where necessary.

6.4.42 During the fieldwork stage of this assessment (August 2017 and January 2018), a series of photographs were taken for a number of assessment viewpoints. These have been included within this assessment as a means of illustrating the visual issues discussed within this LVIA. The photograph locations are illustrated on **Figure 6.3** LVIA Viewpoints with photographs presented in **Appendix 6.2** (Document Ref 7.18 LC TA6.2) and a Viewpoint Assessment presented in **Appendix 6.3** (Document Ref 7.19 LC TA6.3) the effects identified in which are summarised below.

Table 6.5: Summary of Viewpoint Assessment

Viewpoint Number	Viewpoint Name	Sensitivity	Magnitude	Level of Effect	Significant (yes/no)
1	Footpath 214, near Little Crow Covert	High	High	Major	Yes
2	Footpath 214, south eastern Order Limit	High	High	Major	Yes
3	Footpath 212, near Raventhorpe Farm	High	No Change	None	No
4	Risby Road, near High Risby	Medium	No Change	None	No
5	A1029, Winterton Road, Scunthorpe	Low	No Change	None	No
6	Lakeside Parkway, Scunthorpe	Medium	No Change	None	No
7	Holme Lane, Overbridge of M180 motorway	Medium	No Change	None	No
8	Central Park, Scunthorpe	Medium	No Change	None	No
9	Carr Lane, near Worlaby Carrs Farm	Medium	No Change	None	No
10	Holme Lane, Messingham	Medium	No Change	None	No

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Viewpoint Number	Viewpoint Name	Sensitivity	Magnitude	Level of Effect	Significant (yes/no)
11	B1207, south of Appleby	Medium	No Change	None	No

Effects on Residential Receptors

6.4.43 Residential receptors (at their property) are generally considered to be of high sensitivity to a change in their view. It is generally accepted however that sensitivity decreases within upper floors due to the use of upper storeys generally not being associated with primary living spaces. As a precautionary approach, the default position adopted is that residential receptor sensitivity is high.

6.4.44 There is only one property within close proximity to the development site that may have potential to gain views of the site. Spring Wood Cottage is located approximately 450m north east of the northern Order Limit. The property is enclosed by relatively strong vegetation. A small gap in the woodland surrounding the development site to accommodate a power line traversing the site allows some potential for views to be gained towards the northern portion of the development site. The magnitude of any potential visual impact is judged to be no higher than low resulting in a no higher than moderate affect which is judged to be not significant. This small gap in the intervening vegetation could potentially be mitigated with a section of new hedgerow planting which would reduce the potential magnitude to very low and the resulting effect to moderate/minor which is not significant.

6.4.45 Other properties with potential for residents to gain views of the proposed development lie on the periphery of settlements in the wider landscape. Site work has determined that no views would be gained of the proposed development site from settlements to the north and east. Properties on the northern edge of Messingham to the south west of the Order Limits may be able to discern a small portion of the development site, however these views would be seen in the context of the extensive views of the steelworks and the existing Solar farm at Ravensthorpe which are also available from this location. The potential magnitude of effect is judged to be very low in that there would be the introduction of minor new features into the landscape, resulting in no more than moderate effects which would not be significant.

6.4.46 There are several high-rise blocks in Scunthorpe from the upper storeys of which residents may be able to gain high level views towards the development site. Any available views would also contain views of the steelworks complex in the mid ground with the proposed solar farm extending up the landform towards the enclosing trees behind. Any views of the existing fields comprising the development site would be altered to coverage by solar panels. However, the magnitude of change on resident's views from these locations is judged to be no greater than low, comprising the introduction of new features in the landscape over 2km away behind the steelworks. This would result in no greater than a moderate effect which is not significant.

Effects on Publicly Accessible Paths

6.4.47 Whilst there is likely to be variation in terms of receptor sensitivity and visual effects experienced along a route (in part dependant on the angle and direction of the view) the assessment considers a worst-case scenario whereby recreational users of all public footpaths and cycle routes are considered to be of high sensitivity to changes in their view.

6.4.48 Footpath 214 runs through the development site, from the woodland to the east to Santon and the edge of the of the steelworks to the north west. The footpath begins on

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the periphery of Broughton approximately 1km to the east, it runs through an area of very dense woodland with only occasional clearings and fire paths. No views of the development site are gained until the walker emerges from the woodland directly into the development site. The route would continue through the body of the solar farm via a path at this point and then onto the main track through the development site.

