LANDSCAPE AND VISUAL APPRAISAL

SOAY SOLAR FARM AND GREENER GRID PARK

STATKRAFT UK LTD

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FIGURES (bound in Appendix 2 as an attachment to this report)

1 INTRODUCTION

This report presents the findings of a Landscape and Visual Appraisal (LVA) undertaken to support the planning application by Statkraft UK LTD ('the Applicant') for the installation of a solar photovoltaic (PV) array / solar farm with associated infrastructure and Greener Grid Park including battery storage and energy management buildings ('the Development') on land south of Allerthorpe Woods, approximately 1.5 miles south-west from the town of Pocklington, located within the East Riding of Yorkshire (The 'Site').

The LVA has been undertaken by a Landscape Architect in accordance with good practice guidance and is informed by local landscape character assessments, landscape capacity guidance, the associated Tree Survey and Arboricultural Impact Assessment and other relevant guidance as specified.

2 SCOPE OF THE ASSESSMENT

2.1 The Development

The Development consists of the construction of a solar farm and Greener Grid Park including energy storage and management equipment, along with associated infrastructure, landscaping, access tracks and creation of new Sustainable Drainage System (SuDS) ponds and scrapes. A full description of the Development is set out in the Planning Statement which accompanies the planning application.

For locations and details of proposed landscape proposals and embedded mitigation such as areas and proposed species please refer to Section 6 below, and the Biodiversity Enhancement Management Plan (BEMP).

The construction period of the Development will last approximately 14 months, with the majority of construction works carried out in the first 6 months. The operational period of the project would be 37 years.

2.2 LVA Methodology & Relevant Guidelines

The methodology for the LVA is included in Appendix 1 and is based on current best practice guidance, namely:

- Landscape Institute and Institute of Environmental Management and Assessment, 2013, Guidelines for Landscape and Visual Impact Assessment, 3rd Edition ('GLVIA3')[1];
- The Landscape Institute (2015), GLVIA3 Statement of Clarification 1/13[2];
- Visual Representation of Development Proposals, Technical Guidance Note 2019, The Landscape Institute[3];
- Natural England, 2014, An Approach to Landscape Character Assessment[4];
- SNH and The Countryside Agency (2002) Landscape Character Assessment Guidance for Scotland and England[5]; and

[1] Landscape Institute and Institute of Environmental Management and Assessment, 2013, *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition, Routledge, London (Accessed 05/04/2021)

[2] The Landscape Institute (2015) GLVIA3 – Statements of Clarification [Online] Available at: https://www.landscapeinstitute.org/technical-resource/glvia3-clarifications/ (Accessed 05/04/2021)

[3] The Landscape Institute, *Visual Representation of Development Proposals, Technical Guidance Note 06/19*, 17th September 2019 (Accessed 05/04/2021)

[4] An Approach to Landscape Character Assessment (2014) [Online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/691184/landscape-character-assessment.pdf (Accessed 05/04/2021)

[5] SNH and the Countryside Agency (2002) Landscape Character Assessment Guidance for Scotland and England [Online] Available at: https://www.nature.scot/sites/default/files/2018-02/Publication%202002%20-

- SNH and the Countryside Agency (2002) Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity.[6]

The two components of LVA referred to throughout the report are based on the following definitions:

- 'Assessment of landscape effects: assessing effects on the landscape as a resource in its own right'[7]; and
- 'Assessment of visual effects: assessing effects on specific views and on the general visual amenity experienced by people.'[8]

Development may have a direct (physical) effect on the landscape in which it is located as well as an indirect or perceived effect from landscape character areas surrounding it. The potential landscape effects, occurring during the construction of the solar panels and the Greener Grid Park (GGP), operational and decommissioning stages of the solar PV and GGP development may therefore include, but are not restricted to, the following:

- Changes to landscape elements: the addition of new elements or the removal of vegetation, and buildings and other characteristic elements of the landscape character type;
- Changes to landscape qualities: degradation, erosion, or reinforcement of landscape elements and patterns, and perceptual characteristics, particularly those that form key characteristic elements of landscape character types;
- Changes to landscape character: landscape and character may be affected through the effect on characteristic elements (including perceptual characteristics), landscape patterns and attributes and the cumulative addition of new features, the magnitude and presence of which is sufficient to alter a notable part of the overall landscape character type of a particular area; and
- Cumulative landscape effects: where more than one development may lead to a potential landscape effect.

Visual effects are concerned wholly with the effect of development on visual receptors and general visual amenity. Visual effects are identified for different receptors (people) who would experience the view such as at their places of residence, during recreational activities, at work, or when travelling through the area. Visual effects may include the following:

- Visual effect: change in the appearance of the landscape as a result of development. This may include changes to the quality of the view, ability of the visual receptor to appreciate the view, or changes to the characteristic elements within the view. These changes can be positive (i.e., beneficial or an improvement) or adverse (i.e., adverse or a detraction); and
- Cumulative visual effects: the cumulative or incremental visibility of similar types of development may combine to have a cumulative visual effect.

Note that while the LVA may assess a major level of visual or landscape effect (not significance of effects) at a localised level, these would not be significant in terms of the EIA Regulations.

%20Landscape%20Character%20Assessment%20guidance%20for%20England%20and%20Scotland.pdf (Accessed 05/04/2021)

[6] SNH and the Countryside Agency (2002) Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity [Online] Available at: http://publications.naturalengland.org.uk/publication/5146500464115712 (Accessed 05/04/2021)

[7] Landscape Institute and Institute of Environmental Management and Assessment, 2013, *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition, Routledge, London. Paragraph. 2.21, page 21. (Last accessed 05/04/2021)

[8] Ibid. page 21.

A detailed description of the methodology used has been provided in Appendix 1 – LVA Assessment, ZTV, Photography and Photomontage Methodology.

2.3 Cumulative Assessment

There are no known operational large-scale ground mounted solar developments or Greener Grid Parks within 2 km of the Site.

In the past three years there have been two solar farm planning applications submitted to the Council. These were both approved but are located sufficiently distant for there to be no cumulative effects, being located between 26 - 31 km northeast of the Site at Hutton Cranswick (App Ref: 19/04321/STPLF) and Skerne (App Ref: 20/01962/STPLF).

As such there are no extant planning applications or permissions within close proximity with potential for significant combined impacts with the Development.

There are three private small scale solar arrays within 2km of the Site (refer to Figure 8, Appendix 2). Cumulative effects of these solar arrays have been considered within this LVA.

2.4 Limitations of the Assessment

The assessment of residential properties, or groups of properties, is limited to those within 1 km of the Development. A number of these properties are accessed from private farm tracks / roads and due to the limitations of access they have been assessed from the nearest public road or footpath with the aid of aerial photographs.

2.5 Screening Response and Consultations

An EIA Screening Request was submitted to East Riding of Yorkshire Council in March 2021 for the solar development, and a second separate EIA Screening Request submitted for the GGP on the 30th April 2021. Both screening opinions concluded the application did not require an Environmental Impact Assessment (EIA), therefore no scoping request was submitted.

The location and number of viewpoints and the scope of the LVA were agreed by email with East Riding of Yorkshire Council in July 2020.

Table 2.1 - Consultation Table

Consultee	Type and Date	Request to Consultee	Summary of Consultation Response
East Riding of Yorkshire Council	Email request for approval of suggested viewpoint photography 10th February 2021 & Email response from East Riding of Yorkshire Council with approval dated 25th February 2021.	A suggested eight viewpoint locations were issued to East Riding of Yorkshire Council for approval.	Consultation response was positive and concluded that the eight suggested viewpoints would cover the key areas and where visibility would be greatest. An optional additional viewpoint at Church Bridge was suggested. This additional viewpoint could not be obtained on two different occasions due to road closure and improvements to Church Bridge. Note: One agreed viewpoint directly west of Allerthorpe Lakeland Park could not be obtained from the road as there was no safe place to set up the tripod along the roadside. An alternative viewpoint south of

Consultee	Type and Date	Request to Consultee	Summary of Consultation Response
			the Site was included as an alternative. The location of Viewpoint 3 was also altered slightly while on Site, to avoid parked vans which blocked the view on the day of the Site visit.
East Riding of Yorkshire Council	Email to East Riding of Yorkshire Council outlining intentions to produce Photomontages dated 28th June 2021.	Photomontages from three agreed viewpoint locations were issued to East Riding of Yorkshire Council for comment.	No comments received.

2.6 Study Areas

2.6.1 The Study Areas for the Site

The LVA considers Study Areas shown in Figure 1, Appendix 2 which are defined below.

1. The Site which includes all of the land proposed to be subject to development including all land within the Planning Application Boundary containing proposed infrastructure and embedded mitigation.
2. A detailed 1 km study area comprising a 1 km radius around the Application Boundary, is illustrated on Figure 9, Appendix 2 and has been used to assess visual receptors which are likely to see greater visual effect. A radius of 1 km distance was selected due to the fragmented theoretical visibility beyond 1km, as illustrated in Figure 7, Appendix 2.
3. A wider 2 km study area comprising a 2 km radius from the Site. Beyond 2 km visual and landscape effects would be limited due to the low-level nature of the Development.

2.7 Desk-Based Study

Information for the landscape and visual appraisal was gathered from the following sources:

- Ordnance Survey mapping at 1:50,000 and 1:25,000 scales;
- Aerial Photography;
- Web GIS data bases;
- Lidar data;
- MAGIC website;
- Google Earth, Street View and Maps;
- Natural England (2014) National Character Area profile: 28 Vale of York [9];
- East Riding of Yorkshire Local Plan ('ERYLP') (2012-2029)[10];

[9] Natural England (2012) NCA Profile: 28 Vale of York [Online] Available at: http://publications.naturalengland.org.uk/publication/3488888?category=587130 (Accessed 11/03/21)

[10] East Riding of Yorkshire Council (2016) *East Riding of Yorkshire Local Plan 2012-2019* [Online] Available at: https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/east-riding-local-plan/ (Accessed 18/03/2021)

- East Riding of Yorkshire Landscape Character Assessment (2018)[11]; and
- Allerthorpe Neighbourhood Plan ('ANP') (2019-2034)[12]

2.8 Field Study

Following the desk-based assessment, two site visits were carried out on the 1st March 2021 and the 15th March 2021.

The key objectives of the activities undertaken during baseline fieldwork were:

- To augment and verify the published descriptions of landscape character with fieldwork observations;
- To undertake an assessment of the quality or condition of baseline landscape and visual resources;
- To identify any significant features and elements in the landscape such as vegetation or built form that would screen the Development and thereby verify or refine the ZTV;
- To visit each viewpoint location identified during the desk study and screening report, and to microsite each viewpoint location in accordance with good practice guidance and obtain accurate coordinates;
- To undertake viewpoint photography at each viewpoint location; and
- To identify landscape features and elements that may be altered or removed as a result of the Development.

The baseline fieldwork allowed the study area to be refined and therefore the focus of the assessment stage of the LVA.

Fieldwork during the assessment stage included an assessment of effects on the following receptors:

- Landscape resources including landscape character, landscape sensitivity, landscape features and landscape elements;
- Residential and recreational receptors;
- Roads; and
- Public Rights of Way (PRoW) and other footpaths / cycleways.

2.9 Zone of Theoretical Visibility (ZTV)

Following identification of the landscape components which define landscape character such as topography, vegetation, built form, infrastructure and land use, the LVA has been informed by a ZTV to help identify the potential landscape and visual receptors. ZTVs are computer generated from a digital terrain model of the 2 km study area. They illustrate the theoretical visibility of the Development throughout the 2 km study area based on the average eye height (1.7 m) of an adult person.

In this instance, two ZTVs have been prepared: 'bare-earth' and 'screened' (refer to Figures 6 and 7, Appendix 2). The bare-earth ZTV illustrates theoretical visibility of the Development without the benefit of screening afforded by buildings and vegetation and, as such, it represents a 'worst-case scenario'.

Arcus has developed additional methodology to supplement the "bare earth ZTV" which enables a more accurate representation of viewpoint assessment and a greater

[11] East Riding of Yorkshire Landscape Character Assessment (2018) [Online] Available at: https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/landscape-character-assessment/ (Accessed 11/03/21).

[12] Allerthorpe Parish Council (2019) Allerthorpe Neighborhood Plan 2019-2034 [Online] Available at: https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/neighbourhood-planning/allerthorpe-neighbourhood-plan/(Accessed 18/03/2021)

understanding of the visual baseline. The ZTV has been refined using the topographic survey of the Site and LiDAR to enable a better understanding of the likely visual footprint of the Development. This will still represent theoretical visibility and will be considered in line with fieldwork to ground truth the findings of the data. A full methodology for production of the ZTVs presented in the assessment is found in Appendix 1.

2.10 Viewpoints

The selected viewpoints illustrate the landscape context, and views from nearby residential properties, views from the local public road network, and to represent the local landscape character.

Viewpoints were selected by analysis of the ZTVs and confirmed through a site visit, and through consultation with East Riding of Yorkshire Council (refer to Figure 7, Appendix 2). Following methodology established in GLVIA3, the viewpoints were chosen based on the following criteria:

- Viewpoints should be representative of the likely impacts;
- Viewpoints should show a range of different types of views;
- Viewpoints should be representative of a range of different receptor groups;
- Viewpoints should be representative of a range of distances and directions; and
- Viewpoints should be representative of the varying image of the Development within the landscape.

A summary of the illustrated viewpoints is provided in Table 2.2 below. All viewpoints are located in the public realm, and focus on the indicative location of the Development. Site photography was undertaken during periods of fine weather and clear visibility, with a little localised cloud. Refer to Figure 7 for Viewpoint Locations, and Figures 10 – 18 for the baseline landscape photographs, and photomontages of the Development from Viewpoints 1, 3 & 4 (Figures 19, 21, Appendix 2).

These were taken during the winter months (March) when deciduous vegetation was not in leaf.

Table 2.2 - LVA Selected Viewpoints

Viewpoint Number	Viewpoint Name	Reason for selection	Distance to the Red Line Boundary
1	Allerthorpe Footpath No.2, South of Allerthorpe Woods	Viewpoint to illustrate the landscape context and views from the Allerthorpe Footpath No.2. The viewpoint is also representative of views available from the edge of Allerthorpe Woods North of the Development.	Within the Site
2	Allerthorpe Footpath No.2, within agricultural fields	Viewpoint to illustrate the landscape context and views from the Allerthorpe Footpath No.2.	Within the Site
3	Allerthorpe Footpath No.2, North of Warren Farm Cottages	Viewpoint to illustrate the landscape context and views from the Allerthorpe Footpath No.2. The viewpoint is also representative of views available from the land directly north of Warren Farm Cottages.	Within the Site

Viewpoint Number	Viewpoint Name	Reason for selection	Distance to the Red Line Boundary
4	Allerthorpe Footpath No.2, West of Warren Wood	Viewpoint to illustrate the landscape context and views from the Allerthorpe Footpath No.2. The viewpoint is also representative of views available from the land directly east of Warren Farm Cottages.	Within the Site
5	Allerthorpe Footpath No.2, East of Warren Wood	Viewpoint to illustrate the landscape context and views from the Allerthorpe Footpath No.2.	120 m
6	Allerthorpe Footpath No.2, West of Waplington Hall	Viewpoint to illustrate the landscape context and views from the Allerthorpe Footpath No.2. The viewpoint is also representative of views available west of Waplington Hall.	320 m
7	Common Lane	Viewpoint to illustrate the landscape context and views from Common Lane and Oak Tree House.	400 m
8	Thornton Footpath No.2, North of Byholme Farm	Viewpoint to illustrate the landscape context and views from Thornton Footpath No.2.	190 m
9	Wilberforce Way, adjacent to Walbut Bridge	Viewpoint to illustrate the landscape context and views from Wiberforce Way Long-Distance Route and Walbut Bridge.	1.1 km

3 LANDSCAPE LEGISLATION AND POLICIES

This assessment has taken into account the current legislation, policy and guidance relevant to the LVA. In landscape and visual terms, the planning policies of relevance to the Development are discussed within this section of the LVA.

3.1 European Landscape Convention

The European Landscape Convention ('ELC') which was ratified in the UK on the 21st November 2006 and became binding on 1st March 2007.

The ELC defines landscapes as: "*An area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors.*"

The ELC applies to natural, rural, urban and peri-urban areas including land, inland water and marine areas. Its purpose is to promote landscape protection, management and planning in relation to all landscapes regardless of whether their quality and condition is considered outstanding, ordinary or degraded.

- The UK is recognised as already putting many of the principles of the ELC into practice. The importance of landscapes in contributing to local identity and in reflecting local cultural influences and ecological diversity is shown through the use of Landscape Character assessments and Natural England (2014) National Character Area profiles.

3.2 National Planning Policy Framework (NPPF)[13]

The National Planning Policy Framework (NPPF) sets out the Government's strategic vision for the planning system in England and how it is expected to be applied at a local level in development plans and planning decisions. The NPPF places great emphasis on plans and developments that contribute to sustainable development.

Paragraphs 157 and 159 address climate change, with paragraph 157 emphasising the importance of the planning system in supporting appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts. Para 159 also suggests that use and supply of renewable and low carbon energy should be increased through appropriate strategies within local plans and identification of suitable locations to facilitate renewable energy and associated infrastructure.

Paragraph 179, contained within Chapter 15 "Conserving and enhancing the natural environment" of the NPPF sets out how planning policies and decisions should contribute to and enhance the natural and local environment. Of relevance to the consideration of landscape and visual amenity impacts, this includes 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); and
- 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.

3.3 Local Planning Policy

The relevant Development Plan for the Site is the East Riding of Yorkshire Local Plan ('ERYLP') (2012-2029)[14], which consists of a Strategy Document, an Allocations Document and is supported by a Policies Map. The Local Development Plan also includes the Allerthorpe Neighbourhood Plan ('ANP') (2019-2034)[15] as well as a number of Supplementary Planning Documents ('SPDs')[16].

3.3.1 East Riding of Yorkshire Local Plan (2012-2029)[17]

The East Riding of Yorkshire Local Plan ('ERYLP') was produced as a suite of documents that set out a long-term strategy for development within East Riding.

Key policies outlined in the Strategy Document (2016), which cover landscape and visual matters that are potentially relevant to this LVA are listed below.

[13] Ministry of Housing, Communities & Local Government (2021) National Planning Policy Framework [Online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf (Accessed 23/11/2021)

[14] East Riding of Yorkshire Council (2016) East Riding of Yorkshire Local Plan 2012-2019 [Online] Documents Available at: https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/east-riding-local-plan/ (Accessed 18/03/2021)

[15] Allerthorpe Parish Council (2019) Allerthorpe Neighborhood Plan 2019-2034 [Online] Available at: https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/neighbourhood-planning/allerthorpe-neighbourhood-plan/(Accessed 18/03/2021)

[16] [Online] Available at: https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/supplementary-planning-documents/(Accessed 18/03/2021)

[17] East Riding of Yorkshire Council (2016) East Riding of Yorkshire Local Plan 2012-2019 [Online] Documents Available at: https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/east-riding-local-plan/ (Accessed 18/03/2021)

3.3.1.1 Policy ENV1 - Integrating high quality design

This policy seeks to retain and enhance the East Riding's high-quality environment. The policy includes a list of design considerations and aims which contribute to achieving sustainability and should be incorporated into all developments as far as possible.

Those which are relevant to the Development and are landscape specific include:

- Ensure climate change resilience, including Sustainable Drainage Systems and other flood protection measures;
- Encourage healthy and active lifestyles and travel patterns, including open, play and green space, provision for walking and cycling;
- Encourage green infrastructure, including green space and landscaping;
- Contribute to safeguarding and enhancing biodiversity and geodiversity, including responding to habitat and species need; and
- Reduce energy consumption and increase the use of renewables.

3.3.1.2 Policy ENV2 - Promoting a high-quality landscape

The policy seeks to protect and promote the varied and high-quality landscape found within the East Riding of Yorkshire. The policy states "*the Development proposals should be sensitively integrated into the existing landscape, demonstrate an understanding of the intrinsic qualities of the landscape setting and, where possible, seek to make the most of the opportunities to protect and enhance landscape characteristics and features. To achieve this, development should:*

- *Protect the character and individual identity of settlements by maintaining their physical separation, including through the maintenance of the Key Open Areas identified in Policies A1-A6, where there is a risk of settlement coalescence;*
- *Protect and enhance important open spaces within settlements which contribute to their character;*
- *Ensure important hedgerows and trees are retained unless their removal can be justified in the wider public interest. Where important hedgerows and trees are lost replacements will usually be required;*
- *Maintain or enhance the character and management of woodland where appropriate;*
- *Retain, not detract from, and enhance wetland and water feature characteristics; and*
- *Protect and enhance views across valued landscape features, including flood meadows, chalk grassland, lowland heath, mudflats and salt marsh, sand dunes and chalk cliffs.*

3.3.1.3 Policy ENV4 - Conserving and enhancing biodiversity and geodiversity

The policy identifies the importance of conserving and enhancing biological diversity and state that new developments are expected to optimise opportunities to safeguard biodiversity and geodiversity, and where possible, deliver enhancements that result in a net gain in biodiversity. The policy references East Riding of Yorkshire Biodiversity Action Plan (ERYBAP) (2010)[18] which provides information on locally important wildlife species and habitats, and sets the framework for actions that will be required to conserve, enhance, restore and recreate these.

[18] ERYC (2010) East Riding of Yorkshire Biodiversity Action Plan (ERYBAP) [Online]
Available at: https://www.eastriding.gov.uk/council/working-with-our-partners/sustainable-development/ (Accessed 18/03/2021)

3.3.1.4 Policy ENV5 - Strengthening green infrastructure

The policy states that development proposals should incorporate existing and / or new green infrastructure features within their design and capitalise opportunities to enhance or create links. Green Infrastructure features listed include nature conservation sites, water bodies, trees, hedgerows and ditches, and public rights of way.

3.3.2 Allerthorpe Neighbourhood Plan[19] ('ANP') (2019-2034)

Allerthorpe Neighbourhood Plan ('ANP') was produced by Allerthorpe Parish Council and adopted in December 2019. It sets out the vision for the parish over a 15-year period, to the year 2034.

Policy ANP04 of ANP is of relevance to the Development and states that:

'Development proposals which safeguard and, where possible, enhance biodiversity, wildlife habitats and opportunities, the character and appearance of the rural landscape and footpath / bridleway accessibility, will be supported.'

Development proposals would seek to address the listed policies through retention of any existing trees, hedges and other identified habitats of value and providing mitigation and additional enhancements which build upon build upon the existing green infrastructure. This would also address the aims of the East Riding of Yorkshire Biodiversity Action Plan and other landscape biodiversity initiatives which seek to achieve a net gain in biodiversity where possible.

Melbourne Parish Council, to the south of Allerthorpe, does not have a Neighbourhood Plan.

3.4 Landscape Planning Designations

As part of the baseline, any value attached to the landscape within the 2 km study area is taken into account. This usually takes the form of landscape-related designations valued for their wild or scenic beauty at a national, regional or local level such as National Parks, Areas of Outstanding Natural Beauty (AONBs) and Special Landscape Areas.

The baseline also takes account of any protected features, the presence of which may indicate value at a national, regional or more local level. Protected features mostly relate to cultural heritage or nature conservation assets such as World Heritage Sites, Scheduled Monuments, Conservation Areas, Listed Buildings, Historic Parks and Gardens, Sites of Special Scientific Interest, Nature Reserves, Ancient Woodland, etc.

Landscape-related designations and protected features identified within the Site and wider 2 km study area are listed in Table 3.1 below and shown in Figure 4, (Appendix 2) and identifies landscape planning policies, designations and constraints relevant to this LVA. Table 3.1 summarises the constraints within the 2 km radius study area.

Table 3.1: Landscape Designations and Protected Heritage Assets

[19] ERYC (2019) Allerthorpe Neighbourhood Plan [Online]
Available at: https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/neighbourhood-planning/allerthorpe-neighbourhood-plan/ (Accessed 18/03/2021)

Landscape Planning Policy Designations, Constraints and Protected Heritage Assets	Present Within Site Boundary	Present within 2 km of the Site
National Parks	No	No
World Heritage Sites	No	No
Scheduled Monuments	No	Yes
Conservation Areas	No	Yes
Listed Buildings	No	Yes
Registered Parks and Gardens	No	No
Historic Battlefields	No	No
Ancient Woodland	No	No
Important Landscape Area	No	Yes
Green Belt	No	No

4 BASELINE CONDITIONS

The following section describes the existing environment in terms of landscape character and visual amenity, the baseline against which the impacts of the Development will be assessed, including sensitivity of landscape, seascape or visual receptors:

- Landscape Character;
- Landscape Designations;
- Townscape Designations; and
- Visual Receptors.

Assessment is also supported by field observations to confirm the key features and characteristics pertinent to the 2 km radius study area.

4.1 Landscape Character

The landscape character is considered at three levels:

- A national/regional setting defined within the Natural England National Character Area profiles[20]; and
- A regional/local setting landscape character area (LCA), based on the East Riding of Yorkshire Landscape Character Assessment[21] and
- The character of the Site and its immediate context, based on field observations.

[20] Natural England (2014) National Character Area profiles [Online] Available at: https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles (Accessed 17/03/2021)

[21] ERYC (2018) East Riding of Yorkshire Landscape Character Assessment [Online] Available at: https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/landscape-character-assessment/ (Accessed 11/03/21)

4.1.1 National Landscape Character

At a national level there is one National Character Area (NCA) within the 2 km radius study area, NCA 28 – Vale of York.

The NCA 28 covers an area of 1,020 km^2, and the key characteristics are listed as:

- *A largely open, flat and low-lying landscape between the higher land of the Southern Magnesian Limestone ridge to the west, the Howardian Hills to the north and the Yorkshire Wolds to the east;*
- *Predominantly **agricultural land use**, with medium- to **large-scale arable fields defined by hedgerows** (which are often low and **intermittent with sparse hedgerow trees**) and fences. **Large dispersed farmsteads and small villages** on higher land are set within a **quiet rural landscape**;*
- *Wetland features dotted through the wider landscape of the NCA, providing stepping stones between wider areas of water-dependent and priority habitat, such as important remnants of 'ings' meadows on the river flood plains (traditionally managed by hay-making) and some unimproved and semi-improved meadows and pastures, in particular in the Derwent Ings;*
- *Some areas of **heathland remaining** on poorer sandy soils (for example Strensall, Stockton and **Allerthorpe commons**), along with **small scattered broadleaved woodlands and larger conifer plantations**; and*
- *The settlement patterns of the NCA, which broadly follow that of **linear villages,** with buildings (built with traditional materials of mottled brick and pantile roofs) set back behind wide grass verges and village greens, and **dispersed large farmsteads.**[22]*

Given the scale of the NCA, its characteristics are likely to be represented over a wide area of the NCA. As such, any changes at the Site level relative to the NCA would be extremely small in scale and are unlikely to impact upon those key landscape characteristics identified for the NCA. As such, the NCA is not considered further in the LVA.

4.1.2 Regional / Local Landscape Character

The East Riding of Yorkshire Landscape Character Assessment identifies 23 Landscape character types (LCTs) which are split further into 81 landscape character areas (LCAs). At a regional/local level there are three LCTs and four LCAs within the 2 km radius detailed study area (refer to Figure 5). The LCA's provide a detailed assessment and understanding of the landscape character.

Given the limited predicted visibility, and limited extent of visibility within the 2 km study area, the LVA will focus on the direct and indirect landscape effects within the following LCA:

- LCA 1C: Newton Upon Derwent, Wilberfoss, Allerthorpe and Hayton Farmland within the Flat Open Farmland LCT; and
- LCA 3C: Pocklington Canal and Beck Corridor within the River/Canal Corridors LCT.

The following LCAs, whilst within the 2 km Study Area, are peripheral and only occupy very small areas over 1km from the Development and have not been considered any further in this assessment:

[22] Natural England (2014) National Character Area profile 28: Vale of York [Online] Available at: http://publications.naturalengland.org.uk/publication/3488888?category=587130 (Accessed 11/03/21)

- LCA 1D: West Pocklington Farmland within the Flat Open Farmland LCT; and
- LCA 6A: South of Pocklington Canal Wooded Farmland within the Wooded Open Farmland LCT.

4.1.2.1 LCA 1C: Newton Upon Derwent, Wilberfoss, Allerthorpe and Hayton Farmland

At a regional / local level the development falls within Newton Upon Derwent, Wilberfoss, Allerthorpe and Hayton Farmland LCA within the Flat Open Farmland LCT. This is the 'host' LCA and LCT for the Solar Site and Greener Grid Park and covers the majority of the 2 km study area.

Key characteristics of the Flat Open Farmland LCT are listed as:

- *Generally **flat, open landscape** between 10m and 30m AOD gradually falling southwards;*
- *Drained **intensively farmed arable land** with occasional grass fields;*
- *Overall tree and woodland cover is sparse. **One large woodland block at Allerthorpe**;*
- Field boundaries consist of a combination of fragmented and intact hedgerows with few hedgerow trees;
- *Field pattern is dominated by medium sized regular shaped fields that are occasionally incised by small natural watercourses;*
- ***Drainage pattern overall is regular and man made** with few small improved natural watercourses of less regular shape. Land generally drains southwards; and*
- ***Large farmsteads are scattered throughout the area.**[23]*

Key characteristics of the Newton Upon Derwent, Wilberfoss, Allerthorpe and Hayton Farmland LCA within the LCT are listed as:

- ***Flat** to gently undulating **arable landscape** of this LCA is centred on the villages of Newton upon Derwent, Wilberfoss, **Allerthorpe** and Hayton;*
- ***Predominantly agricultural land** with an area of common land located at Tank Plantation;*
- *The LCA has a **patchwork of generally rectilinear fields** in a sub regular pattern.*
- ***Allerthorpe was enclosed by agreement in 1640 and pockets of the original enclosure pattern remain**;*
- ***Farmsteads are scattered** throughout the LCA;*
- ***Blocks of woodland are scattered** throughout the LCA;*
- ***Allerthorpe Common** is an extensive area of coniferous plantation on former heathland and is the **main woodland in the LCA**. A small area of heathland still survives, composed of heather, cross-leaved heath, cotton grass and purple moor grass which also supports a number of reptiles and invertebrates. A large area of plantation woodland is being restored to lowland heath in the area; and*

[23] ERYC (2018) East Riding of Yorkshire Landscape Character Assessment [Online] Available at: https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/landscape-character-assessment/ (Accessed 11/03/2021). Page 42.

- *Generally **open and rural the LCA has at relatively remote and tranquil character**.*[24]

Quality of the LCT overall is described as containing strong rural character in places, "*in particular LCA 1C which retains a relatively remote character due to the lack of roads and villages and of medium scale where long distance views are intermittent and there is an element of enclosure where tree cover is greater and hedgerows have been allowed to grow tall. Some areas in the LCT could be considered high quality e.g., Everingham Parkland. However, even here elements of the parkland character have been lost. Overall the quality of the landscape in this area is assessed to be ordinary."*[25]. Overall the LCT is considered to be of medium value. Sensitivity to the development will be assessed within Section 7 of this LVA.

Positive landscape features outlined within the LCT overall include:

- *Small water courses provide some variation in the rectilinear field pattern;*
- *Hedgerow field boundaries highlighting the regular field pattern with occasional deviations where natural watercourses introduce more organic lines;*
- *Areas of early enclosure field pattern around villages;*
- *Allerthorpe Common is an important feature of considerable size providing an element of diversity to the area; and*
- *Trees and woodland, where present, are important landscape features contributing to ecological value as well as visual amenity.*[26]

Development proposals would build upon positive landscape features such as reinforcing and gapping existing hedgerows, to strengthen landscape pattern while retaining trees, woodland and valued habitats.

4.1.2.2 LCA 3C: Pocklington Canal and Beck Corridor.

Approximately half of Pocklington Canal and Beck Corridor LCA within the River/Canal Corridors LCT, is located within the southern section of the Study Area but is outwith the Site boundary. As a large proportion of the LCA is within the Study area and is located 700m south of the Site at its closest point, LCA 3C has been considered as part of this Appraisal.

Key characteristics of the Pocklington Canal and Beck Corridor LCA are listed as:

- *The man-made nature of the Canal and the meandering beck that runs alongside it to the north distinguishes this LCA.*
- *The River Derwent, and the Lower Derwent Valley and Pocklington Canal are recognised as **Important Landscape Areas**;*
- *Pocklington Canal cuts through fields indicating that the field pattern developed prior to the construction of the canal.*
- ***Fields tend to be medium in size and linear in nature bounded by fragmented hedgerows and occasional individual trees**.*
- *Tree cover is very sporadic along the length of the canal and in adjacent fields and the corridor narrows as it extends eastwards.*
- ***Predominantly agricultural,** Banking is present at the junction of the Canal with the River Derwent.*

[24] Ibid. Page 43.
[25] Ibid. Page 44.
[26] Ibid. Page 44.

- *Melbourne village is located on the southern boundary of this LCA and is a linear settlement that runs parallel to the canal.*
- *The canal is also recognised as an area of nature conservation interest. Alongside the canal there is neutral grassland, which contains a* ***complex mix of ditches, hedgerows, streams and areas of scrub.*** *The meadows between the canal and Pocklington Beck are species rich due to flooding and traditional hay cropping management.*
- *Landscape quality of this corridor is assessed to be high due to the distinctiveness of the water course and its intactness in addition to the tranquillity of sections that are away from built development.*[27]

Overall LCT 3C is considered to have high value. Sensitivity to the development will be assessed within Section seven of this LVA.

4.2 Local / Site Landscape Character

Site investigations, and a review of the landscape character assessments have informed the assessment of the landscape character of the core study area. Landscape Character Areas are illustrated in Figure 5, Appendix 2. Although an important factor in the baseline assessment, the national / regional and county / district character types and areas described above cover broad areas which share similar characteristics. The level of detail provided is insufficient for more fine-grained assessments such as this LVA, since, within each character type / area, there is likely to be considerable local variation that needs to be understood and factored into the baseline studies.

This section therefore analyses the landscape character of the Site and its surrounds in more detail based on field observations supported by maps and aerial photographs.

The Site is located directly adjacent to Allerthorpe Woods, which wraps around the northern extent of the Site and encloses the landscape setting along this aspect. The scale and quality of Allerthorpe Woods is unique within this particular landscape and contrasts the much more open quality found along the western boundary of the Site. This flat open landscape is much more characteristic of the wider rural setting.

Several pockets of mixed plantation woodland are located both within and directly adjacent to the Site, including Blanch Plantation, Brickpit Plantation, Warren Wood and Spruce Plantation as well as woodland surrounding Waplington Hall, east of the Site. These small pockets of woodland combined with a network of hedgerows and hedgerow trees, provide layers of vegetative screening which enclose views to the east, again contrasting the more open aspects to the west.

4.2.1 Landscape Character of the Site

The Site, as defined by the red line application boundary is primarily located on arable land, consisting of 20 medium scale, irregular shaped field parcels. Field margins are defined by either open ditches along the southern boundary or by hedgerows of varying quality and density with hedgerows trees.

There are a large number of high category trees within the Site, particularly in the north eastern portion of the Site and along the central PRoW which runs from north west to the east. Hedgerows are primarily single species Hawthorn hedgerows and

[27] Ibid. Page 68.

broken in parts. Other vegetation on Site comprises of grassland and grass verges as well as areas of bracken within the northern portion of the Site.

Overall, the land falls gradually from north east to south west approximately 5 m across a distance of over 1 km. As this drop in Above Ordnance Datum (AOD) occurs across a large distance, the landform appears relatively flat with the exception to localised drops along field ditches.

The Site is rural in quality and has a level of tranquillity in aspects away from surrounding roads such as Common Lane and the Melbourne Road. Tranquillity and rural quality are however compromised by neighbouring infrastructure such as the adjacent National Grid substation as well as pylons and overhead cables which run from Holdcarr to the south east, up to the north west and through Allerthorpe Woods.

The closest property to the site is Warren Farm Cottages which is located centrally within the Site. There are also nine other isolated farmsteads and residential properties within 500 m of the Site, scattered across the immediate landscape context, to the east, south and west. The closest settlement to the Site is Thornton located approximately 800 m south of the Site.

Vehicular movement within the Site is currently limited to that associated with agricultural practices as well as along the private access route to Warren Farm Cottages. Beyond the Site, the closest surrounding roads include Common Lane located 250 m east of the Site at its closest point, and Melbourne Road which the proposed access track will adjoin. These are both national speed limit and therefore there is often high-speed traffic which intermittently uses these rural roads.

Pedestrian movement within the Site is limited to PRoW users along Allerthorpe Footpath No.2. Walkers and cyclists in the area tend to gravitate more to the trails within Allerthorpe Woods itself and Allerthorpe Bridleway No.1 rather than this particular footpath.

4.3 Landscape Designations

There are no statutory Landscape Designations within the Study Area however there are other non-statutory landscape designations and protected features which have been considered as part of the desk-based assessment for the Development, with the findings presented on Figure 4, Landscape Designations in Appendix 2.

4.3.1 Important Landscape Area (ILA)

The Site at its closest point is located approximately 500m south of the River Derwent Corridor and Lower Derwent Valley Important Landscape Area at its closest point, as defined in the East Riding of Yorkshire Local Plan, Environmental Policy ENV2 (Please refer to Figure 4, Appendix 2). The ILA lies to the west of the East Riding forming the boundary with York and Selby as shown within the Local Plan Policies Map[28] and has been designated due to the importance of the traditionally farmed flood plain meadow landscape. The ILA runs along river and canal corridors and is considered of great agricultural, historic, cultural, and environmental and landscape value. The Landscape comprises of "*traditional riverine pasture with species rich meadows and well vegetated field drains, framed by occasional small woodlands and waterside willows with a strong sense of tranquillity and serenity from the traditionally farmed areas.*" Policy ENV2 states that all development and landscape management within the ILA, should consider the character and setting

[28] ERYC (2016) East Riding of Yorkshire Local Plan Policies Map [Online] Available at: https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/policies-map/ (Accessed 15/04/2021)

of the low-lying flat floodplain, and associated villages, and farmsteads that line the Lower Derwent Valley and River Derwent Corridor.

4.3.2 Conservation Areas

There are two Conservation Areas within the 2 km Study Area these include Allerthorpe Conservation Area located 1.15 km to the east of the Site and Barmby Moor Conservation Area located 1.6 km north of the Site. Allerthorpe Conservation Area is located within the Study Area in its entirety and covers an area of approximately 14 ha of the Study Area. Barmby Moor Conservation Area is located primarily within the Study Area and covers an area of approximately 13.8 ha of the Study Area. Due to existing screening vegetation and large areas of woodland, there is limited theoretical visibility between the site and both Conservation Areas as shown on Figure 7, Appendix 2. For this reason, both Conservation Areas have been scoped out of the LVA assessment.

4.3.3 Scheduled Monuments and Listed Buildings and Features

There is one Scheduled Monument and 21 Grade II listed buildings / features within the study area shown on Figure 4, Appendix 2. These are primarily located within Barmby Moor, Allerthorpe and Bielby as well as along the Wilberforce Way Long Distance Route. The closest listed buildings to the Development are:

- Church of St Michael (Grade II*) located approximately 915 m to the south of the Site; and
- Two Grade II Locks located 920 m east of the Site along Pocklington Canal.

A full list of Listed Buildings and features is included and assessed within the Heritage Statement submitted as part of this application.

4.4 Visual Receptors

The visual assessment draws from the ZTV, site visits and viewpoint analysis and assesses the potential visual effects on views and visual amenity likely to be experienced by receptors (people) within the landscape as follows:

- Views from residential properties and settlements;
- Views experienced while travelling through the landscape (recreational road users, walkers, horse riders, cyclists for example); and
- Views from tourist and recreational destinations.

The visual assessment focuses on those receptor areas where significant effects are most likely, as detailed in the sections below.

Visual effects would be experienced by the people who live and work in the area, along with those enjoying recreational activities in this area or simply passing through. Whilst it is people who are the actual receptors of visual effects, it is the places they may occupy, and from which the Development may be seen, that are listed below.

The following four main receptor types have been identified within the 2 km Study Area:

- PRoW, bridlepaths, and national / regionally promoted recreational routes;
- Recreational receptors;
- Residential properties, encompassing individual and groups of properties; and
- Road users, users of the existing road network, within the 2 km study area.

4.4.1 Recreational Routes

One long distance recreational route crosses the study area and is included in the appraisal:

- Wilberforce Long Distance Route is located 900 m east of the Site at its closest point.

A comprehensive network of public footpaths, bridleways and byways also cross the study area and are included in the appraisal. These are shown on Figure 4 (Landscape Baseline and PRoW), Appendix 2.

Users of recreational routes which pass within approximately 1 km of the Site have most potential to undergo a 'significant' effect on views and visual amenity arising from the Development. Routes within 1 km are listed below relative to the principal points of the compass (north, east, south, west) and in order of increasing distance from the Site.

One PRoW passes through the Site itself:

- Allerthorpe Footpath No.2 located within the Site.

There are seven PRoW within 1 km of the Site and countless informal recreational routes within Allerthorpe Woods. These include:

North of Site

- Allerthorpe Bridleway No.1, located directly north of the Site; and
- Informal walking routes through Allerthorpe Woods.

East of Site

- Bielby Bridleway No.6, located 900 m east of the Site; and
- Bielby Bridleway No.7, located 900 m east of the Site.

South of Site

- Thornton Footpath No.2, located directly south of the Site; and
- Thornton Footpath No.3, located 1 km south of the Site.

West of Site

- Thornton Footpath No.1, located directly east of the north west corner of the Site.

There are an additional six PRoW between 1-2 km of the Site, however due to limited intervisibility these routes have been scoped out of the LVA.

4.4.2 Outdoor Sport and Recreation

Whilst the potential visual effects on tourists, or those engaging in recreational activities, may be brief in nature by passing through the area by vehicle, or on horse, foot or bike, their sensitivity to landscape and visual change is high because their purpose/activity is to enjoy the landscape and surroundings.

The visual assessment considers views from recreational receptors within 1 km of the Development (refer to Figure 9, Appendix 2). Nearby recreational receptors within the 1 km study area include:

- Horse riding along surrounding roads and footpaths;
- Users of Allerthorpe Lakeland Park;
- Users of Allerthorpe Park Golf Club; and
- Cyclists and walkers within Allerthorpe Woods and along surrounding roads and PRoW.

4.4.3 Residential Properties & Settlements

The Site is located in a predominantly rural landscape in which settlement is limited to a number of small villages as well as a fairly even distribution of farmsteads and residential properties. This pattern of settlement is shown on Figure 9, Appendix 2.

The main settlements identified within the study area and included in the appraisal are:

- Thornton, a village located approximately 800 m south of the Site;
- Allerthorpe, a village located approximately 1.15 km east of the Site at its closest point; and
- Barmby Moor, a village located approximately 1.6 km north east of the Site at its closest point.

In considering effects on views gained from these settlements, the appraisal takes account of any public open spaces or public realm areas included within the settlement boundaries as well as residential areas that make up the built form.

In addition to the main settlements, there are a number of isolated properties, small groups of properties and farmsteads scattered across the study area from which views of the Development may be gained. The LVA considers potential effects on occupiers of properties within approximately 1 km of the Site.

A radius of 1 km was considered appropriate given the flat land form, low level development and limited theoretical visibility shown in Figure 7, Appendix 2, resulting from screening vegetation.

Within this radius, 14 individual and groups of properties have been identified and are shown on Figure 9 Visual Amenity, Appendix 2 where they are numbered 1, 2, etc.

4.4.4 Transport Routes

It is important to take account of how the Development would be experienced from the surrounding road network. The visual assessment considers the potential visual effects likely to be experienced by people travelling through the landscape on main roads and the local road network. Views would vary depending on proximity to the road, the mode of transport, the angle of view, and intervening landscape features.