6.4.49 The path emerges into the development site at an elevated position just behind the upper portion of the scarp slope restricting views out to the west, as illustrated in Viewpoint 2, See **Appendix 6.2** (Document Ref 7.18 LC TA6.2) the path generally follows the contour before joining the main track which then falls in elevation revealing open views of the eastern portion of Scunthorpe. At the bottom of the slope the path re-enters a further area of woodland to the north west of the development site as illustrated by Viewpoint 1 and views of the development site are quickly lost as the path continues to the hamlet of Santon immediately adjacent to the steelworks complex.

6.4.50 The effects on walkers using this route as it passes through the site area itself are judged to be high. The route would be defined on both sides by fencing associated with the solar park, the effects of the fencing will be softened slightly by new native hedgerows planted adjacent to the path offset to allow wide grassy verges on both sides of the path. The panels and fencing would restrict views out and channel them along the routes in comparison to what is currently a relatively open area of agricultural fields from which open views can be gained. The resulting effect is judged to be major and significant on this route as it passes directly through the development site, quickly reducing to slight/none as the user enters the adjacent woodland areas.

6.4.51 Footpath 212 lies to the immediate south of the Order Limits and is represented by Viewpoint 3. The whole route runs from the A18 via Ravensthope west of the existing solar farm into and through the woods south of Footpath 214 into Broughton. The potential for views of the development are limited to glimpses through a gap in the woodland to the south of the development site where a line of pylons passes through the woodland block. A combination of the offset of panels below the line of the wires and intervening vegetation results in no views from this footpath and therefore no effect.

6.4.52 Field work has established that potential visibility of the development site in the wider landscape is very limited, therefore no other publicly accessible routes would experience any more than a negligible visual effect.

Effects on Transport Routes

6.4.53 Due to the high degree of screening by topography and vegetation present around the development site, the number of roads from which motorists and passengers are likely to experience views is very limited. Field work has established that no routes would have the potential to experience any more than a negligible visual effect.

Decommissioning

6.4.54 The effects during the decommissioning phase would be similar to those outlined in the Construction section above, with levels of effect gradually reducing rather than increasing as the development is dismantled. The movement of vehicles, personnel and materials as the Solar Park is removed would result in a temporary moderate additional effect on the landscape character of the development site, over and above the permanent effects. There would also be an additional medium magnitude of change on views from the PROW network passing through the development site as a result of the decommissioning activities.

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6.5 MITIGATION AND ENHANCEMENT

6.5.1 In order to reduce the likelihood of significant adverse landscape and visual effects, mitigation has been included within the design of the proposals. This included consideration of the location of the development site, which due to its location adjacent to woodland is screened from large parts of the landscape.

6.5.2 In addition, the design of the proposals has also included for a series of landscape proposals which are illustrated in **Figure 6.6** Landscape Mitigation Plan. A Landscape and Ecological Management Plan, (Document Ref 7.28 LC TA7.8) has also been prepared for the scheme which is included at **Appendix 7.8** of the Ecology and Nature Conservation Chapter. In summary, this plan illustrates the following measures which would be included as part of the proposals:

- New native hedgerow planting adjacent to the proposed security fencing along the line of the existing footpath, (public right of way).
- Gapping up of existing native hedgerows within the Order Limits adjacent to the footpath.
- Sowing of wildflower seed along the margins between the footpath and the hedgerows/ security fence boundaries.

Table 6.6: Mitigation

Ref	Measure to avoid, reduce or manage any adverse effects and/or to deliver beneficial effects	How measure would be secured		
		By Design	By S.106	By Condition
1	Location of development site in an area which limits potential visibility	X		
2	Planting of new sections of hedgerow adjacent to the footpath through the development site and gapping up of existing hedgerows.			X
3	Sowing of wildflower seed to increase species diversity in the verges adjacent to the footpath.			X

6.5.3 The Assessment of Likely Significant Effects in Section 6.4 above takes into account the mitigation measures described above, within the assessment of each receptor, in order to establish the residual effects.