Figure 4 illustrates key roads and PRoW, which are located within the 2 km Study Area from the Development, which include:

- The A1079 Roman Road;
- B1246;
- Sutton Lane;
- The Street;
- Common Lane;
- Melbourne Road;
- Field Lane;
- Church Road;
- Sand Lane;
- Back Lane;
- Wapling Lane;
- Main Street (Allerthorpe)
- Marketbridge Lane; and
- Unnamed rural roads.

4.5 Receptors Scoped Out of the LVA

The following landscape and visual receptors have been scoped out of this assessment due to lack of intervisibility, confirmed at site survey:

Landscape Receptors

The following landscape character receptors have been scoped out due to a combination of distance and the very small geographic area included in the 2 km study area with potential to be affected by the Development. The limited extent of theoretical visibility indicated by the screened ZTV for some of these receptors has also been a factor:

- NCA 28 – Vale of York;
- LCA 1D: West Pocklington Farmland within the Flat Open Farmland LCT; and
- LCA 6A: South of Pocklington Canal Wooded Farmland within the Wooded Open Farmland LCT.

This has led to the conclusion that they are not likely to be significantly affected by the Development, and hence do not require further assessment as part of the LVA of this Development. Therefore, the Natural England NCAs, Regional LCTs and RCAs listed above have not been assessed further within this LVA.

Although these LCTs and LCAs are not likely to be significantly affected by the Development, guidance on landscape opportunities and trends will be referred to and reviewed as part of the LVA and development of the mitigation proposals.

Visual Receptors

The Glint and Glare Assessment prepared by Pager Power has been summarised within the Planning Statement. It is concluded overall there are no significant impacts upon observers located in the surrounding dwellings, roads or aviation activity and that there is no required mitigation beyond what is suggested within this LVA. As such glint and glare effects on visual receptors have not been addressed within the LVA.

The following receptors have also been scoped out on the basis of little or no theoretical visibility indicated by the screened ZTV, and verified during a site visit:

- Residential receptors 7, 9, 10, 12 & 13 and those beyond 1km. This includes the villages of Allerthorpe, Barmby Moor;
- Footpaths beyond 1km as well as Bielby Bridleway No.6, Bielby Bridleway No.7, located, Thornton Footpath No.3 and internal woodland paths within Allerthorpe Woods;
- Roads including, A1079, B1246, Field Lane, The Street, Sutton Lane, Back Lane, Church Road, Sand Lane, Wapling Lane, Marketbridge Lane and Main Street (Allerthorpe);
- Allerthorpe Lakeland Park; and
- Allerthorpe Park Golf Club.

4.6 Night Time Baseline

The majority of land within the 2 km Study Area is occupied by arable farmland and woodland, therefore the area has limited light pollution on the whole.

There are some sources of light pollution arising from the settlements and infrastructure within the 2 km study area. These include the National Grid Substation, Pocklington Industrial Estate and residential properties located in Thornton, Allerthorpe, Barmby Moor, ribbon settlements off roads such as the A1079 and Sutton Lane as well as individual properties and farmsteads.

Street lighting is limited to busier roads such as the A1079 and light pollution is noticeably higher within sub-urban areas such as Thornton, Allerthorpe and Barmby Moor.

4.7 Future Baseline

It is not anticipated that the baseline conditions as described above would be different to those encountered on the day of the site visits, or within the operational phase assessed within this LVA, due to the dominant land use of the area being agriculture, as well as the proximity to Allerthorpe Woods to the north and the River Derwent Corridor and Lower Derwent Valley ILA to the south.

5 ZTV ANALYSIS

The main areas with theoretical visibility indicated by the ZTV is described below:

- The screened ZTV shown in Figure 7, Appendix 2, demonstrates how theoretical visibility is predominantly limited to the Site itself and up to 1km from the Site. Visibility is limited to 1km by Allerthorpe Woods as well as other small pockets of woodland and a network of hedgerows and hedgerow trees, which due to the flat topography and low-level nature of the majority of the proposed Development, would provide effective screening; and
- There are greater levels of theoretical visibility up to 500 m to the south and north east, due to lack of screening vegetation. Greater levels of theoretical visibility are primarily limited to land occupied by agricultural uses with few visual receptors.

The ZTVs do not consider proposed mitigation which will reduce the theoretical visibility of the Development further once tree and hedgerow planting have matured.

5.1 Weather Conditions

In reality, changing weather patterns and local climatic conditions would influence the visibility of the Development in terms of the extent of view, the colour and contrast of the solar panels and GGP infrastructure, and thus the perceived visual impact. There would be periods of low visibility (i.e., fog, precipitation, low cloud, and bright sunny conditions that are accompanied by haze) as well as periods of high visibility in clear weather.

In some instances, and from some locations, the panels may be reflective in periods of bright sunshine.

6 EMBEDDED MITIGATION AND BIODIVERSITY ENHANCEMENT MEASURES

The landscape and visual objectives of the embedded mitigation were:

- To screen elements of the Development from key receptor locations, e.g., nearby residential properties;
- To soften 'hard edges' of the Development from the Public Rights of Way (PRoW); and
- To reflect existing landscape elements and character in areas of the wider landscape setting.

The embedded mitigation includes the following biodiversity objectives:

- To minimise impacts on existing habitats and species during construction;
- To extend and enhance the most valuable existing habitats onsite;
- To create new habitats onsite that reflect the natural flora and fauna of the area; and

- To make the most of opportunities to improve biodiversity within the Development site and surrounding area.

The following guidance has been used to develop the mitigation measures detailed on Landscape and Ecology Mitigation and Enhancement Plan 3404_DR_LAN_101, Appendix 2:

- East Riding of Yorkshire Landscape Character Assessment[29];
- East Riding of Yorkshire Biodiversity Action Plan (2010)[30]; and
- National Landscape Character Area Number (NCA) 28[31].

The supplementary guidance listed above provides guidance on key landscape characteristics and opportunities and the following has been incorporated into the mitigation measures:

Newton Upon Derwent, Wilberfoss, Allerthorpe and Hayton Farmland LCA

- Promote the planting of hedgerows on field boundaries where they have been lost to reinforce local landscape pattern;
- Encourage new woodland planting and woodland management to increase diversity in structure, habitat and help integrate new development within the existing landscape; and
- The characteristic rural openness of the area and key views, such as village churches and the Wolds, should be protected.

The Development provides an opportunity to both screen the proposed infrastructure from sensitive receptors, such as the PRoW within the Site and improve the existing baseline landscape features/green infrastructure of the immediate landscape setting. The Development includes a significant amount of new planting and biodiversity enhancements in the form of native species hedgerow, woodland, scrub planting and tussock grassland as follows:

- 3.9 kilometres (km) of mixed native species hedgerow;
- Approximately 560 proposed native species hedgerow trees;
- 1 hectare (ha) of native deciduous woodland;
- 5.8 ha of native shrub mix;
- 4.2 ha of mixed native scrub and grassland planting;
- 109.7 ha of native species grass mix beneath and between the solar panels and grass and wildflower meadow mix along verges within the Site;
- 4.8 ha of Tussock Grassland mix;
- Four strips planted with Bird Cover Crop, to provide year-round foraging for birds and insects, covering an area of 0.7 ha; and
- Two Habitat Enhancement Areas, composed of native grass and meadow mix, scrub and tree planting, totalling 12 ha.

Landscape and ecology mitigation is shown on the Landscape and Ecology Mitigation and enhancement Plan drawing 3404_DR_LAN_101 (Appendix 2). This includes all proposed planting and specification and illustrates how planting connects to the existing green network, specifically the reinforcement of existing hedgerows and introduction of additional woodland which responds to opportunities

[29] ERYC (2018) East Riding of Yorkshire Landscape Character Assessment [Online] Available at: https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/landscape-character-assessment/ (Accessed 11/03/2021)

[30] ERYC (2010) East Riding of Yorkshire Biodiversity Action Plan (ERYBAP) [Online] Available at: https://www.eastriding.gov.uk/council/working-with-our-partners/sustainable-development/ (Accessed 18/03/2021)

[31] Natural England National Character Area profile 28: Vale of York [Online] Available at: http://publications.naturalengland.org.uk/publication/3488888?category=587130 (Accessed 11/03/2021)

outlined within guidelines of the Newton Upon Derwent, Wilberfoss, Allerthorpe and Hayton Farmland LCA as well as Policies ENV2, ENV4 and ENV5.

Details of proposed species specification as well an implementation and management prescriptions are outlined within the Biodiversity Enhancement Management Plan (BEMP) submitted as part of this application.

Overall, there is a considerable amount of planting proposed across the Site and the mitigation measures proposed have contributed to a biodiversity net gain of +114.73% in Biodiversity Habitat Units and +66.18% Hedgerow Units as reported in the Biodiversity Metric Assessment Report.

7 APPRAISAL OF RESIDUAL LANDSCAPE EFFECTS

This section considers the potential effects of the Development on the landscape character of the area during its operational phase. Judgements about levels of effect are arrived at by combining levels of receptor 'sensitivity' with the predicted levels of 'magnitude of effect' that are likely to arise from the Development being operated. This is set out in detail in Appendix 1 (Methodology) of the LVA.

In summary, the sensitivity of a landscape character receptor takes account of its 'susceptibility' to the proposed change, together with any 'value' attached to the landscape. This is described in the following sections in relation to each landscape character receptor appraised.

Magnitude takes account of matters such as the 'size or scale' of change, the 'geographical extent' of area affected, the 'duration' of effects and their 'reversibility'.

The size or scale of change and geographical extent of area affected (at different scales from regional to site) are described in the following sections. In terms of the duration and reversibility of effects arising from the completed development, these are assumed to be 'long-term' but 'reversible' and are not re-iterated in the appraisal.

It is also important to note timescales required for embedded mitigation to be effective. This could take several years if, for example, new planting is provided to screen views but needs to achieve a certain height. For the purposes of this appraisal, effects are considered, firstly, at completion when any new planting is in place but not effective (taken as Year 1) and, secondly, when new planting is effective at screening views (taken as Year 10).

These timescales are particularly important in the appraisal of visual effects (as described in Section 8), but less so in the appraisal of landscape effects (described below) since effects on landscape character are not wholly dependent on visibility.

7.1 Appraisal of Effects on Landscape Character

An appraisal of the baseline landscape character has been undertaken in order to determine the sensitivity of the landscape and its capacity to accommodate the Development.

The landscape character is considered at three levels:

- Local setting, based on field observations to confirm the key features and characteristics pertinent to the 2 km study area and the application Site;

- Regional / local setting landscape character areas (LCA), based on the East Riding of Yorkshire Landscape Character Assessment[32]; and
- National / regional setting, in relation to the Natural England National Character Area Profiles.

National, regional and some local Landscape Character Areas which have been scoped out of the LVA are outlined in Section 4.5.

7.1.1 Appraisal of Effects on Character of the Site

Section 7.1.1 considers effects on the character of the Site, both the solar and GGP site areas, and its immediate context where the influence of the Development would be greatest.

7.1.1.1 Landscape Sensitivity

The Landscape within the Site is undesignated agricultural land however there are some attractive landscape features such as high category hedgerow trees, pockets of woodland and neighbouring Allerthorpe Woods which are beneficial to the overall landscape character and rural quality. There is also some recreational value associated with the PRoW which leads from Waplington Hall to the east, up to Allerthorpe Woods. Although the Site is undesignated overall landscape value is considered medium due to landscape quality, tranquillity and recreational value.

The proposed Development would retain the majority of landscape features of value such as existing hedgerows and field margins, hedgerow trees, pockets of woodland and grass verges and would only require a 0.3 ha of tree removal and hedgerow removal around the Greener Grid Park to accommodate the connection into the substation and proposed access tracks.

The proposed Development would introduce infrastructure over a large geographical scale which would be of a different quality to the baseline conditions. It is considered however, that retention of the majority of landscape features including the existing field patterns and vegetative boundaries, would screen low level solar panels and maintain a rural quality within the landscape as a whole. As such it is considered the receiving landscape would be able to accommodate the proposed change while retaining a rural character and landscape features of value.

Topography would also remain unchanged throughout the Site and due to the low-level nature of the solar panels, the development would not protrude the skyline and views to the wider landscape setting which are currently afforded would remain expansive and open.

Although there is a large network of hedgerows across the Site the majority of hedgerows comprise of a single species and many are fragmented. Therefore, there are opportunities for landscape improvements which the development would introduce through gapping up and planting of new and secondary species rich hedgerows and hedgerow trees.

Where taller infrastructure and vegetative removal is proposed within the Greener Grid Park, this would be in the context of man-made infrastructure associated with the National Grid Substation and it is considered the receiving landscape would have the capacity to accommodate this specific type of infrastructure in this location due to the similar baseline landscape quality.

[32] ERYC (2018) East Riding of Yorkshire Landscape Character Assessment [Online] Available at: https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/landscape-character-assessment/ (Accessed 11/03/2021)

Susceptibility to the Development is considered to be **low**, as although the effects would be large in scale, key features and characteristics of the landscape would be retained. It is also considered there is scope for improvements of key landscape features within the Site which the Development proposes.

Landscape sensitivity of the Site and immediate surrounding area is therefore considered to be **medium** with the capacity to accommodate the proposed development, with scope to improve landscape features which have currently succumb to degradation.

7.1.1.2 Magnitude of change

The magnitude of change arising from the Development within the Site would be **large** when considering the development without proposed embedded mitigation due to the change in land use from arable land to renewable energy across a large geographical extent which would be permanent. Embedded mitigation would however seek to improve baseline landscape features which are key to the landscape character and setting.

Landscape proposals would reinforce and gap up existing hedgerows while introducing additional hedgerow trees throughout the Site and new hedgerows along nearly the full length of the western boundary. This would strengthen the existing green network while providing screening of proposed development. Additional native species grassland beneath solar panels and wildflower grassland enhancements, around field margins and external to proposed fence lines, would provide additional species diversity within areas currently occupied by crops. The PRoW would be structurally and materially improved as part of the Development and solar panels would be offset a minimum of 20 m and planted with wildflower grassland and hedgerow planting with trees, in order to maintain a degree of openness and retain amenity value.

On balance, the magnitude of change arising from the solar and GGP, on the Site and immediate site context, are judged to be **medium adverse.** This also takes into account proposed enhancements throughout the Site, as described above, which at the local level are judged to be **medium beneficial**.

7.1.1.3 Level of Effect

As the landscape sensitivity on Site is considered medium and the magnitude of change is large as a worst case, due to change from agricultural uses to renewable energy, the landscape effects would be ***moderate - major,*** direct, and adverse at Year 1 but reversible. That said, the low-level nature of the solar development and retention of medium scale field parcels, and the alignment of the GGP alongside the existing substation, would limit the discernible deterioration of the existing landscape scale and open quality.

Proposed embedded mitigation would reinforce and connect existing key landscape features such as hedgerows and woodland belts both within and surrounding the Site. By Year 10 extensive amounts of landscape mitigation throughout the Site, would enhance existing key landscape features when vegetation has matured, and as a result the Development would introduce beneficial landscape effects. For this reason, it is considered level of landscape effect would be reduced to ***moderate,*** direct and neutral as a result of the beneficial landscape mitigation within the site.

7.1.2 Local Landscape Character Areas

Assessment for the effects on landscape character, sensitivity and value has been assessed based on professional judgement from field observations.

At a local level, the 2 km study area falls within:

- LCA 1C: Newton Upon Derwent, Wilberfoss, Allerthorpe and Hayton Farmland within the Flat Open Farmland LCT; and
- LCA 3C: Pocklington Canal and Beck Corridor within the River/Canal Corridors LCT.

LCA 3C is largely defined by the River Derwent Corridor and Lower Derwent Valley, Important Landscape Area. As the extent of both the LCA and ILA coalesce, landscape effects resulting from the Development have been appraised as one within Section 7.2.

7.1.2.1 LCA 1C: Newton Upon Derwent, Wilberfoss, Allerthorpe and Hayton Farmland within the Flat Open Farmland LCT

LCA 1C is the 'host' landscape for the Development and therefore has the potential to be directly and indirectly affected by it. The Site covers less than a quarter of the total Character Area.

7.1.2.2 Landscape Sensitivity

The Site is undesignated but is characteristic of LCA 1C and contains key landscape characteristics such as flat open arable land containing scattered farmsteads, pockets of woodland and is generally rural and tranquil in quality. Landscape value is therefore considered to be **medium**.

Although the Site is characteristic of the LCA, the development would retain pockets of woodland and field margins and the particular type of development would not result in the loss of tranquillity and rural character therefore susceptibility to the Development is considered to be **low**.

Overall sensitivity is therefore considered to be **medium** with scope for positive landscape enhancement which would build upon key landscape features through suitable mitigation such as additional woodland blocks and improvement to defining field boundaries.

7.1.2.3 Magnitude of change

The Development would cover a moderate geographical extent of the LCA and be long term, however the Development would retain key characteristics such as field margins, ditches and existing vegetation and effects would be reversible. Due to the low-level nature of the development on flat land and screening provided existing vegetation, visibility of the Development would primarily be limited to the Site and its immediate context. Changes to land use and quality of the landscape would therefore be restricted to the Site only and have limited indirect effects to the remaining LCA. Embedded mitigation such as proposed hedgerows, trees and woodland shelter belts would limit views to the wider LCA further when mature, while providing enhancement also. Magnitude of change is therefore considered to be **small** to the LCA as a whole.

7.1.2.4 Level of Effect

At Year 1, taking into account the medium landscape sensitivity attributed to the LCA and the small adverse magnitude of change predicted, the level of effect would be ***minor*** adverse. As embedded mitigation matures, views of the development would be limited further within the LCA and effects upon the landscape quality would be limited to the Site itself. Effects once vegetation matures are considered beneficial as embedded mitigation and enhancement measures would provide

additional wildflower grassland and proposed trees and hedges would link existing marginal vegetation of a similar quality.

7.2 Appraisal of Landscape Effects on Landscape Designations

As noted in Section 4.3 of the baseline conditions, the only Landscape Designation within the Study Area is the River Derwent Corridor and Lower Derwent Valley Important Landscape Area (ILA). The Site is located 500 m north of the ILA at its closest point and only a small extent of the ILA is located within the Study Area.

The main purpose of the ILA is to protect the highly valued landscape character, unique habitats, and landscape quality associated with the traditional riverine pasture and meadows that line the Lower Derwent Valley and River Derwent Corridor.

The LCA 3C Pocklington Canal and Beck Corridor is defined greatly by the ILA, therefore landscape quality and value are very much the same. Unlike the ILA, a large proportion of LCA 3C is located within the Study Area. Approximately half of the LCA is within the Study Area and located 650m south of the Site at its closest point.

7.2.1.1 Landscape Sensitivity

The Landscape within the ILA and LCA are of local importance and contain rare physical attributes and habitats which are of conservational interest. Landscape value of both the ILA and LCA is therefore considered to be **medium**.

As the Development would be low level and retain screening vegetation, visual effects that have the potential to have an adverse effect on rural quality and tranquillity, would be limited to the Site itself and not be visible within the ILA or LCA. Additional proposed screening vegetation along the western site boundary would also limit views of the Development further once matured.

It is considered that susceptibility to the change brought by this type of infrastructure is **negligible** and both the ILA and LCA have the capacity to accommodate the Development without degradation of defining features and landscape quality.

Taking into account the receptors susceptibility to change, landscape sensitivity is considered as **low** overall as the landscape has the ability to accommodate the Development without undue adverse effects due to lack of intervisibility.

7.2.1.2 Magnitude of Change

The Site itself is external to the ILA and LCT and the changes brought by the Development would be limited to perceptual aspects only such as rural quality. However, views of the Development which would affect perceptual aspects, would be limited by surrounding vegetation. Due to a combination of the low-level nature of the proposed infrastructure and the relatively flat topography, the extensive network of hedgerows and trees in the wider landscape setting would screen the Development as indicted in Figure 7, Appendix 2. For these reasons magnitude of change is considered to be **negligible** for both the ILA and LCA. No defining landscape features would be directly or indirectly effected as a result of the Development and landscape quality would remain intact.

7.2.1.3 Level of Effect

Taking into account the low landscape sensitivity resulting from the receptors ability to accommodate the Development without degradation of defining features and

landscape quality, and the negligible magnitude of effect, the level of effect overall would be ***negligible*** at Years 1 and 10.

8 APPRAISAL OF RESIDUAL VISUAL EFFECTS

Visual effects are concerned wholly with the effect of the Development on views, and the general visual amenity as experienced by people.

Visual effects are assessed by considering the sensitivity of the receptor (people) against the proposed magnitude of change to determine a level of visual effect. The acceptability of this effect largely relates to the activity and the experience of the viewer and the visual composition, character, context, and the overall ability of the landscape in that view to accommodate the Development in design terms. Visual effects are assessed in relation to the agreed viewpoints, properties and settlements, tourist and recreational destinations including tourist routes as well as main transport routes.

8.1 Viewpoint Assessment

An appraisal of visual effects was undertaken from nine viewpoints, which were selected to represent typical views from key receptors at varying distances and orientations from the Site. The selected viewpoints were agreed in consultation with East Riding of Yorkshire Council and micro sited on Site (for details please refer to Table 2.1). These viewpoints were selected using the screened ZTV shown in Figure 7, Appendix 2, and represent those views which would likely see the greatest change. As shown in the screened ZTV the views which would likely see the greatest amount of change are limited to those in close proximity to the Site.

From each viewpoint the following information is provided, and presented in accordance with the Landscape Institute Guidance:

- A representative baseline photograph (180-degree horizontal angle of view) to show the context of location of the viewpoint from Viewpoints 1 and 2;
- A photomontage illustration (using a combination of 180- and 360-degree horizontal angle of view) from Viewpoints 1, 3, and 4;
- A description of the existing view;
- A qualitative assessment of the potential visual effects considering the sensitivity of the receptor and magnitude of change in view.

It is recognised that different receptors would appreciate the landscape in many different ways, depending on whether they live in, work in, or are holidaying in the area and how they are travelling through e.g., on road or foot, or on water etc.

Those living within, or travelling through, the landscape of the 2 km study area on a regular basis may appreciate it beyond the perception of a visitor and may appreciate familiarity of landscape and views, based on their experience of viewing it in a certain way, over time and in its present state without intervention. Therefore, those who notice change within the landscape may be more acutely affected by change, regardless of the scale of the Development. There may also be a different appreciation for change where such change for instance brings social or economic benefits and as such it is difficult to interpret how such changes would be interpreted by various users other than as set out in the methodology in Appendix 1. On this basis we have assessed all such receptors as being of medium to high sensitivity to change and as such have assessed any such effects on a worst-case basis.

The viewpoint locations are shown on Figures 6 and 7 (Appendix 2). Photographs and photomontages (from 3 viewpoints) of the existing baseline and the Development from each viewpoint, and are shown in Viewpoints 1-9, Figures 10 to

18 (Appendix 2). The photomontages present a view of the development, and mitigation planting at Year 1 and Year 10.

Viewpoint selection and micro-siting of each viewpoint location accord with technical guidance[33].

8.1.1 Viewpoint 1 – Allerthorpe Footpath No.2, South of Allerthorpe Woods

8.1.1.1 Baseline

The existing baseline view from Viewpoint 1 is shown in Figure 11 and 20a, Appendix 2.

Viewpoint 1 represents the views for recreational users of the Allerthorpe Footpath No.2, at the point where it meets an access gate to Allerthorpe Woods. Allerthorpe Footpath No.1, which runs directly through Allerthorpe Woods is located just 40 m north of this viewpoint. The viewpoint affords an open view, limited to the two field parcels either side of the Footpath directly ahead of view.

Hedgerows and tree cover at varying distances limit views to the south, east and west. The horizon line is broken throughout by hedgerow trees and a dense woodland block to the east known as Tank Plantation. Pylons and overhead cables also stretch across the horizon line to both the east and west and are diffused centrally within the view by tree cover.

Several green agricultural buildings and a line of white poly tunnels are visible directly west of the view. The roofs of several other buildings are also within view including Warren Farm Cottages to the south as well as the Poultry Houses along Common Lane. Views of these buildings however are diffused by intervening vegetation.

Running ahead of view to the south is the PRoW which comprises of a muddy track.

8.1.1.2 Visual Sensitivity

Visual receptors are those using the PRoW, which would be of a high susceptibility to change. The view is from an undesignated landscape; however, it is from a location where the viewer changes from an enclosed space to an open aspect. Due to this change in landscape setting the view is more significant and therefore the view is considered of medium value. The view is open and rural with some visual detractors such as pylons in the far distance, but is not particularly unique or recognised therefore visual sensitivity is considered to be **medium**.

8.1.1.3 Magnitude of Change

The scale of the solar development would occupy an extensive proportion of the view and would become a dominant feature in the foreground; therefore, the magnitude of change is considered to be **large** in Year 1. Proposed panels would occupy the full extent of both field parcels within view. The improved track along the PRoW, would be visible ahead of view and sweeping access tracks would lead to either field parcel.

Hedgerows and hedgerow trees would remain intact and a secondary hedge would be visible along the eastern side of the PRoW directly next to the existing hedgerow and a new hedgerow would line the western edge. A block of proposed woodland would also be visible directly east and west of the view.

33 Visual Representation of Development Proposals, Technical Guidance Note 2019, The Landscape Institute.

By Year 10 views of the panels would become greatly screened by proposed embedded mitigation however the view would alter from an open view to a much more enclosed view, and the magnitude of change in the view from this location reduce to medium.

The GGP would not be visible from this location due to existing woodland tree cover in the landscape.

8.1.1.4 Level of Visual Effect (Year 1)

A photomontage of Viewpoint 1, Year 1 is shown in Figure 20b, Appendix 2.

Sensitivity of the viewpoint receptors in this location is medium and the magnitude of change is large as the view will alter from agricultural fields to a Solar Farm, therefore the overall level of visual effect is considered to be ***moderate – major*** adverse in Year 1, but reversible.

8.1.1.5 Level of Visual Effect (Year 10)

A photomontage of Viewpoint 1, Year 10 is shown in Figure 20b, Appendix 2.

Views of the proposed mitigation will occupy a large portion of the view directly to the east and west and will form an extension of the woodland character in this particular location. Proposed embedded mitigation would alter the view, limiting any long-distance views which are currently afforded however this would greatly screen proposed solar panels and still contain the qualities of a wooded rural landscape. Magnitude of change is therefore considered to reduce to medium and overall visual effects are considered to be ***moderate*** adverse, but reversible.

8.1.2 Viewpoint 2 – Allerthorpe Footpath No.2, within agricultural fields

8.1.2.1 Baseline

The existing baseline view from Viewpoint 2 is shown in Figure 12, Appendix 2.

Viewpoint 2 represents views afforded by recreational users of the Allerthorpe Footpath No.2 which runs along centrally within the Site. The viewpoint captures a 360˚ view of the agricultural fields which run either side of the PRoW and the hedgerows which define them. Views are generally limited to the fields within the immediate context of the PRoW, with some wider views available between gaps in hedgerows such as that visible directly south of the view. The remaining hedgerows consist of sporadic trees which protrude the sky line at varying distances throughout the view.

The dense block of woodland which make up Allerthorpe Woods, encloses the view to the north east and north west. Pylons and overhead cables also stretch across the horizon line to both the east and west and are diffused within the view by tree cover. The presence of other infrastructure includes green agricultural buildings and a line of white poly tunnels to the west.

Views of the upper floors of both Warren Farm Cottages to the south and a private property along Common Lane directly west can be afforded at a distance and are diffused by surrounding vegetation.

8.1.2.2 Visual Sensitivity

Visual receptors are those using the PRoW, which would be of a high susceptibility to change. The view is from an undesignated landscape, is not unique and contains some visual detractors such as pylons and overhead cables however it is generally

an attractive view of rural quality therefore the value is considered to be medium-low. Overall visual sensitivity is considered to be **medium**.

8.1.2.3 Magnitude of Change

The scale of the development would occupy much of the view and become the main feature of the viewpoint therefore the magnitude of change is considered to be **large** in Year 1. The proposed fence would be set back 20 m from the view to the east and west, and panels situated 5m beyond that. Proposed panels would occupy the full extent field parcels within immediate view and protrude the skyline. Distant trees on the horizon would however help settle the appearance of the panels within the landscape.

The improved track along the PRoW, would be visible to the north and south and sweeping access tracks would lead to both field parcels to the east.

Hedgerows and hedgerow trees would remain intact throughout the view and a secondary hedge would be visible along the eastern side of the PRoW directly next to the existing hedgerow. A band of wildflower grassland 15 m wide would run parallel to the PRoW to the west and the hedgerow with hedgerow trees would provide a screening band of planting once matured.

By Year 10 views of the panels would become greatly screened to the west by proposed embedded mitigation, however the view would become more enclosed. Views of the panels to the east would remain visible, as there is no proposed planting due to the main point of access to the neighbouring field, and the magnitude of change in the view from this location reduce to **medium**.

The GGP would not be visible from this location due to existing woodland tree cover in the landscape.

8.1.2.4 Level of Visual Effect (Year 1)

Sensitivity is medium and the magnitude of change is large as the Development would change much of the view but retain existing vegetation and field margins so views would be limited to panels within the adjacent field parcels only. The overall level of visual effect at Year 1 is therefore considered to be ***moderate – major*** adverse in Year 1, but reversible.

8.1.2.5 Level of Visual Effect (Year 10)

Magnitude of change brought by the Development would reduce by Year 10 as proposed embedded mitigation matures. Views of the proposed mitigation will occupy a large portion of the view directly to the west in the form of a width of wildflower grassland and proposed hedgerow and hedgerow trees, which would screen views of proposed panels but remain rural in character. Proposed embedded mitigation would alter the view, limiting any long-distance views to the west currently afforded. Views of the panels would still be available to the east in Year 10 however, much of this would be already screened by the existing hedgerow east of the PRoW, which would be further enhanced through additional tree planting as well as a secondary hedge. Magnitude of change is therefore considered to reduce to medium and overall visual effects are considered to be ***moderate*** adverse, but reversible.

8.1.3 Viewpoint 3 – Allerthorpe Footpath No.2, North of Warren Farm Cottages

8.1.3.1 Baseline

The existing baseline view from Viewpoint 3 is shown in Figure 13, Appendix 2.

Viewpoint 3 represents views afforded by recreational users of the Allerthorpe Footpath No.2, directly 200 m north of Warren Farm Cottages. The viewpoint photography was taken between two field parcels east of the PRoW surrounded by native hedgerows and hedgerow trees which limit views to the field adjacent to the PRoW only.

Deciduous woodland of various densities, located east and south of Warren Farm Cottages, enclose views to the south. In contrast, views to the west are much more open but limited on the horizon by distant tree cover and five agricultural buildings associated with the Poultry Houses along Common Lane. Other man-made infrastructure within the view includes Warren Farm Cottages to the south and pylons, overhead lines and telegraph poles to the west at varying distances.

Views to the east and north are limited by a continuous hedgerow with hedgerows trees which run directly parallel to eastern edge of PRoW. Views to the east are largely screened, with glimpses to the land beyond through various gaps in the hedgerow. Where more distant views are afforded, these are limited by trees and woodland on the horizon.

8.1.3.2 Visual Sensitivity

Visual receptors from this viewpoint location are those using the PRoW, which would be of a high susceptibility to change. The view is from an undesignated landscape, is not unique and contains some visual detractors such as pylons and overhead cables however it is generally an attractive view of rural quality therefore the value is considered to be medium-low. Overall visual sensitivity is considered to be **medium**.

8.1.3.3 Magnitude of Change

The scale of the development would occupy much of the view to the west where proposed panels would be set back 20 m from the PRoW and occupy the western field parcel in its entirety. Panels would also occupy the field visible to the east, however views of the proposed infrastructure would be greatly limited by the existing hedgerow and hedgerow trees. Hedgerows and hedgerow trees would remain intact throughout the view and a secondary hedge would be visible along the eastern side of the PRoW directly next to the existing hedgerow.

Views to the south would remain as they are, with proposed wildflower grassland occupying the field north of Warren Farm Cottages in its entirety. The improved track along the PRoW, would be also visible to the north and south.

As change to the view would be extensive to the west but less so to the east and remain unchanged to the south magnitude of change is considered to be **medium** in Year 1.

When considering proposed mitigation, a band of wildflower grassland 15 m wide would run parallel to the PRoW to the west and the hedgerow with hedgerow trees would provide screening to the western field parcel, where the greatest change in view would occur.

By Year 10 views of the panels would become greatly screened to both the east and west and the view would become more enclosed but remain of a rural nature.

A discernible change would still be visible therefore magnitude of change would remain **medium**.

The GGP would not be visible from this location due to existing woodland tree cover in the landscape.

8.1.3.4 Level of Visual Effect (Year 1)

A photomontage of Viewpoint 3, Year 1 is shown in Figure 21b, Appendix 2.

Sensitivity is medium and the magnitude of change is medium as the Development would change much of the view but retain existing vegetation and field margins so views would be limited to panels within the adjacent field parcels only. Overall level of visual effect at Year 1 is therefore considered to be ***moderate*** adverse in Year 1, but reversible.

8.1.3.5 Level of Visual Effect (Year 10)

A photomontage of Viewpoint 3, Year 10 is shown in Figure 21c, Appendix 2.

Proposed embedded mitigation would limit views of the Development to the west and enhance screening to the east however magnitude of change would remain medium and a discernible change would still be visible. Level of effect is therefore considered to remain ***moderate*** adverse, but reversible.

8.1.4 Viewpoint 4 – Allerthorpe Footpath No.2, West of Warren Wood

8.1.4.1 Baseline

The existing baseline view from Viewpoint 4 is shown in Figure 14, Appendix 2.

Viewpoint 4 represents views afforded by recreational users of the Allerthorpe Footpath No.2, directly 390 m east of Warren Farm Cottages. The viewpoint photography was taken directly west of Warren Wood which limits views directly east, 320 m north east of Brickpit Plantation and 260 m south east of another woodland block, which together limit and long distant views to the west. Where views are more open in the absence of woodland blocks, the skyline is punctuated by a combination of trees, pylons and overhead cables across the landscape.

Tree lines and hedgerows limit views at varying distances, restricting views to field parcels adjacent to the PRoW only which consist of arable land with grass verges.

The PRoW runs out of view to the east and west and consists of a constructed hard surface, more established than parts of the PRoW to the north which is limited to a muddy track. Warren Farm Cottages is visible directly east of the viewpoint location and is partly screened by a small section of hedgerow and surrounding deciduous trees.

8.1.4.2 Visual Sensitivity

Visual receptors are those using the PRoW which would be of a high susceptibility to change. The view is from an undesignated landscape, is not unique and contains some visual detractors such as pylons and overhead cables however it is generally an attractive view of rural quality therefore the value is considered to be medium-low. Overall visual sensitivity is considered to be **medium**.

8.1.4.3 Magnitude of Change

As a worst-case scenario, panels would occupy the field parcel to the north in its entirety. The closest panel to the north would be set back 20 m from the view and would face the viewer. The panels within the field would alter the view of a rural

view to that which contains an array of solar panels however panels would screen the lower extent of telegraph poles, would not protrude the sky line due to their low-level nature. The wooded backdrop to the north would provide a dark backdrop to the proposed panels which would help settle the development from day one.

Woodland, hedgerows and hedgerow trees would remain intact throughout the view and a proposed hedgerow would be visible along the southern side of the PRoW. Before any proposed mitigation has matured, views of proposed panels would be visible in the immediate view to the south east and the distant view to the south/ south west.

As change to the view would be extensive to the north and south east but less so to the south / south west and where woodland would provide existing screening, magnitude of change is considered to be **medium** for the view as a whole in Year 1.

When considering proposed mitigation, a band of wildflower grassland 15 m wide, would run parallel to the PRoW to the north and south and a proposed hedgerow with hedgerow trees would provide new screening to the southern field parcels along with a proposed band of woodland which would wrap around the field parcel directly east of Warren Farm Cottages.

By Year 10 views of the panels would become greatly screened to both the north and south and the view would become more enclosed but remain of a rural nature. A discernible change would still be visible therefore magnitude of change would remain **medium**.

The GGP would not be visible from this location due to existing woodland tree cover in the landscape.

8.1.4.4 Level of Visual Effect (Year 1)

A photomontage of Viewpoint 4, Year 1 is shown in Figure 22b, Appendix 2.

Sensitivity is medium and the magnitude of change is medium as the Development would change much of the view but retain existing vegetation and field margins so views would be limited to panels within the adjacent field parcels only. Overall level of visual effect at Year 1 is therefore considered to be ***moderate*** adverse in Year 1, but reversible.

8.1.4.5 Level of Visual Effect (Year 10)

A photomontage of Viewpoint 4, Year 10 is shown in Figure 22c, Appendix 2.

Proposed embedded mitigation would limit views of the Development to the south however magnitude of change would remain medium and a discernible change would still be visible. Level of effect is therefore considered to remain ***moderate*** adverse, but reversible.

8.1.5 Viewpoint 5 – Allerthorpe Footpath No.2, East of Warren Wood

8.1.5.1 Baseline

The existing baseline view from Viewpoint 5 is shown in Figure 15, Appendix 2.

Viewpoint 5 represents views afforded by recreational users of the Allerthorpe Footpath No.2, directly 200 m east of the application boundary. Hedgerows and tree cover at varying distances limit any views to the adjacent field parcels only. Warren Wood is visible and occupies much of the skyline to the west, with the exception of a break in the trees due to telegraph poles and overhead cables. The skyline contains a large number of trees throughout the view becoming enclosed

by denser to the north where tank plantation is visible, to the east where woodland surrounding Waplington Hall is visible and to the south east where Spruce Plantation is visible.

Pylons and overhead cables stretch across the horizon line primarily to the south and are much closer to the viewer directly south, where both telegraph poles and pylons are visible, with glimpsed views of the Substation, and GGP Site, through tree and hedgerow cover on the horizon where the pylons converge

An irregular shaped low level grassed bund is visible to the east of view and limits ground level views of the neighbouring fields.

The PRoW runs out of view to the east and west and consists of a constructed hard surface, more established than the section of the Allerthorpe Footpath No.2 visible in viewpoint photography 1-3. The PRoW is lined with a low-level evergreen laurel hedge to the south and a deciduous hedge to the north.

8.1.5.2 Visual Sensitivity

Visual receptors are those using the PRoW which would be of a high susceptibility to change. The view is from an undesignated landscape, is not unique and contains some visual detractors such as pylons and overhead cables however it is generally an attractive view of rural quality therefore the value is considered to be medium-low. Overall visual sensitivity is considered to be **medium**.

8.1.5.3 Magnitude of Change

The Development would occupy a very small portion of the view to the south primarily over the tops of the existing hedgerow and to the west, where glimpses of the proposed solar panels and GPP may be visible through the existing tree line as a worst case. The changes seen would not fundamentally alter the overall composition of the view due to the low-level nature of the Development and existing trees and hedgerows which would screen much of the proposed development to the south west. Glimpses of solar panels within the field parcel north of the view would be visible over the tops of the existing hedgerow and through gaps in the hedgerow however these would be eventually become screened through the combination of allowing existing hedgerows to grow out, infill hedging proposals and proposed hedgerow trees.

Retained vegetation throughout the site and within the surrounding landscape would provide darker backdrop that would help the settle proposed infrastructure where any views of the proposed infrastructure could be afforded. Magnitude of change at Year 1 is therefore considered to be **small**. The changes seen would become further screened over time as the proposed hedgerow and hedgerow trees mature. The proposed vegetation would be in keeping with existing landscape character and replicate the existing vegetation but a discernible visual change in the form of glimpses of proposed infrastructure may still be afforded as a worst case in winter views. The magnitude of change at Year 10 would remain **small** but the overall composition of the view would not change.

8.1.5.4 Level of Visual Effect (Year 1)

Sensitivity is medium and the magnitude of change is small as the Development would change a small proportion of the view but retain existing character and composition. Overall level of visual effect at Year 1 is therefore considered to be ***minor*** adverse in Year 1, but reversible.

8.1.5.5 Level of Visual Effect (with mitigation)

Proposed embedded mitigation would limit views of the Development to the south, west and north, however magnitude of change would remain small as a worst case and a discernible change would still be visible. The level of effect is therefore considered to remain ***minor*** adverse, but reversible.

8.1.6 Viewpoint 6 – Allerthorpe Footpath No.2, West of Waplington Hall

8.1.6.1 Baseline

The existing baseline view from Viewpoint 6 is shown in Figure 16, Appendix 2.

Viewpoint 6 represents views afforded by recreational users of the Allerthorpe Footpath No.2, taken 300 m west of Waplington Hall. Hedgerows and tree cover at varying distances limit views to field parcels adjacent to the PRoW only. Spruce Plantation is visible and occupies much of the skyline to the south east. The skyline contains a large number of trees throughout the view at varying distances, the closest of which is trees within the hedgerow which runs adjacent to the PRoW to the west.

The view is fairly enclosed and primarily rural in character with some man-made features visible in the distance. Pylons and overhead cables stretch across the horizon line to the south leading towards the National Grid Substation. Views of the pylons are diffused and screened by the surrounding tree cover, with glimpsed views of the Substation, and GGP Site, through tree and hedgerow cover on the horizon where the pylons converge

The PRoW runs out of view to the west and consists of a constructed hard surface edged with a low post and wire fence. The field parcel south of the PRoW comprises rough mixed grassland with scattered shrubs which contrast the field parcel to the north which contains a much greener maintained turf.

8.1.6.2 Visual Sensitivity

Visual receptors are those using the PRoW which would be of a high susceptibility to change. The view is from an undesignated landscape, is not unique and contains a large number of visual detractors such as pylons and overhead cables therefore the value is considered to be low. Overall visual sensitivity is considered to be **medium**.

8.1.6.3 Magnitude of Change

The Development would occupy a very small portion of the view do to distance to the proposed infrastructure and existing vegetation and tree cover. The changes seen would not fundamentally alter the overall composition of the view due to the low-level nature of the Development and existing trees and hedgerows which would screen much of the proposed solar array to the south west.

Glimpses of the tops of taller infrastructure associated with the Greener Grid Park may be afforded above the existing tree line, however this would be of a similar quality to infrastructure within the adjacent substation, which as shown within the viewpoint photography is difficult to distinguish. Magnitude of change at Year 1 is therefore considered to be **negligible**. Any glimpses of taller infrastructure associated with the Greener Grid Park would become further screened over time as the proposed block of woodland along the north east corner of the Greener Grid Park matures. The proposed vegetation would be in keeping with existing landscape character and proposed woodland block north of the BESS would appear as an extension to the Spruce Plantation. The magnitude of change at Year 10 would be

negligible and proposed woodland bands may provide beneficial screening of the lower extents of the existing pylons.

8.1.6.4 Level of Visual Effect (Year 1)

Sensitivity is medium and the magnitude of change is negligible as views of the Development would be barely discernible due to existing screening and distance to the proposed infrastructure. The overall level of visual effect at Year 1 is therefore considered to be ***negligible*** adverse, but reversible.

8.1.6.5 Level of Visual Effect (Year 10)

Proposed embedded mitigation would further limit glimpsed views of the Development to the south and has the potential to screen lower extents of the existing pylons therefore magnitude of change would remain negligible and level of effect ***negligible beneficial***.

8.1.7 Viewpoint 7 – Common Lane

8.1.7.1 Baseline

The existing baseline view from Viewpoint 7 is shown in Figure 17, Appendix 2.

Viewpoint 7 represents views afforded by users of Common Lane as well as a residential property on Common Lane, 250m north of the Poultry Houses. Hedgerows and tree cover limit views to the arable field parcel directly east of Common Lane only with few glimpses into the wider landscape beyond through small gaps in the vegetation. The skyline contains a large number of trees throughout the view at varying distances. Pylons punctuate the skyline primarily to the south however the view remains fairly open and rural in character.

Although the view has rural qualities there are man-made elements throughout landscape setting including residential properties and out buildings to the north, the roofs and infrastructure associated with the Poultry Houses to the south and pylons and overhead cables to the east and south. Views of properties and other infrastructure are all either diffused or screened by surrounding hedgerows and tree cover.