6.6 CUMULATIVE AND IN-COMBINATION EFFECTS

6.6.1 Other solar energy schemes in the surrounding landscape which are already operational, such as the Ravensthorpe scheme, have been considered to form part of the baseline environment against which the development has been assessed. Notwithstanding this, it is relevant to also consider the overall effect of the developments in combination. Having considered the potential for effects on both landscape character and visual amenity it is not considered that there are any significant cumulative effects above and beyond those identified for the Little Crow scheme of itself. Whilst there may be a small number of locations where the Little Crow scheme would be seen in combination with other solar energy developments, these locations would be highly limited in nature.

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6.6.2 A review has also been undertaken of any other solar energy developments in the vicinity of the development site which are currently in planning, or consented but yet to be constructed, which might have the potential for cumulative effects to arise. It is not considered that there are any such schemes which would have the potential to give rise to significant cumulative effects in combination with the Little Crow development.

6.7 SUMMARY

Introduction

6.7.1 This LVIA has considered the potential landscape and visual effects of the proposed Little Crow Solar Park development. An appropriate sized study area of 5km has been selected, based on the scale of the proposed development, and a Zone of Theoretical Visibility (ZTV) has been produced to help to identify the landscape and visual receptors with the potential for significant effects.

6.7.2 The effects on landscape features, landscape character and visual amenity have been assessed, taking into account the mitigation described in Section 6.5 above.

6.7.3 Finally, any cumulative effects have been considered in relation to the proposed development and any other similar developments of relevance.

Baseline Conditions

6.7.4 Land use within the Order Limits is agricultural predominantly agricultural fields laid down to a mixture of arable and managed grassland.

6.7.5 The development site lies within a landscape which is characterised by the adjacent large scale industrial area and the electrical power which the area draws in from the local electricity network. It lies within a farmland area surrounding the town and industry of Scunthorpe, in which in addition to views of the town and the steelworks, pylons cut across the landscape and views include other large scale industry and wind turbines beyond.

6.7.6 The number of locations which offer the potential for views towards the proposed development are very limited, in part due to the surrounding woodland.

Likely Significant Effects

Landscape Character

6.7.7 The introduction of the solar panels would represent a direct and notable change to the land use within the Order Limits, and notwithstanding that the ground beneath the panels would be managed as grassland, it is acknowledged that for the lifetime of the development there would be a significant effect on landscape character within the Order Limits and its immediate surroundings.

Visual Amenity

6.7.8 Footpath 214 runs through the development site, from the woodland to the east to Santon and the edge of the of the steelworks to the north west. The effects on walkers using this route as it passes through the development site itself are judged to be significant. The route would be defined on both sides by fencing associated with the solar park, albeit that the effects of the fencing will be softened slightly by new native hedgerows planted adjacent to the path offset to allow wide grassy verges on both sides of the path.

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6.7.9 Aside from this footpath route, there would be no other significant effects on visual receptors arising from the proposals.

Mitigation and Enhancement

6.7.10 In order to reduce the likelihood of significant adverse landscape and visual effects, mitigation has been included within the design of the proposals. This included consideration of the location of the development site, which due to its location adjacent to woodland is screened from large parts of the landscape.

6.7.11 In addition, the design of the proposals has also included for a series of landscape proposals which include the planting of new hedgerows along the security fences adjacent to the public right of way through the development site and the sowing of wildflower seed in the margins between the path and the hedges.

Conclusion

6.7.12 It is important to appreciate that some effect on landscape character and visual amenity is an inherent consequence of a new development of this type and scale. However, in this case, any potential for adverse effects is limited by existing vegetation as well as the topography of the landscape. As such, for a scheme of its scale the landscape and visual impacts arising are highly limited. Those limited effects which have been identified should therefore be balanced against the benefits of the proposed development.

6.7.13 **Table 6.7** provides a summary of the identified effects.

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Table 6.7: Summary of Effects, Mitigation and Residual Effects.