8.1.7.2 Visual Sensitivity

The viewpoint is representative of views from near a residential property, as well as the road which would be of a high susceptibility to change. The view is from an undesignated landscape, is not unique and contains a few visual detractors such as pylons and overhead cables however it is generally an attractive view of rural quality therefore the value is considered to be medium. Overall visual sensitivity is considered to be **medium**.

8.1.7.3 Magnitude of Change

Due to a combination of the low-level nature of the Development, the backdrop of vegetation and woodland as well as intervening vegetation west of the Site, glimpsed views of the proposed solar array within the north western field parcels of the site may be afforded through gaps in the existing vegetation to the east of the view only, or from first floor windows of the property. As visual changes seen would be limited but noticeable, the magnitude of change is considered to be **small** as a worst case in Year 1. As the proposed hedgerow and hedgerow trees along the western boundary of the Site matures, any glimpsed views of the Development

would become screened entirely by Year 10. The proposed embedded mitigation is in keeping and of a similar quality to that of the current landscape setting. As a result, the magnitude of change would reduce to **negligible** at Year 10.

The GGP would not be visible from this location due to existing woodland tree and hedgerow cover in the landscape.

8.1.7.4 Level of Visual Effect (Year 1)

Sensitivity is medium and the magnitude of change at Year 1 is **small** due to the low-level nature of the development which would be set back from the view against the darker coloured backdrop of the existing trees and would be largely screened by existing intervening vegetation. Level of visual effect overall at Year 1 is considered to be ***minor- moderate*** adverse, but reversible.

8.1.7.5 Level of Visual Effect (Year 10)

As embedded mitigation matures, glimpsed views of the Development would be screened in their entirety. The proposed hedgerow and hedgerow trees along the western boundary of the Site would replicate the quality of existing vegetation within the existing landscape setting. The magnitude of change is therefore considered to reduce to negligible by year 10 and level of effect is considered to be ***negligible*** adverse.

8.1.8 Viewpoint 8 – Thornton Footpath No.2, North of Byholme Farm

8.1.8.1 Baseline

The existing baseline view from Viewpoint 8 is shown in Figure 18, Appendix 2.

Viewpoint 8 represents views afforded by recreational users of the Thornton Footpath No.2, taken 190 m south of the application boundary. Wide open views across the adjacent field as well as four arable fields south of Warren Farm Cottages, within the application boundary, can be afforded. Hedgerows and tree cover limit views to these field parcels only.

The skyline contains a large number of trees throughout the view at varying distances and densities. Views of different woodland blocks can be seen throughout the view including; Allerthorpe Woods, Tank Plantation and Warren Wood to the north, Brickpit Plantation to the north west, and woodland surrounding Waplington Hall along with Spruce Plantation to the north east. These woodland blocks are difficult to distinguish within the view due to the large amount of tree cover which line field margins and limit any long-distance views. Amongst the tree line, glimpses of rolling hills can just be seen in the far distance to the north east, which contrast the otherwise flat landscape setting.

With the exception of trees in the distant view, the skyline is fairly open, punctuated by pylons and overhead cables to the north which run towards the substation. Although there are several pylons within view, the overall character of the setting remains fairly rural.

Glimpses of Manor Farm to the north east and Warren Farm Cottages to the north west can just be afforded but are heavily screened by intervening vegetation.

8.1.8.2 Visual Sensitivity

Visual receptors are those using the PRoW which would be of a high susceptibility to change. The view is from an undesignated landscape, is not unique and is from a PRoW which does not appears particularly well used due to the fact it suddenly stops and ends at a field ditch. The view also contains some visual detractors such

as pylons and overhead cables therefore the value is considered to be low. Overall visual sensitivity is considered to be **medium**.

8.1.8.3 Magnitude of Change

Open views across to the proposed panels within the field parcels N2, O and P (as shown within the Landscape and Ecology Mitigation and Enhancement Plan, Appendix 2) would be afforded as a worst case as there is little vegetation that would provide existing screening. The views of the proposed solar array would be low level and seen at a distance, across the field immediately ahead of view. The darker backdrop of existing vegetation would help settle the appearance of the panels and no infrastructure would protrude the existing skyline.

The proposed Greener Grid Park and associated access tracks would be visible north / north east and a small section of hedgerow and hedgerow trees would require removal to accommodate the proposed access track. This loss of vegetation may allow a glimpsed view of the proposed infrastructure; however, the majority would remain screened by existing hedgerows and hedgerow trees which would remain intact. Glimpses of the taller infrastructure associated with the Greener Grid Park may be afforded above the screening vegetation however this would be limited to the top of the infrastructure only and would be viewed in the context of existing pylons.

Visual changes seen would be limited but noticeable in Year 1 however the view would remain similar in both rural quality and composition therefore magnitude of change is considered to be **small** as a worst case in Year 1.

By Year 10 embedded mitigation in the form of a proposed hedgerow and hedgerow trees along the western extent of field parcels N2, O and P would have matured and views of the proposed solar array would be largely screened with possible glimpses of the panels as a worst case in winter months. As proposed mitigation would greatly limit views of the solar array but a visual change would still be visible as a worst case, magnitude of change would remain **small**.

8.1.8.4 Level of Visual Effect (Year 1)

Sensitivity is medium and the magnitude of change is small as views of the Development would be visible but the rural quality and composition would remain similar. The overall level of visual effect at Year 1 is therefore considered to be ***minor*** adverse in Year 1, but reversible.

8.1.8.5 Level of Visual Effect (Year 10)

As embedded mitigation matures, views of the solar array would be screened with the potential of some glimpsed views of proposed panels during the winter months. The proposed hedgerow and hedgerow trees along the western boundary of the Site would replicate the quality of existing vegetation within the existing landscape setting and become a new extension the network of existing hedgerows. The magnitude of change is therefore considered to remain small by year 10 and level of effect is considered to be ***minor*** adverse in Year 1, but reversible.

8.1.9 Viewpoint 9 – Wilberforce Way, Walbut Bridge

8.1.9.1 Baseline

The existing baseline view from Viewpoint 9 is shown in Figure 19, Appendix 2.

Viewpoint 9 represents views afforded by recreational users of the Wilberforce Way Long Distance Route within the River Derwent Corridor and Lower Derwent Valley, ILA, at the point where it crosses Walbut Bridge, 1.1 km south of the Site. Wide

open views to the north are afforded from the viewpoint and look across agricultural fields lined with trees and hedgerows. Although the view is of a rural setting, a large number of pylons and overhead cables can be seen to the north/ north east and north west, at varying distances, the closest of which is 300 m north west of the view.

The skyline comprises of a consistent band of trees and woodland protruded by pylons. Other man-made infrastructure visible within the view include Melbourne Road leading to the north, infrastructure associated with the National Grid Substation, and the solar array located just off the road leading to Thornton (see location of cumulative site 1, figure 8, Appendix 2). Views of the solar panels within the cumulative site are discernible at a distance due to the fact there is no intervening screening vegetation. Views of the infrastructure other than pylons within the substation are diffused by surrounding woodland which provides a dark backdrop that makes infrastructure hard to distinguish when viewed at a distance.

The Wilberforce Way which runs north of Pocklington Canal, is also visible to the east and west and comprises of a grass beaten track, lined by grass verges and reeds within the neighbouring canal.

8.1.9.2 Visual Sensitivity

Visual receptors are those using the Long-Distance Route within the ILA would be of a high susceptibility to change. The view is from a locally designated landscape and is from a slightly elevated crossing point. Although the view contains some visual detractors such as pylons and overhead cables the views is open and rural which is significant to the ILA and therefore the value is considered to be high. Overall visual sensitivity is considered to be **high**.

8.1.9.3 Magnitude of Change

It is anticipated view of the development as a whole would be greatly limited from this viewpoint due to a combination of distance to the development, the low-level nature of the solar array and intervening existing screening in the form of hedgerows and hedgerow trees. As context the proposed solar array would be 950 m north of cumulative site 1, which although visible occupies a very small portion of the view. Even though the proposed development would cover a much larger area than the comparative cumulative site, views of the proposed infrastructure is expected to be barely discernible from this viewpoint due to the existing screening. A proposed hedgerow with hedgerow trees along the western site boundary, would provide addition screening which would further limit even the smallest of glimpsed views which may be afforded from this viewpoint.

Views of the top of the taller proposed infrastructure associated with the Greener Grid Park may be afforded from this location and would appear as an extension to the existing infrastructure associated with the National Grid Distribution system. Views of the Greener Grid Park would be largely screened by an existing block of woodland and tree line directly south of the Site

Overall magnitude of change at both Years 1 and 10 is considered to be **negligible** as the development would be barely discernible due to distance to the development, surrounding vegetation which would both screen the proposed infrastructure and provide a dark back drop, and the low-level nature of the solar array. The development would not alter the character and quality of the view.

8.1.9.4 Level of Visual Effect (Year 1)

Sensitivity is high but the magnitude of change is negligible as views of the Development would be barely discernible and the rural quality and composition would remain intact. The overall level of visual effect at Year 1 is therefore considered to be ***negligible*** adverse in Year 1, but reversible.

8.1.9.5 Level of Visual Effect (Year 10)

As embedded mitigation in the form of a proposed hedgerow with hedgerow trees along the western site boundary matures, any small glimpsed views of the Development would be screened in its entirety. The proposed mitigation would reinforce existing landscape features and strengthen rural character seen from this location and therefore visual effects at Year 10 are considered to remain ***negligible*** but become beneficial.

8.1.10 Residential Properties

The effect of the Development on local residents requires particular attention because they would experience the Development from different locations, at different times of the day, usually for longer periods of time, and in different seasons.

Whilst individual or specific observations are made concerning views or potential views in the direction of the Development in respect of the relevant properties, a 'summation' is offered based on an opinion 'in the round' i.e. taking all relevant factors into account which could include the various potential views from the house, the surrounding amenity ground, the access / egress points and the immediately adjacent highway taking the views in the direction of the Development into account along with alternative views which may be available.

All individual properties, and groups of properties have been assessed within 1 km via a combination of a Site visit to the closest public location in the vicinity of that property (usually the highway), desk-based assessment, and the use of Google Earth.

Whilst it is accepted that Warren Farm Cottages would experience a high magnitude of visual change due to proximity to the Development, it is not considered that this property would suffer unduly from adverse visual effects such as visual over-dominance, over-bearance, or blocking of light, which collectively may affect the overall visual amenity, and associated living standards.

A site investigation confirmed that there would be no view of the Development from the following properties & groups of properties:

- Properties beyond 1km;
- Properties within the villages Allerthorpe and Barmby Moor;
- Residential receptors 7, 9, 10,12 & 13 as indicated on Figure 9, Appendix 2.

Residential receptors which are potential to see visual effects resulting from the Development have been illustrated in Figure 9 (Appendix 2) and include those detailed in Table 8.1 below.

Table 8.1: Visual Effects on Residential Properties

Property	Description of Effect
1 – Warren Farm Cottages	Description: A steadings, comprising of a number of residential units. Site survey and aerial photography identify a number of residential units including a two-storey property location central to the site, visible from Viewpoint 3 on Allerthorpe PRoW No2 to the north of the properties, and an east facing two storey and single storey properties visible from

Property	Description of Effect
	Viewpoint No. 4 on Allerthorpe PRoW No. 2. The properties are accessed via a private drive, and are outwith the application boundary. Views of the solar array would be afforded from the properties to the north and east. Panels would be offset beyond 250 m to the north and east and proposed wildflower grassland would be implemented in fields directly north and east of Warren Farm Cottages. An existing woodland block north east of the properties, with proposed hedgerows with hedgerow trees, would largely screen views of field parcels the north east, over time, as the planting matures. The existing hedgerow and avenue of trees north of the Allerthorpe Footpath No.2, would also limit views to the field parcels north of Warren Farm Cottages, with glimpses of the panels only from ground level. For those east facing properties, wildflower grassland is proposed in the field immediately east of the properties, bordered by a woodland planting belt, which would screen views of the solar panels to the east and south east of the properties. Although there would be a large amount of exiting vegetation which would screen a proposed infrastructure at ground level, views of panels from first floor windows are anticipated from the north facing and east facing two story properties, and the tops of trees are likely to result in limited screening / filtering of the views of the Development to the north, north west and east / south east. Views of the panels to the north would be visible from the ground and first floor views on the northern façade of Warren Farm Cottages and would alter from fields of greens and browns, to the blue faces of the solar panels which would occupy the full extent of the existing field margins in Field Parcels C and G. Views from ground and first floors of the eastern façade of Warren Farm Cottages, towards the development to the east would as a worst case be of the sides of panels within field parcels N2, N3 and O (refer to drawing 3404_MOD_LAN_101_Landscape and Ecology Mitigation and Enhancement Plan). Garden vegetation and fencing may screen / filter views for the single storey properties at Warren Farm Cottages. Over time a proposed band of woodland, east of Warren Farm Cottages, would provide additional screening of panels to the east. Proposed hedgerows with trees, south of Allerthorpe Footpath No.2 would also provide additional screening to the north, east and west. Magnitude of change for the two storeys north facing property and the two storey east facing property at Warren Farm Cottages, at both Years 1 and 10, is therefore considered to be **large** because the development would occupy an extensive proportion of the view of the main elevation of the property facing north and from first floor windows. Similarly, for the east facing property, the magnitude of change would be large at both Years 1 and 10. Over time, the landscape would regain a settled appearance, the mitigation planting will mature, and ground level views towards the development would be screened. However, first floor views from the properties at Warren Farm Cottages would remain after Year 10, unless the woodland planting matures to screen views to the east, and the hedgerow and hedgerow trees south of Field Parcels C and G, and the existing hedgerows and hedgerow treed between Field Parcels C and G mature, and filter views of the solar panels to the north. As the planting matures, beyond Year 10, the magnitude of change would reduce to **negligible - low**, screening and filtering views of the solar panels. The development would retain existing vegetation within the surrounding landscape, which define field boundaries and changes seen would be reversible and therefore not detrimental to the rural setting. Proposed mitigation such as the wildflower grassland would provide a beneficial change from the existing arable land. The proposed woodland

Property	Description of Effect
	band east of Warren Farm Cottages would also introduce additional woodland, characteristic of the landscape setting which would appear as an extension of Brickpit Plantation south of Warren Farm Cottages. This woodland band would also provide new screening of existing pylons in the distant view east of Warren Farm Cottages. Level of Effect Years 1 and 10: ***Major*** adverse from primary north and east facing views from the properties, including first floor windows, and reversible. Level of Effect Years 10 -30: ***Minor - Moderate*** adverse from first floor north and east facing windows from the properties, and reversible.
2 – Thornton	Description: A Village located approximately 800 m south west of the Site. Visibility of the Development from the properties with the village would be screened by a combination of a large block of woodland directly north of Thornton as well as an extensive area of glasshouses (As shown in Figure 7, Appendix 2). Surrounding hedgerows and hedgerows would also screen the proposed development from the village and magnitude of change is considered to be negligible in both Years 1 and 10. Level of Effect Years 1 and 10: ***Negligible.***
3	Description: A bungalow located approximately 430 m west of the application boundary. It is anticipated no views of the proposed development would be afforded from the property itself due to poultry house to the south, out buildings to the east and native hedgerow to the north. The main façades of the bungalow face west, away from the site towards Common Lane and east towards the neighbouring poultry houses. Magnitude of change is therefore considered to be negligible in both Years 1 and 10. Level of Effect Years 1 and 10: ***Negligible.***
4	Description: A single two storey property located approximately 330 m west of the application boundary with associated out buildings and single storey garage. It is anticipated views of the development would be screened from ground level by a hedgerow which wraps around the property to the north, east and south. Views of the solar array, and horizon views of the GPP, may be afforded from the upper level of the property however its anticipated these would be greatly screened by an out building 40 m east of the dwelling as well as a woodland block 200 m to the east. Brickpit Plantation would also screen views to field parcels within the south eastern extent of the site and other screening hedgerows and hedgerow trees within the immediate context of the site would provide additional screening throughout potential views. As there may be a discernible change in the views as a worst case from upper levels of the property, magnitude of change is considered small as a worst case. Proposed mitigation such as the proposed hedgerow with trees along the western boundary of the site would provide additional screening of the proposed development once matured. The proposed mitigation would introduce new planting, characteristic of the landscape setting and would reinforce the rural quality of the view. Glimpsed views are likely to be obtained as a worst case from upper floors of the property, therefore magnitude of change would remain small but mitigation would provide some enhancement to the view. Level of Effect Years 1 and 10: ***Minor – Moderate*** adverse as a worst case, from first floor views, but reversible.
5	Description: A single two storey property located approximately 165 m west of the application boundary with associated out buildings, barns and silos. It is anticipated views of the development would be screened from ground level by a surrounding tree cover and hedgerow to the south, east and by 3 large barns 50 m east of the property as well as an out building 25 m to the

Property	Description of Effect
	south east. Views of the solar array may be afforded from the upper level of the property however it's anticipated these would be greatly screened by surrounding buildings and trees. The building is orientated on a south west, north east orientation and its anticipated only windows on the north east façade of the property would directly face the north west corner of the site. As there may be a discernible change in the views as a worst case from upper levels of the property, magnitude of change is considered small as a worst case. Proposed mitigation such as the proposed hedgerow with trees along the western boundary of the site would provide additional screening of the proposed development once matured. The proposed mitigation would introduce new planting, characteristic of the landscape setting and would reinforce the rural quality of the view. Glimpsed views are likely to be obtained as a worst case from upper floors of the property, therefore magnitude of change would remain small but mitigation would provide some enhancement to the view. Level of Effect Years 1 and 10: ***Minor – Moderate*** adverse as a worst case, from first floor views, but reversible.
6 – Thornton Grange	Description: A collection of several two storey dwellings, barns and out buildings located approximately 800 m west of the application boundary. It is anticipated views of the development would be screened from ground level by a surrounding tree cover and east of the main property and hedgerow surrounding the secondary property to the east. Views of the solar array may be afforded from the upper level of the properties however it is anticipated these would be obliquely to the main façades of the buildings and due to the low-level nature of the development would be greatly screened in the wider landscape by intervening hedgerows west of the site. Any glimpsed views of the proposed development would be seen as a distance and would be barely discernible. Magnitude of change is therefore considered negligible as a worst case. Proposed mitigation such as the proposed hedgerow with trees along the western boundary of the site would provide additional screening of the proposed development once matured. The proposed mitigation would introduce new planting, characteristic of the landscape setting and would reinforce the rural quality of the view. Limited glimpsed that's may be visible as a worst case from upper floors of the property would be further screened and mitigation would provide some enhancement to the view. Level of Effect Years 1 and 10: ***Negligible*** adverse as a worst case and be reversible.
8 – Byholme Farm	Description: A collection of several two storey dwellings, barns and out buildings located approximately 600 m south of the application boundary. It is anticipated views of the development would be screened from ground level from the main property itself, by a surrounding tree cover, barns and out buildings to the north / north east. Its anticipated theses would also limit the majority of views from upper levels of the properties as well due to proximity. A glimpsed view of the solar array from the western wing of the main property may be afforded to the north however these would be viewed as a distance and due to the low-level nature of the solar array would be largely screened by a hedgerow with hedgerow trees, 170 m south of the site. Any glimpsed views of the proposed development would be seen as a distance and would be barely discernible. Magnitude of change is therefore considered negligible as a worst case. Proposed mitigation such as the proposed hedgerow with trees along the western boundary of the site would provide additional screening of the proposed development once matured. The proposed mitigation would introduce new planting, characteristic of the landscape setting and would reinforce the rural quality of the view. Limited glimpsed that's may be visible

Property	Description of Effect
	from the western wing of the main property would be further screened and mitigation would provide some enhancement to the existing view. Level of Effect Years 1 and 10: ***Negligible*** adverse as a worst case and be reversible.
11	Description: A collection of two bungalows and associated out buildings located approximately 30 m east of the south east corner of the application boundary. Although the collection of properties is in close context to the proposed application boundary the main facades face in a south western / north east direction away from the site and the type of changes brought by the development in close context would be limited to the access track from Melbourne Road. Surrounding vegetation within the immediate context of the dwellings would limit any views from the setting of the properties, along with trees south of the BESS. Visual change would not be legible from the properties and therefore magnitude of change would be negligible. Level of Effect Years 1 and 10: ***Negligible*** adverse as a worst case and be reversible.
14	Description: A single two storey building and associated out buildings located approximately 370 m east of the application boundary. Although the property is in close proximity to the proposed application boundary the main facades face in a western direction towards a woodland block associated with Tank Plantation and in an eastern direction away from the site. Views of the panels may be afforded from the southern extent of the property however these would be views obliquely from windows. Visual change may be legible from some aspects of the property however closest aspects of the development would be screened by tank plantation to the north west and hedgerow directly south of the dwelling therefore magnitude of change would be small. Proposed hedgerows and hedgerow trees along the north eastern boundaries of field parcels J and L2 would provide additional screening of any limited views of the solar array while introducing new planting, characteristic of the landscape setting that would reinforce the rural quality of the view. Views of the array may still be afforded during winter months and changes seen would remain small as a worst case. Level of Effect Years 1 and 10: ***Minor- moderate*** adverse as a worst case, from first floor views, and reversible.

8.2 Visual Effects on Views from PRoW

There are a number of PRoW in the local landscape within the detailed 1 km study area (refer to Figure 9, Appendix 2).

The visual effects that would be experienced by the walkers, riders and cyclists using these routes are described below in Table 8.2. The assessment of the potential effects on these routes has been assisted by the use of ZTV maps during the site assessment. The sensitivity of all these receptors is considered to be high overall with the exception of Thornton Footpath No.2 which is considered to be of medium value and medium sensitivity due to its lack of use which is clearly apparent.

Table 8.2: Visual Effects on PRoW

Route	Description of Effect
Wilberforce Way Long Distance Route	At its closest point the Wilberforce Long Distance Route is 900 m east of the Site. The ZTV indicates very little visibility along the route in its entirety. As the majority of the development would be low level solar array within a relatively

Route	Description of Effect
	flat landscape and primarily viewed over 1 km away from Wilberforce Way, it is anticipated views of the infrastructure would be either screened by intervening vegetation or as a worst case very difficult to distinguish. Magnitude of effect is therefore considered to be negligible. Proposed mitigation such as the proposed hedgerow with trees along the western boundary of the site would provide additional screening of the proposed development once matured. The proposed mitigation would introduce new planting, characteristic of the landscape setting and would reinforce the rural quality of views from the Long-Distance Route. The very Limited glimpsed views that's may be afforded from Wilberforce Way would be further screened and mitigation would provide some enhancement to the existing view. Level of Effect Years 1: **Negligible** adverse as a worst case and be reversible. Level of Effect Years 10: **Negligible** beneficial.
Allerthorpe Footpath No.2	Allerthorpe Bridleway No.2 runs through the Site from the north west corner, down in a south easterly direction, and exits the site past Warren Wood and carries on to Waplington Hall to the east. Approximately 1.5 km of the 3 km route is within the site itself and the majority of the route would pass either between or adjacent to a field parcel containing proposed solar panels. The closest infrastructure to the PRoW would be the post and wire fence located 20 m at its closest point and proposed solar panels would be 5 m from the proposed fence line. Views to the field parcels south of the PRoW are currently open with no intervening vegetation between the PRoW and field parcels themselves. Views of the proposed panels to the south of the route will be direct in Year 1 and will look to the backs of the panels. Magnitude of change in these circumstances adjacent to field parcels A, B & C are considered to be large as a worst case. A proposed hedgerow with hedgerow trees 15m south of the majority of the PRoW within the Site, would however screen and filter views for the proposed panels by Year 10 when mature. Views of the fields north of the PRoW would be greatly filtered by the existing hedgerow and hedgerow trees north of the PRoW. A secondary species rich native hedgerow has been proposed directly south of the existing hedge to provide additional screening and species diversity while filling any gaps that occur at various points along the existing hedge. This planting would reduce worst case visual effects along the more northern field parcels. Some aspects of the PRoW would remain fairly open to the south such as the sections along north and east of Warren Farm Cottages where adjacent field parcels would be planted with wildflower grassland. The surface of the PRoW would be improved to a more permanent hard surface treatment along approximately 850 m of the northern extent of the PRoW, which is currently comprises a muddy track. Visual effects seen from the eastern extent of the PRoW would be limited by existing vegetation east of field parcels N3 and P. As you travel further east visual effects along the route would decrease with distance until you enter woodland surrounding Waplington Hall when no change would be visible. It is anticipated views of the BESS would be limited to the tops of taller infrastructure only from the PRoW and existing vegetation north of the BESS would screen the majority of the development. Any glimpsed views of infrastructure within the BESS would be further screened by proposed woodland just south west of the Spruce Plantation. Although magnitude off effect is considered large as a worst case in the northern section of the PRoW within the Site, this does reduce around Warren Farm Cottages and within the eastern section of the route as you travel away from the Site, reducing to no change when you travel into woodland around Waplington House. As these changes would be seen for over half of the route but reduce within the eastern section of the PRoW, magnitude of change is considered to be medium for the route as a whole.

Route	Description of Effect
	The proposed mitigation such as the wildflower grass margins either side of the PRoW, proposed hedgerows with hedgerow trees and woodland belt south of Warren Farm Cottages and north of the proposed BESS, would all be characteristic of the landscape setting and would provide some level of enhancement to the setting of the PRoW along with improvement to the route surface itself. By Year 10, it is therefore considered that magnitude of change would reduce to medium as a worst case as panels would be offset from the route by 20m and proposed hedgerows with hedgerow trees would filter views of the proposed infrastructure while being characteristic of the surrounding landscape. Level of Effect Years 1: **Major** adverse where the PRoW crosses through the Site, and **Moderate - Major** for the route as a whole and effects would be reversible. Level of Effect Years 10: **Moderate – Major** adverse as a worst case and **Minor – Moderate** for the route as a whole and effects would be reversible.
Allerthorpe Bridleway No.1	At its closest point Allerthorpe Bridleway No.1 is located directly north of the northern site boundary. The PRoW runs north west to south east through Allerthorpe Woods and at its closest point runs along the northern boundary for approximately 600 m. The solar array is only proposed for approximately 200 m of the 600 m section. The remaining 400 m is proposed to be adjacent to the habitat management area containing a mixture of wildflower and tussock grassland with scattered shrubs. Where views of the panels can be afforded from the route, they would be filtered through the woodland tree line and lower-level shrubs within the woodland. The experience and visual focus of the view along the route is however the woodland itself and any views of the proposed development would be viewed obliquely and would not alter the overall composition of the view. Magnitude of change is therefore considered to be medium as a worst case. Planting within the proposed habitat management area would provide some enhancement for the route and would alter the existing field from an agricultural field to that of a natural setting with varied planting. When considering the route as whole visual effects would be over a small area and would be filtered through existing trees and shrubs therefore magnitude of effects for the route are considered to be legible but small. Level of Effect Years 1 and 10: **Moderate – Major** adverse where the PRoW crosses through the Site, and **Minor – Moderate** for the route as a whole and effects would be reversible.
Thornton Footpath No.2	The most northern point of Thornton Footpath No.2 is located within the application boundary and intersects the access track between the BESS area and Field P. The footpath is located between the road which leads to the village of Thornton and agricultural fields to the north where the route ends at a ditch within the site. As the PRoW ends suddenly and does not have a particular end point, the route is not well used or sign posted. The ZTV indicates some visibility along the route, however in reality the site is greatly screened by surrounding vegetation including a hedgerow with trees approximately 200 m south of the Site. As the PRoW crosses this vegetative threshold, views of the southern aspects of the site become much more open. Direct views of solar panels within field parcels N2, O & P would be afforded and slightly filtered by existing trees along the southern site boundary. These views would result in the worst-case visual effects and magnitude of change is considered to be large as the solar array would occupy much of the view to the north. Proposed mitigation such as the proposed hedgerow with trees along the southern boundary of the site would provide screening of the proposed development once matured and magnitude of change is considered to reduce to medium as a worst case.

Route	Description of Effect
	Views of the Greener Grid Park would be greatly screened by the existing hedgerow with hedgerow trees along the western boundary of the proposed Greener Grid Park as well as hedgerow and woodland planting south west of the Site. Its anticipated views of the proposed infrastructure would be limited to taller infrastructure and through a proposed gap in the hedgerow to accommodate the proposed access track in the north west corner of the BESS area. The proposed access track would also be visible from the PRoW however this would be low level, limited to the very northern extent of the PRoW and not cause a large amount of visual change. Visual effects to the PRoW, are limited to the northern 200 m section of the route which is just over 1 km in total. Magnitude of effects is considered be reduced to small for the route as a whole and Sensitivity is considered to be medium due to medium value and lack of use. Level of Effect Years 1: **Moderate - major** adverse as a worst case and **Minor** for the route as a whole but would be reversible. Level of Effect Years 10: **Moderate** adverse as a worst case and **Minor** for the route as a whole but would be reversible.
Thornton Footpath No.1	At its closest point the Wilberforce Thornton Footpath No.1 is 260 m west of the Site. The ZTV indicates some visibility along the route in its entirety however in reality views of the development would be greatly screened by existing vegetation along common lane and within the wider landscape setting west of the site. As the majority of the development would be low level solar array within a relatively flat landscape and primarily viewed over 500 m away, it is anticipated views of the infrastructure would difficult to distinguish as a worst case. Magnitude of effect is therefore considered to be negligible for the route. Proposed mitigation such as the proposed hedgerow with trees along the western boundary of the site would provide additional screening of the proposed development once matured. The proposed mitigation would introduce new planting, characteristic of the landscape setting and would reinforce the rural quality of any potential long-distance views. Level of Effect Years 1: **Negligible** adverse as a worst case and be reversible. Level of Effect Years 10: **Negligible** beneficial.

8.3 Visual Effects on Views from Transport Routes

This section considers the views from the main transport routes and the likely visual effects on receptors, visual experience whilst using the road network within 1 km of the site. The views from these routes would be experienced transiently by road and the sensitivity of all these receptors is considered to be low - medium - high (low for A-road users where potential views are fleeting and travelling at speed, medium for users of the local road network, and high for recreational users).

The key routes were driven in both directions to assess the potential effects on the routes and the assessment has been assisted with the use of ZTV maps. Those routes outside the ZTV have not been assessed.

Table 8.3: Visual Effects on Transport Routes

Receptor	Description of Effect
Common Lane	The sensitivity of visual receptors using the Common Lane are considered to be medium. At its closest point the common Lane passes within 250 m west of the application boundary. It is anticipated that views would be afforded from Common Lane, however these would be viewed obliquely, at high speed and filtered by road side

Receptor	Description of Effect
	vegetation adjacent to Common Lane. Where there are gaps within the vegetation along the road side, glimpses of the solar array may be afforded as a worst case. However, a proposed hedgerow with hedgerow trees along the western boundary would screen views by Year 10. Magnitude of Change: The Development would only occupy a small proportion of the oblique glimpsed views from Common Lane at various locations along the route. Views of the development would however be screened for the majority of the route by road side vegetation. Magnitude of change is therefore assessed as small as a worst case becoming negligible for the route as a whole by Year 10. Level of Effect Year 1: ***Minor*** adverse as a worst case and reversible. Level of Effect Year 10: ***Negligible*** neutral.
Melbourne Road	The sensitivity of visual receptors using Melbourne Road are considered to be medium. The access track to the site would adjoin Melbourne Road. It is anticipated the main views of the Development form Melbourne Road would be limited to the site access only. The Development would be set back from the road and the majority of the route is heavily screened by trees and hedgerows which would limit views of the proposed infrastructure. Any views that may be afforded from Melbourne Road would be viewed obliquely and at high speed, and glimpses only through gaps in road side vegetation. Magnitude of Change: Changes resulting from the Development would be limited to the Site access point only however the changes seen would be readily noticeable and magnitude of change is considered to be medium as a worst case. When considering the route as a whole magnitude of change is considered to be negligible. Level of Effect Years 1 and 10: ***Moderate*** adverse as a worst case but ***negligible*** for the route as a whole and reversible.

9 SUMMARY & CONCLUSION

This LVA has been carried out in order to appraise the likely landscape and visual effects associated with the Development located on agricultural land south of Allerthorpe Woods.

The LVA has recorded and analysed the baseline landscape and visual resources of the Site and surrounding area, identified landscape and visual receptors likely to be affected by the Development and determined the extent to which these would be altered.

Embedded mitigation measures have been integrated within the design to reduce likely levels of adverse landscape and visual effects and include, extensive amounts of proposed hedgerow planting with hedgerow trees throughout the site, but primarily along the western extent of the application boundary and either side of Allerthorpe Bridleway No.2; woodland planting east of Warren Farm Cottages and north of the proposed BESS. Other beneficial measures assumed to be incorporated with the Development include wildflower grassland throughout and tussock grassland, herbaceous and shrub planting to provide habitat enhancement.

The LVA concluded that whilst the Development would give rise to varying degrees of adverse landscape and visual effects on a limited number of receptors, the degree of effects predicted to arise during the operational phase would be largely limited to the Site and its immediate setting due to the flat topography, low level nature of the development and large amounts of woodland blocks and hedgerows within the wider landscape.

9.1 Summary of Predicted Landscape Effects

The main landscape effects would be primarily limited to the Site itself due to large amounts of tree cover within and adjacent to the site including; Allerthorpe Woods to the north, a series of woodland blocks scattered such as Warren Wood, Brickpit Plantation, Tank Plantation and Spruce Wood as well as a network of tree lined hedgerows. The extensive green network provides layers of existing screening and due to the flat topography and low-level nature of the development, would limit overall landscape effects to the site only.

The main landscape effects within the site would be the change in land use and rural quality however the development would retain key landscape features such as existing woodland blocks and hedgerow field margins which contribute to landscape quality. The proposals would also enhance the existing green network and any negative landscape effects resulting from the development would be reversible.

Given the contained nature of the Site and retention of screening vegetation within the application boundary, it is considered that the Development would not adversely affect key landscape features or aesthetic qualities within wider study area. Proposed landscape mitigation would reinforce existing positive landscape features and qualities identified within the Newton Upon Derwent, Wilberfoss, Allerthorpe and Hayton Farmland LCA and River Derwent Corridor and Lower Derwent Valley Important Landscape Area. Embedded mitigation and landscape enhancements would be viewed from the wider study are in the form of additional vegetative layers in the landscape such as woodland band and trees hedgerows. Proposed planting would not only provide additional screening and build upon key landscape features and green network, but increase biodiversity and provide ecological enhancements.

Other landscape designations within the Study Area are limited to the River Derwent Corridor and Lower Derwent Valley ILA which would not be affected as there is very little to no intervisibility between the Site and designation and changes created by the Development would not impact or remove landscape features or qualities which define the ILA. Therefore, the Development would not give rise to unacceptable effects on any landscape designations.

The Development would not give rise to unacceptable cumulative effects on landscape character in conjunction with the neighbouring substation, due to existing vegetative screening surrounding the substation and proposed Greener Grid Park, however it would increase the amount of manmade infrastructure within the immediate landscape setting.

It is assessed that the Site does have the capacity to absorb the landscape effects resulting from the Development due to the primarily low-level nature of the development, existing screening and on-Site mitigation proposed.

9.2 Summary of Predicted Visual Effects

Effects on views and visual amenity arising from the Development have been determined through analysis of a Bare Earth and 'Screened' ZTV and a number of viewpoints that represent visibility for a range of visual receptors (people).

In this instance, the ZTV shows theoretical visibility of the Development is greatest to the west, with limited visibility to the north and east. The extent of theoretical visibility reflects the extent of Allerthorpe woods to north of the Site as well as Tank Plantation, Spruce Plantation and woodland surrounding Waplington Hall and National Grid Substation to the east, which all limit views of the Wider Study Area. A network of hedgerows and hedgerow tree would also screen views of the solar array throughout the study area.

Close-range views of the Development would be obtained from:

- Allerthorpe Footpath No.2 and Warren Farm Cottages which are located centrally, within and in proximity to the site,
- Thornton Footpath No.2 which adjoins the southern aspect of the site west of the proposed Greener Grid Park; and
- Allerthorpe Footpath No.1 which is located directly north of the site at its closest point.

With the exception of Warren Farm Cottages there are limited residential receptors within 1 km of the Site which are anticipated to see any discernible visual effects resulting from the development due to existing screening vegetation.

In summary, residual levels of landscape and visual effects are summarised in Appendix 3.

It is anticipated the Development would give rise to limited cumulative effects on views/ visual amenity in conjunction with the substation due to existing vegetative screening surrounding the substation and proposed Greener Grid Park. A proposed woodland belt would build upon the existing woodland and screening to the east and south of the Greener Grid Park.

It is assessed that the Site does have the capacity to absorb the visual effects resulting from the Development due to the primarily low-level nature of the proposed infrastructure, existing screening and on-site mitigation proposed.

9.3 Conclusion

The nature, scale and form of the Development would result in some adverse effects on landscape character and on visual amenity as summarised above, however this would be at a localised level only, due to existing vegetative screening, landform and neighbouring substation. The limited height of the majority of the Development and degree of containment afforded by Allerthorpe Woods, and layers of tree lines and hedgerows, limit the majority of any likely effects to within the immediate context of the site and views of the Development from wider aspects of the Study Area are considered to be negligible overall. Embedded mitigation has been proposed throughout the development to further reduce visual effects anticipated in the immediate context of the Site and in time extend and enhance the existing green network and key landscape features.

The tallest infrastructure within the proposed Greener Grid Park area has been located adjacent to the existing substation and as such would be viewed within the landscape as an extension to the existing infrastructure however any visual effects would be filtered by existing woodland screening to the north, south and west as well as proposed woodland bands north and of the Greener Grid Park.

It is considered that conclusions outlined within the assessment support the notion that the Site has the capacity to accommodate the Development, and it would not cause unacceptable harm to the surrounding landscape and visual receptors. As such the Site has the capacity to absorb the Development during its operation, beneficial effects have been identified as a result of the embedded mitigation planting, and any adverse effects, although long term are reversible.

APPENDIX 1 – METHODOLOGY

APPENDIX 1

1 LVA METHODOLOGY

1.1 Guidance

The assessment methodology follows the 'Guidelines for Landscape and Visual Impact Assessment' Third Edition (GLVIA3)[1]. As recommended by GLVIA3, this is not a generic LVIA methodology, but has been tailored to be proportionate to the nature and location of the proposed Development. The methodology also considers the following guidance:

- Landscape Institute and Institute of Environmental Management and Assessment 'Guidelines for Landscape and Visual Effect Assessment', 2013 (GLVIA3)[2];
- Countryside Agency and Scottish Natural Heritage (SNH), (2002) Landscape Character Assessment: Guidance for England and Scotland[3];
- Countryside Agency and SNH (2004) Landscape Character Assessment: Guidance for England and Scotland – Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity[4]; and
- Landscape Institute (2011). Advice Note 01/11 Use of Photography and Photomontage in Landscape and Visual Assessment[5].

1.2 Introduction

The level of landscape and visual effect is determined through consideration of the 'sensitivity' and 'susceptibility' of the landscape or visual receptor to the proposed Solar PV array and the 'magnitude of change' that would be brought about by the proposed Development were it to be constructed.

The time period for the assessment covers the construction of the proposed Solar PV array and associated infrastructure, to completion of the works, the commencement of its operation and the decommissioning of the Solar PV array.

The assessment has involved a process of iterative design and re-assessment of any remaining, residual effects that could not otherwise be mitigated or 'designed out'. The type of effect is also considered and may be direct or indirect; temporary or permanent (reversible); cumulative; and positive, neutral or negative. The landscape and visual assessment unavoidably involves a combination of both quantitative and qualitative assessment and wherever possible a consensus of professional opinion has been sought through consultation, internal peer review, and the adoption of a systematic, impartial, and professional approach.

[1] Landscape Institute and Institute of Environmental Management and Assessment, 2013, *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition, Routledge, London.

[2] Landscape Institute and Institute of Environmental Management and Assessment, 2013, *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition, Routledge, London. (Last accessed 14/05/2021)

[3] Countryside Agency and Scottish Natural Heritage (SNH), (2002) Landscape Character Assessment: Guidance for England and Scotland. [Online] Available at https://www.nature.scot/sites/default/files/2018-02/Publication%202002%20-%20Landscape%20Character%20Assessment%20guidance%20for%20England%20and%20Scotland.pdf (Last accessed 14/05/2021)

[4] Countryside Agency and SNH (2004) Landscape Character Assessment: Guidance for England and Scotland – Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity [Online] Available at http://publications.naturalengland.org.uk/publication/5601625141936128 (Accessed 14/05/2021)

[5] This document has now been superseded.

1.3 Terminology

A description of the terms used in this LVA are provided below.

1.3.1 Sensitivity of Receptor

This is established by considering the value of the receptor and its susceptibility to change. Both these two aspects inform the sensitivity of landscape and visual receptors as set out in Sections 1.5.1 and 1.6.1 below. For the purposes of this LVA, receptor sensitivity is classified on a four-point scale of: negligible, low, medium, and high (refer to Tables A1.4 and A1.11).

1.3.2 Resource / Receptor Value

For the landscape resource this is related to the value that is attached to different landscapes by society. A landscape may be valued by different people for different reasons. For visual receptors this relates to the recognition attached to a particular view (for example in relation to heritage assets or through planning designations) and indicators of value attached to views by visitors (for example through appearances in guidebooks or on tourist maps and the provision of facilities such as car parking and interpretation). For the purposes of the LVA a receptor value is classified on a four-point scale of: negligible, low, medium, and high (refer to Tables A1.1, A1.2 and A1.9).

1.3.3 Susceptibility to Change

For landscape receptors this means the ability to accommodate a proposed development without undue consequences for the maintenance of the baseline situation and/or achievement of landscape planning policies and strategies

For visual receptors this is a product of the occupation or activity of people experiencing the view and the extent to which their attention or interest may therefore be focused on the views and visual amenity they experience.

For the purposes of this LVA, susceptibility to change is classified on a three-point scale of: low, medium, and high (refer to Tables A1.3 and A1.10).

1.3.4 Magnitude of Change

This is gauged by assessing the type and amount of change predicted to occur in relation to the landscape or visual receptor. Factors influencing the magnitude of change include: size, scale and nature of change; geographical extent; and duration and reversibility of effect as set out in Sections 1.5.2 and 1.6.2 and associated tables.

For the purposes of the LVA, magnitude of change is classified on a four-point scale of: negligible, small, medium, and large (refer to Table A1.8 and A1.14)

Where there is no change to the receptor, or indeed no view of the development, the magnitude of change is assessed as **No Change** which would result in **No Effects.**

1.3.5 Level of Effect

The level of landscape and visual effect is gauged by considering the magnitude of change along with the sensitivity of the receptor using professional judgement. For the purposes of the LVA, level of effect is classified on a six-point scale of: negligible, minor, minor to moderate, moderate, moderate to major and major (Tables A1.15 and A1.16).

In line with best practice guidance set out in GLVIA3, in addition to assessing level, effects are classified as: beneficial, adverse or neutral, as well as direct and indirect. An effect is understood to be neutral when the predicted residual change would, on balance, result in neither an improvement, nor a deterioration of the landscape and visual resource compared with the existing situation.

1.3.6 Mitigation

Mitigation is defined within GLVIA3 as measures which are proposed to prevent, reduce and where possible remedy identified effects. Paragraph 4.21 of GLVIA3 categorises three types of mitigation. These include:

1. Primary measures, developed through the iterative design process, which have become integrated or embedded into the project design. For the purpose of the LVA this will be referred to as Embedded Mitigation;
2. Standard Construction and operational management practices for avoiding and reducing environmental effects; and
3. Secondary measures, designed to address any residual adverse effects remaining after primary measured and standard construction practices have been incorporated into the scheme.

1.3.7 Enhancement

Any proposals which seek to improve the landscape of the site and its wider setting beyond its baseline conditions which is not specifically related to mitigation of adverse landscape and visual effects.

1.4 Baseline

The landscape and visual baseline of the assessment was established by undertaking a detailed desk study, fieldwork, and analysis of findings to create a detailed understanding of the existing landscape and visual context of both the site and surrounding landscape within the study area.