Receptor / Receiving Environment	Description of Effect	Nature of Effect	Sensitivity	Magnitude of Effect	Mitigation / Enhancement Measures	Significance of Residual Effects
Construction						
Landscape Features	<i>no additional temporary effects to the existing landscape features beyond those considered within the assessment of operation stage effects discussed below</i>					
Landscape Character	Direct and Indirect Impact	Permanent	Medium	Temporary additional medium magnitude of change on landscape character within Order Limits.	Planting of new hedgerows, and wildflower seeding adjacent to the proposed security fencing.	Moderate temporary effect on landscape character within Order Limits, over and above the permanent effects described below.
Visual Receptors	Indirect Impact	Permanent	High	Temporary additional medium magnitude of change on views to users of the PROW passing through the development site.		Moderate temporary visual effect over and above the permanent visual effects described below.
Operation						
Landscape Features	Direct Impact	Permanent	Low	High	Planting of new hedgerows and wildflower seeding adjacent to the proposed security fencing.	Moderate (not significant)
Landscape Character	Direct and Indirect Impact	Permanent	Medium	High (within the Order Limits and its immediate environs only)		Major (within the Order Limits and its immediate environs only)
Visual Receptors	Indirect Impact	Permanent	High	High (users of the PROW passing through the development site only)		Major (users of the PROW passing through the development site only)
Cumulative and In-combination						
<i>No significant cumulative landscape or visual effects have been identified</i>						

Table 6.8 Glossary and Acronyms

Term / Acronym	Description
Baseline	Determination and description of environmental conditions against which any future changes can be measured predicted or assessed.
Characteristics	Elements, or combination of elements, which make a contribution to distinctive landscape character.
Designated landscape	Areas of landscape identified as of being of importance at international, national or local levels, either defined by statute or identified in development plans or other documents.
Development	Any proposal that results in a change to the landscape and/or visual environment.
Elements	Individual parts which make up the landscape, such as, for example, trees, hedges and buildings.
Enhancement	Proposals that seek to improve the landscape resource and the visual amenity of the proposed development site and its wider setting, over and above its baseline condition.
Heritage	The historic environment and especially valued assets and qualities such as historic buildings and cultural traditions.
Key characteristics	Those combinations of elements which are particularly important to the current character of the landscape and help to give an area its particularly distinctive sense of place.
Land cover	The surface cover of the land, usually expressed in terms of vegetation cover or lack of it. Related to but not the same as land use.
Land use	What land is used for, based on broad categories of functional land cover, such as urban and industrial use and the different types of agriculture and forestry.
Landform	The shape and form of the land surface which has resulted from combinations of geology, geomorphology, slope elevations and physical processes.
Landscape	An area, as perceived by people, the character of which is the result of the action and interaction of natural/ and or human factors.
Landscape and Visual Impact Assessment (LVIA)	A tool used to identify and assess the likely significance of the effects of change resulting from development both on the landscape as an environmental resource in its own right and on people's views and visual amenity.
Landscape character	A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.
Landscape Character Areas	These are single unique areas which are the discrete geographical areas of a particular landscape type.
Landscape effects	Effects on the landscape as a resource in its own right.

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Term / Acronym	Description
Landscape receptors	Defined aspects of the landscape resource that have the potential to be affected by a proposal.
Landscape value	The relative value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a whole variety of reasons.
Magnitude (of effect)	A term that combines judgments about the size and scale of the effect, the extent of the area of which it occurs, whether it is reversible or irreversible and whether it is short or long term in duration.
Photomontage	A visualization which superimposes an image of a proposed development upon a photograph or series of photographs.
Receptors	See Landscape receptors and Visual receptors
Scoping	The process of identifying the issues to be addressed by an EIA. It is a method of ensuring that an EIA focuses on the important issues and avoids those that are considered to be less significant.
Sensitivity	A term applied to specific receptors, combining judgments of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor.
Significance	A measure of the importance or gravity of the environmental effect, defined by significance criteria specific to the environmental topic.
Susceptibility	The ability of a defined landscape or visual receptor to accommodate the specific proposed development without undue negative consequences.
Visual amenity	The overall pleasantness of the views people enjoy of their surroundings which provides an attractive visual setting or backdrop for the enjoyment of activities of the people living, working, recreating, visiting or travelling through an area.
Visual effects	Effects on specific views and on the general visual amenity experienced by people.
Visual receptors	Individuals and/or defined groups of people who have the potential to be affected by the proposals.
visualisation	A computer simulation, photomontage or other technique illustrating the predicted appearance of a development.
Zone of Theoretical Visibility (ZTV)	A map, usually digitally produced, showing areas of land within which, a development is theoretically visible.