Establishing the landscape baseline included gathering data on the landscape character and how this varies through the study area; together with its geographic extent; and how it is experienced and valued. The desk-based assessment began with a review of legislation, policy and guidance including published landscape character assessments of the area and its wider context. This developed an understanding of the baseline environment within which the 2 km radius study area is located. A 2 km study area has been used as likely landscape and visual effects would be limited beyond 2km due to the low level and reversible nature of the Development.

The visual baseline establishes the areas from where the new components of the development can be seen, who can see them, the places where those who see them would be affected and the nature of views and visual amenity.

Together the established baseline provides an understanding of the components of the landscape and visual resource that may be affected by the development, which includes the identification of key receptors and viewpoints which represent such receptors. The baseline is of sufficient detail to enable a well-informed assessment of the likely landscape and visual effects on the baseline conditions of the Site.

The desk-based assessment has involved the following key activities:

- Familiarisation with the landscape and visual resources of the area within which the development would be located;
- Identification of landscape and visual resources likely to be significantly affected by the development;
- Preparation of Zone of Theoretical Visibility (ZTV) maps;
- Identification of the location of viewpoints, informed by the ZTV, that were used to inform the assessment of effects of both landscape and visual resources; and
- Identification of suitable study areas for the LVA.

Viewpoints identified through consultation and during desk studies were ground-truthed through fieldwork and their positions fixed prior to photography being undertaken. Landscape character types (LCTs) were reviewed during fieldwork and the descriptions contained in the published landscape character assessment were augmented where necessary. Landscape and visual receptors were also assessed to ensure they are accurately represented through desk-based assessment.

1.5 Assessment of Landscape Effects

In accordance with GLVIA3 the assessment of landscape and visual effects are separate but linked procedures; the landscape is assessed as an environmental resource in its own right, whereas visual effects are assessed on views and visual amenity experienced by people.

Both landscape and visual effects have been assessed at construction, operational and decommissioning stages of the Solar Farm.

1.5.1 Sensitivity

As noted above, the sensitivity of landscape receptors is assessed through consideration of their value and susceptibility to change. The process for determining landscape sensitivity is set out below.

Landscape Value

For landscape receptors, value concerns the importance of the landscape resource as evidenced by the presence of landscape designations and professional judgement. Susceptibility is concerned with the landscape's ability to absorb change brought about by the development.

Table A1.1 below illustrates how the value has been determined.

Table A1.1: Landscape Receptor Value

Value	Recognition	Features / Quality	Condition
High	Typically, a landscape / feature of international or national recognition e.g., World Heritage Sites, National Parks, Scheduled Monuments and Grade I and II* Listed Buildings, Registered	A strong sense of place with landscape / features worthy of conservation; Absence of detracting features.	A very high-quality landscape / feature; attractive landscape / feature; exceptional
Medium	Regional recognition e.g., Conservation Areas; Grade II Listed Buildings, Registered Parks and Gardens	A number of distinguishing features worthy of conservation; evidence of some degradation and occasional detracting features.	Ordinary to good quality landscape / feature with some potential for substitution; a reasonably attractive landscape / feature.
Low	Undesignated, but locally valued landscape / features	Few landscape features worthy of conservation; evidence of degradation with some detracting features.	Ordinary landscape / feature with high potential for substitution; quality that is fairly commonplace.
Negligible	Typically, an undesignated landscape / feature.	No landscape features worthy of conservation; evidence of degradation with many detracting features.	Low quality landscape / feature with very high potential for substitution; limited variety or distinctiveness; commonplace

The European Landscape Convention[6] promotes the need to take account of all landscapes, with less emphasis on the special and more recognition that ordinary landscapes, such as community landscapes also have their own value. The criteria used to assess undesignated (community value) landscapes are set out using Box 5.1 in GLVIA3[7], as per Table A1.2 below.

Table A1.2: Factors for Assessing the Value of Undesignated Landscapes

Factor	Criteria
Landscape Quality (condition)	A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements.
Scenic Quality	The term used to describe landscapes that appeal primarily to the senses (primarily but not wholly the visual senses).
Rarity	The presence of rare elements or features in the landscape or the presence of a rare Landscape Character Type.
Representativeness	Whether the landscape contains a particular character and/or features or elements which are considered particularly important examples.
Conservation interests	The presence of features of wildlife, earth science or archaeological or historical and cultural interest can add to the value of the landscape as well as having value in their own right.
Recreation value	Evidence that the landscape is valued for recreational activity where experience of the landscape is important.
Perceptual aspects	A landscape may be valued for its perceptual qualities, notably wildness and/or tranquility.
Associations	Some landscapes are associated with particular people, such as artists or writers, or events in history that contribute to perceptions of the natural beauty of the area.

Susceptibility of the Landscape Receptors to Change

This means the ability of the landscape receptor (whether it be the overall character or quality/condition of a particular landscape type or area, or an individual element and/or feature, or a particular aesthetic and perceptual aspect) to accommodate the development without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies[8].

Susceptibility of landscape receptors to change has been assessed using the criteria set out in Table A1.3 below.

Table A1.3: Landscape Receptor Susceptibility to Change

Susceptibility	Criteria
High	The landscape receptor is highly susceptible to the development, and a low ability to accommodate the specific proposed change, because the key characteristics of the landscape have no or very limited ability to accommodate the specific proposed change without undue adverse effects taking account of the existing character and quality of the landscape, and/or achievement of relevant planning policies / strategies.
Medium	The landscape receptor is moderately susceptible to the development, and a moderate ability to accommodate the specific proposed change, because the relevant characteristics of the landscape have some ability to accommodate it

[6] The European Landscape Convention for the UK. Available on line at https://www.gov.uk/government/publications/european-landscape-convention-guidelines-for-managing-landscapes

[7] Landscape Institute Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, Box 5.1, Page 84.

[8] Landscape Institute Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, Paragraph 5.40, Page 88.

Susceptibility	Criteria
	without undue adverse effects, taking account of the existing character and quality of the landscape, and/or achievement of relevant planning policies / strategies.
Low	The landscape receptor has low susceptibility to the development, and a high ability to accommodate the specific proposed change, because the relevant characteristics of the landscape are generally able to accommodate it with little, or no, undue consequences for the maintenance of the baseline situation, taking account of the existing character and quality of the landscape.
Negligible	Very high ability to accommodate the specific proposed change; no undue consequences for the maintenance of the baseline situation (receptor value) and/or achievement of relevant planning policies / strategies.

Landscape Sensitivity

GLVIA3 indicates that combining susceptibility and value can be achieved in a number of ways and needs to include professional judgement. However, it is generally accepted that a combination of high susceptibility and high value is likely to result in the highest sensitivity, whereas a low susceptibility and low value is likely to result in the lowest level of sensitivity. A summary of the likely characteristics of the different levels of sensitivity is described below in Table A1.4 below. It should be noted that the levels are indicative and in practice there is not a clear distinction between criteria levels.

Table A1.4: Landscape sensitivity criteria

Landscape Resource Sensitivity	Characteristics
High	Landscape character, characteristics, and elements where, through consideration of the landscape resource and characteristics, there would generally be a lower landscape capacity or scope for landscape change or positive enhancement, and higher landscape value and quality. Often includes landscapes which are highly valued for their scenic quality, including most statutorily (nationally / internationally designated landscapes). Elements/features that could be described as unique or are nationally scarce. Mature vegetation with provenance such as ancient woodland or mature parkland trees, and/or mature landscape features which are characteristic of and contribute to a sense of place and illustrates time - depth in a landscape and if replaceable, could not be replaced other than in the long term.
Medium	Landscape character, characteristics, and elements where, through consideration of the landscape resource and characteristics, there would be a medium landscape capacity or some scope for landscape change. Often includes landscapes of medium landscape value and quality which may be locally designated. Areas that have a positive landscape character but include some areas of alteration/degradation/or erosion of features. Perceptual/aesthetic aspects has some vulnerability to unsympathetic development; and/or features/elements that are locally commonplace; unusual locally but in moderate/poor condition; or mature vegetation that is in moderate/poor condition or readily replicated.
Low	Landscape character, characteristics and elements where, through consideration of the landscape resource and characteristics, there would be higher landscape capacity or scope for landscape change or positive enhancement.

Landscape Resource Sensitivity	Characteristics
	Damaged or substantially modified landscapes with few characteristic features of value. Capable of absorbing major change, and landscape elements/features that might be considered to detract from landscape character such as obtrusive man-made features (e.g., power lines, large scale developments, etc.).
Negligible	Landscape character, characteristics and elements where there is a high landscape capacity or a planned desire for landscape change. Usually applies to landscapes with a lower landscape susceptibility or higher landscape capacity for the development. May also apply to derelict landscapes, spoil heaps, and de-graded urban fringe areas that require restoration or re-development / re-planting. Areas that are relatively bland or neutral in character with few/no notable features. A landscape that includes areas of alteration/degradation or erosion of features, and/or landscape elements/features that are common place or make little contribution to local distinctiveness. Opportunities for the restoration of landscape through mitigation measures associated with the proposal.

1.5.2 Magnitude of Landscape Effects

The determination of the magnitude of landscape and visual effects combines an assessment of the size or scale of change likely to be experienced as a result of each effect[9], the geographical extent of the area likely to be influenced and the duration and reversibility of effects.

Geographical Extent

The geographical area over which the landscape effects would be felt is also considered. This is dependent upon the nature of the proposal and the scale of effects upon the receiving landscape / landscape; however, in general effects may have an influence at the following scales:

- At the site level, within the Development site itself;
- At the level of the immediate setting of the site;
- At the scale of the landscape type or character area within which the proposal lies; or
- On a larger scale, influencing several landscape types or character areas.

Size or Scale

Judgements are needed about the size or scale of change in the landscape that is likely to be experienced as a result of each effect. GLVIA3 states that *"judgements should, for example, take account of:*

[9] Guidelines for Landscape and Visual Impact Assessment (page 90)

- *The extent of the existing landscape elements that would be lost, the proportion of the total extent that this represents and the contribution of that element to the character of the landscape – in some cases this may be quantified;*
- *The degree to which aesthetic and perceptual aspects of the landscape are altered either for example, removal of existing components of the landscape or by addition of new ones; and*
- *Whether the effect changes the key characteristics of the landscape, which are critical to its distinctive character. "*[10]

Duration and Reversibility of the Landscape Effects

Duration and Reversibility are separate but linked considerations. Duration can usually be simply judged on a scale such as:

- Short-term: 0-5 years;
- Medium-term: 5-10 years; and
- Long-term: 10-40 years.

For the purposes of this assessment this Development has been assessed as long term.

Reversibility is a judgement about whether or not a development can be removed, and once removed can the landscape / landscape be fully restored. The examples in Table A1.7 below indicate the type of land use and the respective assessment of reversibility defined in GLVIA3. Tables A1.5 to A1.8 set out the criteria used to assess the magnitude of landscape effects. Not all aspects of a criterion need to be met for an evaluation to be given.

Table A1.5 Magnitude of Landscape Change: Reversibility

Category	Description
Permanent	Permanent, is irreversible change to the landscape, for example housing development, as it not possible to remove the associated infrastructure and restore the land to the original state.
Partially Reversible	Partially Reversible, change to the landscape, where the landscape can be restored to something similar to the landscape that was removed. For example, mineral developments, as it is possible to restore the land to something similar to the original state, but not the same state.
Reversible	Reversible, change to the landscape where the landscape can be fully restored. For example, a marine fish farm development, as it is possible to wholly remove the remove the associated infrastructure and to restore the landscape to the original state. This also includes construction activities which are of temporary nature.

Overall Magnitude of Landscape Change

The overall magnitude combines size and scale, geographical extent, duration and reversibility as set out in Table A1.6 below.

Table A1.6: The Assessment of Overall Magnitude of Change

Category	Description
Large	A large extent of existing landscape elements would be lost / adjusted, the proportion that this represents within the landscape is considerable and the resultant change to the landscape character resulting from such a loss is large. Large scale alteration of the aesthetic and perceptual aspects of the landscape such as the removal of existing components of the landscape or by addition of new ones – for example, removal of hedges may change a small scale, intimate

[10] Guidelines for Landscape and Visual Impact Assessment (page 90)

Category	Description
	landscape into a large-scale, open one, or introduction of new buildings or tall structures may alter open skylines. The effect changes the key characteristics of the landscape & landscape, which are critical to its distinctive character. The change would affect all of the landscape receptors being assessed, as the development would occupy a large geographical extent, e.g., the change would be on a large scale, influencing several landscape types or character areas. The effects are either of a long duration, permanent, or irreversible /reversible change to the landscape.
Medium	A medium extent of existing landscape elements would be lost / adjusted, the proportion that this represents within the landscape is medium and the resultant change to the landscape character resulting from such a loss is medium. Medium scale alteration of the aesthetic and perceptual aspects of the landscape such as the, removal of existing components of the landscape or by addition of new ones. The effect changes some of the key characteristics of the landscape & landscape, which are critical to its distinctive character. The change would affect a medium extent of the landscape receptors being assessed, as the development would occupy a moderate geographical extent, e.g., at the scale of the landscape type or character area within which the proposal lies. The effects are either of a long / or medium duration, permanent, or irreversible /reversible change to the landscape.
Small	A small extent of existing landscape elements would be lost / adjusted, the proportion that this represents within the landscape is low and the resultant change to the landscape character resulting from such a loss is low. Small scale alteration of the aesthetic and perceptual aspects of the landscape such as the, removal of existing components of the landscape or by addition of new ones. The effect changes a small number of the key characteristics of the landscape & landscape, which are critical to its distinctive character. The change would affect a small part of the landscape receptors being assessed, as the development would occupy a small geographical extent, e.g., at the level of the immediate setting of the site. The effects are either of a Medium / or short duration and reversible change to the landscape.
Negligible	A barely perceptible extent of landscape features and elements of importance to the character of the baseline are lost / adjusted. There is a barely discernible change to aesthetic and / or perceptual attributes of landscape & landscape character and such changes occurs across a very limited geographical area and / or proportion of the landscape receptor. The effect changes a barely discernible number of the key characteristics of the landscape, which are critical to its distinctive character. The change would affect only a negligible part of the landscape receptors being assessed, as the development would occupy a limited geographical extent, e.g., the site level, within the development site itself. The effects are of short duration and reversible.
No Change	The proposals would not affect any of the landscape receptors being assessed

1.6 Assessment of Visual Effects

Visual effects are concerned wholly with the effect of the development on views, and the general visual amenity and are defined by the Landscape Institute in GLVIA 3, paragraphs 6.1, as follows:

"An assessment of visual effects deals with the effects of change and development on views available to people and their visual amenity. The concern ... is with assessing how the surroundings of individuals or groups of people may be specifically affected by changes in the context and character of views."

Visual effects are identified for different receptors (people) who will experience the view at their places of residence, during recreational activities, at work, or when travelling through the area. The visual effects may include the following:

- Visual effect: a change to an existing static view, sequential views, or wider visual amenity as a result of development or the loss of particular landscape elements or features already present in the view.
- Cumulative visual effects: the cumulative or incremental visibility of similar types of development may combine to have a cumulative visual effect.

The visual assessment aims to determine from which points the proposed Development can be seen in the surrounding landscape; this is known as the visual envelope. Once determined, a series of key representative viewpoints are chosen (i.e., areas within the visual envelope from where it may be possible to see the proposed development from publicly accessible viewpoints), such as residential areas, public open spaces, PRoW / public footpaths and roads.

Visual effects relate to changes in available views of the landscape and the effect of those changes on people, including:

- The direct effects of the proposed Development on the content and character of views through the intrusion or obstruction and/or the change or loss of existing elements.
- The overall effect on visual amenity, be it degradation or enhancement.

In predicting the effects of the proposed Development on the visual receptors from specific viewpoints being assessed, GLVIA3 (para 6.27) states that it is helpful to consider (but not restricted to) the following issues:

- Nature of the view (full, partial or glimpsed);
- Proportion of the proposed development visible (full, most, part or none);
- Distance of the viewpoint from the proposed development and whether it would be the focus of the view or only a small element;
- Whether the view is stationary, transient or sequential; and
- The nature of the changes to the view.

Additionally, the seasonal effects of vegetation are to be considered, in particular the varying degree of screening and filtering of views.

People have different responses to views which are dependent upon context such as the:

- Location;
- Time of day;
- Season; and
- Degree of exposure to views.

Responses to views are also dependent upon the purpose of people being in a particular place such as:

- Recreation;
- Residence;
- Employment; and

- Passing through on roads, rail or other forms of transport.

As people move through the landscape, certain activities or locations may be specifically associated with the experience and enjoyment of the landscape, such as:

- The use of paths such as Public Rights of Way (PRoW), bridleways, byways open to all traffic (BOATs) and National Trails;
- National or local cycle routes; and
- Tourist or scenic routes, and associated viewpoints on land or water.

1.6.1 Evaluating Visual Sensitivity to Change

To determine visual effects both the sensitivity of the visual receptor and the magnitude of change must be considered. Determining visual sensitivity is the combination of susceptibility to change and value of a view. It is considered that a combination of high susceptibility to change and high value is likely to result in the highest sensitivity, whereas a low susceptibility and value is likely to result in the lowest level. The value, susceptibility to change and resultant sensitivity of a visual receptor are broadly categorised based on the following Tables A1.7 and A1.8 below. It should be noted that the levels are indicative and in practice there is not a clear distinction between criteria levels.

The susceptibility of visual receptors to changes in the view and visual amenity is related to activity they are engaged in and the extent to which their attention is focussed on the views and visual amenity at that location. As such those receptors most sensitive to change are likely to include people engaged in outdoor activities where an appreciation of the landscape is the focus or residents in areas where the landscape setting contributes to the setting of the properties.

Conversely, those considered least sensitive to change include (but are not restricted to) people engaged in outdoor sports or recreation where there is no focus on the surrounding landscape/views and people at their place of work where the focus is on the work activity.

See Table A1.7 below for a full description of the criteria used to assess the susceptibility of viewpoints.

Susceptibility of Visual Receptors to Change

The susceptibility of visual receptors to changes in views depends upon:

- The occupation or activity of people experiencing the view at particular locations; and
- The extent to which their attention or interest may therefore be focussed on the views and the visual amenity they experience at particular locations.[11]

The criteria used to assess the susceptibility of a visual receptor are summarised in Table A1.7 below.

Table A1.7 Visual Receptor Susceptibility to Change

Susceptibility	Type of Receptor
High	Residents at home. Views from well used public rights of way including strategic footpaths / long distance trails and cycle routes (where the attractive nature of the countryside is a significant factor in the enjoyment of the walk). Visitors along scenic routes and to recognized viewpoints.

[11] Ibid. 1. Paragraph 6.32

	Visitors to protected landscapes or heritage assets where views of the surroundings are an important contributor to the experience. The location, numbers, frequency of use and visual context of the viewpoint would be high. Communities where views contribute to the landscape setting enjoyed by residents in the area. Travelers on road, rail or other transport routes along scenic routes, where the appreciation of the view contributes to the enjoyment and quality of the journey.
Medium	Views experienced from boats, public rights of way / footpaths used locally and passing through the landscape and well used footpaths within settlements. Views from places of worship and associated grounds, schools, country parks and golf clubs. Views experienced by users of local roads where there are clear / open views across the landscape and low levels of traffic. The location, numbers, frequency of use and visual context of the viewpoint would be medium.
Low	Views experienced from places of work where workers and visitors are concentrating on their day-to-day activities. Views experienced by on near to motorways, major roads Views experienced by users of the rail network and main roads travelling at speed or local roads where the focus is upon the road ahead owing to traffic conditions and the context / composition of the view. Views experienced from less well used public rights of way which pass through less attractive landscapes or townscapes and are not used for enjoyment of the scenery. Views experienced by those playing or spectating at outdoor sports or utilising outdoor sports facilities. The location, numbers, frequency of use and visual context of the viewpoint would be low.

The value attached to views should be made on judgements based on the following:

- Recognition of the value attached to particular views, for example in relation to heritage assets, or through planning designations; and
- Indicators of the value attached to views by visitors, for example through appearances in guidebooks or on tourist maps, provision of facilities for their enjoyment and references to them in literature or art.

The criteria used to assess the value of views are summarised in Table A1.8 below.

Table A1.8 below shows a full description of the criteria used to assess the value of the view.

Table A1.8 Value Attached to Views

Value	Criteria
High	Views from and within landscapes / viewpoints of national importance (National Parks, National Scenic Areas, AONBs), highly popular visitor attractions where the view forms an important part of the experience, or heritage assets, or through planning designations such as conservation areas, listed buildings, Gardens & Designed Landscapes / Registered Parks & Gardens or with important cultural associations, or where the view is deemed by the assessor to be of a high value.
Medium	Views from landscapes / viewpoints of regional/district importance, or visitor attractions at regional or local levels where the view forms part of the experience, or local planning designations,

Value	Criteria
	or with local cultural associations, or where the view is deemed by the assessor to be of a medium value.
Low	Views from landscapes / viewpoints with no designations, and not particularly popular as a viewpoint, and unlikely to be visited specifically to experience the view available with minimal or no cultural associations, or where the view is deemed by the assessor to be of a low small value.

Sensitivity of Visual Receptors

The sensitivity of visual receptors is defined in terms of the relationship between the value of views and the susceptibility of the different viewers to the proposed change. Professional judgements are made on the merit of the view based on the visual receptor, with Table A1.9 below serving as a guide.

Table A1.9 Visual sensitivity criteria

Value	Criteria
High	A well-balanced view containing attractive features and notable for its scenic quality. A view which is an important reason for receptors being there. A view which is experienced by a large number of people and/ or recognized for its qualities. A view with a medium – high susceptibility to change, and experienced by visual receptors of a high sensitivity.
Medium	An otherwise attractive view that includes some attractive or discordant features or visual detractors. A view which plays a small part in the reason why a receptor would be there. A view which is locally recognized. A view with a low - medium susceptibility to change, and experienced by visual receptors of a low - medium sensitivity.
Low	A view that is unattractive, discordant and/or contains many visual detractors. A view which is unlikely to be part of the receptor's experience. A view with a negligible susceptibility to change, and a low sensitivity.

1.6.2 Magnitude of Visual Change

The magnitude of change to visual receptors is assessed in terms of the following:

- The scale of the change in the view with respect to the loss or addition of features in the view and changes in its composition, including the proportion of the view occupied by the proposed development;
- The degree of contrast or integration of any new features or changes in the landscape with the existing or remaining landscape elements and characteristics in terms of form, scale and mass, line, height, colour and texture; and
- The nature of the view of the proposed development, in terms of the relative amount of time over which it would be experienced and whether views would be full, partial or glimpses.

Table A1.10 below sets out the criteria used to assess the magnitude of visual change. Not all aspects of a criterion need to be met for an evaluation to be given.

Geographical Extent

The geographical extent of the visual change identified at viewpoints is assessed by reference to a combination of the ZTV and field work. The following factors are considered:

The geographical extent of a visual effect reflects:

- The angle of view in relation to the main activity of the receptor;
- The distance of the viewpoint from the Development; and
- The extent of the area over which the changes would be visible.

Duration and Reversibility of Visual Change

The following terminology, which considers whether views would be permanent and irreversible or temporary and reversible, is used to describe the duration of the visual change at representative viewpoints:

- Short-term: 0-5 years;
- Medium-term: 5-10 years; and
- Long-term: 10 to 40 years.

For the purposes of this assessment the Development has been assessed as long term.

Reversibility is a judgement about whether or not a development can be removed, and once removed can the view be fully restored.

Overall Magnitude of Visual Change

The three factors that contribute to assessment of the magnitude of visual change are combined as shown in Table A1.10.

Table A1.10 Assessment of Magnitude of Visual Change

Magnitude evaluation	Size, scale and nature	Geographical Extent	Duration & Reversibility
Large	Occupies an extensive proportion of the view and may even obstruct a significant portion of the view. Views may become the dominant feature. Considerable change to the majority / many existing landscape elements and/or landscape character; fundamental changes the surroundings and baseline to a large extent; very noticeable	Ranging from notable change over extensive area to intensive change over a more limited area.	Long term; permanent / non- reversible or partially reversible.
Medium	Occupies much of the view but would not fundamentally change its characteristics. Changes would be immediately visible but not a key feature of the view. Some change to existing landscape elements and /or landscape character; discernible changes the surroundings of a receptor,	Moderate changes in a localised area.	Medium term; semi-permanent or partially reversible.

Magnitude evaluation	Size, scale and nature	Geographical Extent	Duration & Reversibility
	such that its baseline is partly altered; readily noticeable.		
Small	Occupies a small portion of the view and therefore would not result in a change to the view's composition. Small change to existing landscape elements and/or landscape character; slight, but detectable impacts that do not alter the baseline of the receptor materially not readily noticeable	Minor changes in a localised area.	Short term / temporary; partially reversible or reversible.
Negligible	Occupies a small portion of the view and therefore would not result in a change to the view's composition. Small change to existing landscape elements and/or landscape character; slight, but detectable impacts that do not alter the baseline of the receptor materially not readily noticeable	Minor changes in a localised area.	Short term / temporary; partially reversible or reversible.
No Change	There are no changes to the existing view.		

1.7 Nature of Effect

The nature of an effect is also assessed. This is dependent on a number of criteria which vary between effects upon the landscape and effects on visual amenity. Effects are classified as beneficial, neutral or adverse according to the following definitions:

- **Beneficial** effects contribute to the landscape and visual resource through the enhancement of desirable characteristics or the introduction of new, positive attributes. The removal of undesirable existing elements or characteristics can also be beneficial, as can their replacement with more appropriate components;
- **Neutral** effects occur where the development neither contributes to nor detracts from the landscape and visual resource or where the effects are so limited that the change is hardly noticeable. A change to the landscape and visual resource is not considered to be adverse simply because it constitutes an alteration to the existing situation; and
- **Adverse** effects are those that detract from or weaken the landscape and visual resource through the introduction of elements that contrast in a detrimental way with the existing characteristics of the landscape and visual resource, or through the removal of elements that are key in its positive characterisation.

The LVA describes the overall effects on receptors and explains the justification for each assessment. For each assessed effect, a conclusion has been drawn on whether the effect is beneficial, neutral or adverse.

1.8 Level of Effect and Criteria

The level of landscape and visual effect has been assessed based on the sensitivity of the affected resource / receptor, and the magnitude of change caused by the proposed Development, as set out for each above in the preceding tables.

The combined sensitivity and magnitude used to determine the level of effect is summarised within Table A1.11 below. Note that effects can be either positive or negative, and in some cases, neutral (neither positive, nor negative).

Table A1.11 - Matrix for Determining Level of Effect

		Sensitivity (value / importance)			
		High	**Medium**	**Low**	**Negligible**
Magnitude of change	**Large**	Major	Moderate – Major	Minor – Moderate	Negligible
	Medium	Moderate – Major	Moderate	Minor	Negligible
	Small	Minor – Moderate	Minor	Negligible – Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

It should be noted that the above matrix is intended as a framework for assessment only and that the level of effect will vary depending on the circumstances, the type and scale of development proposed, the baseline context and other factors. The gradations of magnitude of change and level of effect used in the assessment represent a continuum; the assessor has used professional judgement when gauging the level of effect. Note that while the LVA may assess major level of visual or landscape effects at a localised level, these would not be significant in terms of the EIA Regulations.

Table A1.12 below provides a more detailed summary of the categories of effect.

Table A1.12 - Categories of Landscape and Visual Effect

Level of Effect	**Description of Landscape Effect**	**Description of Visual Effect**
Major	Considerable change over an extensive area of a highly sensitive landscape, fundamentally affecting the key characteristics and the overall impression of its character.	The development would become a prominent feature and would result in a very noticeable change to an existing highly sensitive and well composed view.
Moderate	Small or noticeable change to a highly sensitive landscape or more intensive change to a landscape of medium or low sensitivity, affecting some key characteristics and the overall impression of its character.	The development would introduce some enhancing or detracting features to an existing highly sensitive and well composed view, or would be prominent within a less well composed and less sensitivity view, resulting in a noticeable improvement or deterioration of the existing view.
Minor	Small change to a limited area of landscape of high or medium sensitivity or a more widespread area of a less sensitive landscape,	Where the Development would form a perceptible but not enhancing or detracting feature within a view of high or medium sensitivity or would be a more

Level of Effect	Description of Landscape Effect	Description of Visual Effect
	affecting few characteristics without altering the overall impression of its character.	prominent feature within a poorly composed view of low sensitivity, resulting in a small improvement or deterioration of the existing view.
Negligible	No discernible improvement or deterioration to the existing landscape character.	No discernible improvement or deterioration in the existing view.
No Effect	The development would not affect the landscape receptor.	The development would not affect the view
Major	Considerable change over an extensive area of a highly sensitive landscape, fundamentally affecting the key characteristics and the overall impression of its character.	The development would become a prominent feature and would result in a very noticeable change to an existing highly sensitive and well composed view.

1.9 Assessment of Cumulative Effects

A review of planning applications in the vicinity of the Development has been conducted. There are no extant planning applications or permissions with potential for significant combined impacts with the Development. As such this LVA does not provide a cumulative assessment.

2 VISUAL ASSESSMENT OF RESIDENTIAL PROPERTIES

Planning law contains a widely understood principle that individuals (i.e., visual receptors at a single residential property) have no 'right to a view' and that the outlook or view from a private property is a private interest and not therefore protected by the UK planning system.

However, the planning system also recognises situations where the effects on residential visual amenity are considered as a matter of public interest. This matter has been examined at a number of public inquiries where the key determining issue was not the identification of significant effects on views, but whether a proposed development would have an overbearing effect and/or result in unsatisfactory living conditions, leading to a property being regarded, objectively, as an unattractive (as opposed to a less attractive) place in which to live.

As a consequence, the visual assessment methodology provides for a much more detailed assessment of the closest residential properties. This allows the assessor, and consequently the determining authority, to make a judgement as to whether the residents at these properties would be likely to sustain unsatisfactory living conditions which it would not be in the public interest to create. Reviews of decisions demonstrate that significant changes to the views available from a residential property, and its curtilage, are not the decisive consideration.

By way of further clarification, the methodology for assessing the visual effects on views from residential properties allows for two stages of assessment as follows:

- The first stage is to identify those properties where a significant visual effect on a view from the property is likely to occur.
- The second stage is to consider the residential amenity and whether, in terms of the wider public interest, the visual effects would result in unsatisfactory living conditions, leading to a property being regarded, objectively, as an unattractive (as opposed to a less attractive) place in which to live.

A residential property, for the purposes of the LVA, should be one that was designed and built/converted for that purpose and currently (at the time of the assessment) remains in a habitable condition, of a safe construction, wind and water tight with appropriate vehicle access, and services (drinking water, sanitation, and power supply). Related buildings such as barns/outbuildings, garage, huts and derelict properties should generally be excluded from the assessment, unless they form part of the curtilage of an existing residence.

The sensitivity of individual residential receptors is assessed as high in each case.

The assessment of residential properties or groups of residential properties in this case has been limited to those properties within 1 km of the proposed Development, which appear on the Ordnance Survey 1:25,000 scale map. A radius of 1 km distance was selected due to the limited theoretical visibility beyond 1km shown in Figure 7 Appendix 2. Whilst most of the properties can be viewed at close range from public roads and footpaths, some of these properties are accessed via private or gated roads and due to these access limitations, they have been assessed from the nearest public road or footpath which may be at greater distance from the property. The assessment, in this instance, should therefore be regarded as a 'best estimate' of the likely visual effects.

The assessment has been further supported by aerial and ground level photography as well as map-based data. The assessment takes account of the likely views from the properties and main garden areas. Relevant information considered as part of the assessment may include, but is not limited to the following:

- Scale of Development:
  - Number and height of the proposed development;
  - The horizontal extent or AOV of the visible array; and
  - Separation distance (closest and furthest buildings).
- Description of Property, as far as this can be ascertained:
  - Orientation and size of property and whether views from the property towards the development would be direct or oblique;
  - Location of principal rooms and main living areas such as living/dining rooms, kitchens and conservatories, as opposed to working areas such as farm buildings and utility areas;
  - Location of principal garden areas which may include patios and seating areas as opposed to less well used areas such as paddocks or garages; and
  - The effects of any screening by landform, vegetation or nearby built development.
- Location and Context:
  - The aspect of the property in terms of the overall use and relationship to the garden areas and surrounding landscape;
  - The principal direction of main views and visual amenity; and
  - The context and nature of any intervening structures e.g., other existing development, farm buildings or forestry.

3 VIEWPOINT ANALYSIS AND VISUALISATIONS METHODOLOGY

Viewpoint analysis is used to assist the LVA and is conducted from selected viewpoints within the Study Area. The purpose of this is to assess both the level of visual impact for particular receptors and to help guide the design process and focus the landscape and visual assessment.

A range of viewpoints are examined in detail and analysed to determine whether a significant visual effect would occur. By arranging the viewpoints in order of distance it is possible to define a threshold or outer limit beyond which there would be no further significant effects.

The assessment involves visiting the viewpoint location and viewing wireframes and photomontages prepared for each viewpoint location. The fieldwork is conducted in periods of fine weather and good visibility and also considers seasonally reduced leaf cover.

Viewpoint selection followed good practice guidance and in particular paragraphs 6.18 to 6.20 of GLVIA3. The viewpoints chosen were used to aid the description of effects on both landscape and visual resources.

The selection of viewpoints was made on the basis of the following types of publicly accessible viewpoints, as follows:

- Representative viewpoints (for example, representing views of users of a particular footpath);
- Specific viewpoints (for example, a key view from a specific visitor attraction);
- Illustrative viewpoints (chosen to demonstrate a particular effect/specific issue);
- Any important sequential views, for example, along key transport routes; and
- Any additional viewpoints that have been requested by the Local Planning Authority.

For the purposes of the LVA, all of the viewpoints were taken from publicly accessible land.

Baseline photographic panoramas have been produced for each viewpoint to illustrate the nature of existing views in the direction of the Development. A baseline photographic survey has been undertaken using a digital SLR camera in accordance with current good practice guidance[12].

For five of the six viewpoints, computer rendered images (photomontages) and model have been prepared. These show the Solar PV Array superimposed on to the baseline photographic view to more accurately convey the appearance of the Development in the view. These photomontage locations have been selected as they provide views of key users for a number of different receptors and users which would have varying degrees of interest and which demonstrate a particular view from vantage points, PRoW, recreational routes, or sequential views.

The methodology for photography follows GLVIA3 and the Landscape Institute's TGN 06/19 Visual Representation of development proposals. A full methodology for photomontage preparation is included in Section 5 of the Methodology.

Photographs were taken in RAW format using both a Nikon D800 Digital SLR camera for viewpoint photography and visualisations. The time, date, altitude and grid coordinates for each frame were recorded.

4 ZTV METHODOLOGY

In order to assist with viewpoint selection and to appreciate the potential influence of the development in the wider landscape, preliminary ZTV plans are used. ZTV plans illustrate the area from where it may be theoretically possible to view all, or part, of the proposed Development. The ZTV does not however, take account of the screening effects of buildings, localised landform and vegetation, unless specifically mentioned (see individual figures). As a result, there may be roads, tracks and footpaths in the vicinity of the site and in the wider setting which, although shown as falling within the ZTV, are screened or filtered by banks, walls and vegetation which would otherwise preclude viewing opportunities.

[12] Landscape Institute, 2019, *Technical Guidance Note 06/19 Visual representation of development proposals* https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/09/LI_TGN-06-19_Visual_Representation.pdf (Accessed 01/07/2021)

The ZTVs provide a starting point in the assessment process and accordingly tend towards giving a 'worst case' or greatest calculation of the theoretical visibility.

Ordnance Survey Terrain 5 dataset was used as the Digital Terrain Model (DTM) for the Bare Earth ZTV. This DTM is a 5 m by 5 m raster dataset that is representative of the land form across Great Britain.

The ZTV was produced using ArcGIS Pro 2.1 software, and the calculations were based on the proposed infrastructure. The ZTV is created by highlighting areas on the DTM where a potential piece of infrastructure may be visible, based on the DTM. The height value given to the infrastructure was dependent on the AOD within Site, plus the height of solar panels.

The ZTVs are prepared using the following height parameters:

- solar panels are presented at 3 m height;
- transformers are presented at 12 m height; and
- HV infrastructure is presented at 11.5 m height.

Environment Agency LiDAR 2 m was used to create a Screened DTM. The LIDAR data takes account of all surface infrastructure – buildings and vegetation. The ZTV is run in the same way and with the same infrastructure as the bare earth ZTV.

Viewpoint Photography

The viewpoints are prioritised based on their location in relation to the proposed site. This is so that viewpoints east of the site are visited in the morning and viewpoints west of the site are visited in the afternoon to guarantee where possible that the sun is behind the photographer at the time of any viewpoint photography being captured. Viewpoint location maps at 1:25,000 are printed for each viewpoint to aid location once on site.

Upon arrival at each proposed viewpoint location, minor adjustments to position are made in order to obtain as clear a view to the site centre as possible, avoiding trees, landscape or man-made obstructions where possible.

The tripod is set up. The camera is placed on the panoramic head in a portrait orientation where its height is confirmed and set at 1.5 m (please note: a portrait camera orientation is sometimes used in situations where the viewpoint is very close to a development in order that the top of the development is not cut off by the image boundaries). The head is then levelled followed by levelling of the camera itself using a hot-shoe spirit level. With the camera's viewfinder centred on the perceived site centre, exposure and focus settings are taken. These are then fixed manually on the camera so that they cannot be inadvertently altered. The head is rotated 90^{o} to the left where the first frame of the 360^{o} sequence is then taken. Each subsequent frame is taken using a 50% overlap of the previous frame until the full 360^{o} sequence is captured.

The camera is then removed from the tripod and a viewpoint location photograph is captured showing the tripod in its position.

The camera and tripod configuration used is as follows:

Nikon D800 –Photography and Visualisations

- Camera body: Nikon D800 digital SLR (full frame CMOS sensor)
- Camera lens: Nikon AF 50mm f1.8 prime
- Tripod: Manfrotto
- Panoramic head: Manfrotto 303SPH

Camera settings used for all photography:

- Camera mode: Manual Priority
- ISO: 200
- Aperture: f13
- Image format: RAW

The single frame photographs are opened in Adobe Photoshop CC2018 where they are checked and any dust spots are removed before being saved as a high-resolution TIFF image.

Photos are stitched together to create panoramas from the individual images making up the required field of view. Stitching is done in PTGui Pro version 10.0.12 professional photographic stitching software using the required projection settings. They are then checked and any further dust spots are removed before being saved as a high-resolution TIFF image.

5 PHOTOMONTAGE METHODOLOGY

The methodology used and outlined in further detail below was compliant with relevant sections of:

- 'Guidelines for Landscape and Visual Impact Assessment' Third Edition, Landscape Institute and the Institute of Environmental Assessment, 2013 (GLVIA3).
- Photography and photomontage in landscape and visual impact assessment' Landscape Institute Advice Note 01/11, 2011.
- Visual representation of development proposals | Landscape Institute Technical Guidance Note 06/19 (17 September 2019).

In producing the computer model and verified view, the following methodology has been used:

- The Solar PV Array is located according to the scheme design and XYZ coordinates supplied;
- The arrangement and size of the development infrastructure is modelled in accordance with the application;
- Viewpoint locations are inputted using GPS data collected on-site;
- 3DS max standard cameras are correctly positioned in virtual space;
- The viewpoint photography is loaded and aligned into the environment background;
- The cameras field of view is overwritten in 3DS max to match the field of view of the single photo the direction and viewing angle of each camera is aligned using GPS data and matched up to the surveyed reference points (provided by the surveyors);
- The rendered images have been stitched in cylindrical projection using the PTGui Software;
- The lighting in the model is matched as closely as possible to the lighting within the day and time of the photography for each viewpoint;
- The stitched images are rendered for each viewpoint and merged with the full resolution base photographs using Adobe Photoshop; and
- Any foreground elements within the panorama are masked out.

The photomontages produced are for illustrative purposes only and, whilst useful, are not anticipated as a substitute for site visits. Photomontages are representative of views from agreed viewpoints and do not represent visibility from all receptors within the surrounding landscape setting.

APPENDIX 2 – FIGURES

APPENDIX 3 - SUMMARY OF LANDSCAPE AND VISUAL ASSESSMENT

Landscape & Visual Resource	Magnitude of Change	Receptor sensitivity	Impact assessment	Mitigation, compensation or enhancement	Residual impact
Landscape Effects on Local Landscape Character Types and Local Landscape Designation					
Character of the Site and its Immediate Context	Large	Medium	Moderate – Major, adverse and direct.	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	Moderate, adverse and direct
LCA 1C	Small	Medium	Minor, adverse and direct.	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	No change
LCA 3C	Negligible	Medium	Negligible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	Negligible, beneficial by Year 10
River Derwent Corridor and Lower Derwent Valley Important Landscape Area	Low	Negligible	Negligible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	Negligible, beneficial by Year 10
Viewpoint Assessment					
Viewpoint 1 – Allerthorpe Footpath No. 2, South of Allerthorpe Woods	Medium	Large	Moderate – Major, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	Moderate, adverse, reversible
Viewpoint 2 – Allerthorpe Footpath No. 2, within agricultural fields	Medium	Large	Moderate – Major, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology	Moderate, adverse, reversible

				Mitigation and Enhancement Plan	
Viewpoint 3 – Allerthorpe Footpath No. 2, north of Warren Farm Cottages	Medium	Medium	Moderate, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	No change
Viewpoint 4 – Allerthorpe Footpath No. 2, west of Warren Wood	Medium	Medium	Moderate, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	No change
Viewpoint 5 – Allerthorpe Footpath No. 2, east of Warren Wood	Medium	Small	Minor, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	No change
Viewpoint 6 – Allerthorpe Footpath No. 2, west of Waplington Hall	Medium	Negligible	Negligible, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	No change
Viewpoint 7 – Common Lane	Medium	Small	Minor - Moderate, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	Negligible, adverse, reversible
Viewpoint 8 – Thornton Footpath, north of Byholme Farm	Medium	Small	Minor - Moderate, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	No change
Viewpoint 9 – Wilberforce Way, Walbut Bridge	High	Negligible	Negligible, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	No change
Visual Effects on Residential and Recreational Receptors					

1 – Warren Farm Cottages	High	Large	Major, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	Minor – Moderate, adverse, reversible (from views available from first floor views on the primary elevations of the properties
2 – Thornton	High	Negligible	Negligible, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	No change
3	High	Negligible	Negligible, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	No change
4	High	Small	Minor – Moderate, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	No change
5	High	Small	Minor – Moderate, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	No change
6 – Thornton Grange	High	Negligible	Negligible, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	No change
8 – Byholme Farm	High	Negligible	Negligible, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	No change

11	High	Negligible	Negligible, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	No change
14	High	Small	Minor – Moderate, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	No change
Wilberforce Way Long Distance Route	High	Negligible	Negligible, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	Negligible, beneficial
Allerthorpe Footpath No.2	Medium	Large (for the PRoW within the site) Medium – Large for the route as a whole.	Major, adverse, reversible to Moderate – Major, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	Minor – Moderate to Moderate – Major, adverse, reversible
Allerthorpe Bridleway No.1	Medium	Large (for the PRoW within the site) Medium – Large for the route as a whole.	Minor – Moderate to Major, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	Minor – Moderate adverse, reversible
Thornton Footpath No.2	Medium	Large (for the PRoW within the site) Medium – Large for the route as a whole.	Minor to Moderate – Major, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	Minor to Moderate, adverse, reversible
Thornton Footpath No.1	Medium	Negligible	Negligible, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	No change
Common Lane	Medium	Small (negligible	Negligible to Minor,	Implementation of proposed mitigation planting as illustrated	Negligible, adverse, reversible

		for the route as a whole)	adverse, reversible	in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	
Melbourne Road	Medium	Medium (negligible for the route as a whole)	Moderate, adverse, reversible	Implementation of proposed mitigation planting as illustrated in Figure 3404_MOD_LAN_101_ Landscape and Ecology Mitigation and Enhancement Plan	Negligible, adverse, reversible