



Dean Moor Solar Farm

Environmental Statement: Appendix 7.1 – Landscape and Visual Methodology on behalf of **FVS Dean Moor Limited**

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DEAN MOOR SOLAR FARM
ENVIRONMENTAL STATEMENT
APPENDIX 7.1 – LANDSCAPE AND VISUAL METHODOLOGY
PLANNING INSPECTORATE REFERENCE EN010155
PREPARED ON BEHALF OF FVS DEAN MOOR LIMITED

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Contents

1	Introduction.....	1
1.1	Definition of Landscape	1
1.2	Professional Standards and Guidance	1
1.3	Approach to the Assessment	2
2	Scope of Assessment	5
2.1	PEIR to ES Approach	5
2.2	Potential Landscape and Visual Effects	6
2.3	Study Area	6
2.4	Landscape Receptors for Landscape Effects Assessment.....	7
2.5	Visual Receptors for Visual Effects Assessment	9
3	Methodology	16
3.1	Baseline Data Collection and Review	16
3.2	Assessment Stages.....	17
3.3	Types of Effects – Definitions	18
3.4	Direction of Effects	18
3.5	Methodology for the Assessment of Landscape Effects	19
3.6	Assessment of Effects on Views and Visual Amenity	30
3.7	Methodology for the Assessment of Cumulative Landscape and Visual Effects	38
3.8	Landscape and Visual Mitigation Measures	41
3.9	Assessment of Level of Significance of Landscape and Visual Effects	41
4	Technical Methodologies	44
4.1	Zone of Theoretical Visibility	44
4.2	Baseline Views Photography.....	45
4.3	Visualisations	47
5	Standard LVIA Glossary and Abbreviations.....	49
5.1	LVIA Glossary.....	51
5.2	Standard Abbreviations	54

1 Introduction

1.1 Definition of Landscape

1.1.1 Landscape was defined at the European Landscape Convention: ‘The landscape is part of the land, as perceived by local people or visitors, which evolves through time as a result of being acted upon by natural forces and human beings’¹.

1.1.2 Landscape was also defined by Swanwick and Land Use Consultants, 2002:2, as follows:

‘Landscape is about the relationship between people and place. It provides the setting for our day-to-day lives. The term does not mean just special or designated landscapes and it does not only apply to the countryside. Landscape can mean a small patch of urban wasteland as much as a mountain range, and an urban park as much as an expanse of lowland plain. It results from the way that different components of our environment – both natural (the influences of geology, soils, climate, flora and fauna) and cultural (the historical and current impact of land use, settlement, enclosure and other human interventions) – interact together and are perceived by us. People’s perceptions turn land into the concept of landscape.’

1.2 Professional Standards and Guidance

1.2.1 The Landscape and Visual Impact Assessment (LVIA) has been carried out by a senior landscape architect and checked and reviewed by a chartered landscape architect, a Registered Practice of the Landscape Institute (‘LI’) and a corporate member of the Institute of Environmental Management and Assessment (IEMA).

1.2.2 The author’s methodology for LVIA is based on professional experience of landscape and visual appraisals and impact assessments, the Guidelines for Landscape and Visual Impact Assessment (Landscape Institute / Institute of Environmental Management and Assessment, 3rd Edition, 2013)² and its associated clarifications. In addition, the LVIA methodology considers the principles set out in the following LI technical notes and guidance:

¹ The European Landscape Convention (2000) - Council of Europe Landscape Convention (coe.int).

² Landscape Institute and Institute for Environmental Management and Assessment ((2013), Guidelines for Landscape and Visual Impact Assessment.

- LI Technical Guidance Note (LITGN-2024-01) Notes on Clarifications on aspects of the 3rd Edition Guidelines on Landscape and Visual Impact Assessment (LI, 2024)³;
- LI Technical Information Note 08/2015: Landscape Character Assessment (LI, February 2016)⁴;
- LI Technical Guidance Note 02/21: Assessing Landscape Value Outside National Designations (LI, February 2021)⁵; and
- LI Technical Guidance Note 06/19 Visual Representation of Development Proposals (LI, September 2019)⁶ and the supporting Technical Information Notes: TIN 07/19 Visual Representation Glossary, TIN 08/19 Camera Auto Settings, and TIN 09/19 Earth Curvature.

1.3 Approach to the Assessment

- 1.3.1 The Guidelines for Landscape and Visual Impact Assessment, (Landscape Institute / Institute of Environmental Management and Assessment, 3rd Edition, 2013) (GLVIA3) notes in paragraph 1.17, page 9, in reference to the European Union Directive 2011/92/EU (now as amended by 2014/52/EU):

*‘The Directive is clear that the emphasis is on the identification of **likely significant** environmental effects. This should embrace all types of effect and includes, for example, those that are positive/beneficial and negative/adverse, direct and indirect, and long and short term, as well as cumulative effects. Identifying significant effects stresses the need for an approach that is in proportion to the scale of the project that is being assessed and the nature of its likely effects. Judgement needs to be exercised at all stages in terms of the scale of investigation that is appropriate and proportional. This does not mean that effects should be ignored, or their importance minimised but that the assessment should be tailored to the particular circumstances in each case.’*

- 1.3.2 On the 31 of December 2020, the UK left the European Union. The European Union (Withdrawal) Act 2018 provides the new constitutional framework for continuity of retained EU law in the UK. European Union Directive 2011/92/EU (now as amended by 2014/52/EU) is retained and, in UK law, is achieved through the Town and Country Planning (Environmental Impact Assessment) Regulations 2017.

³ LI Technical Guidance Note (LITGN-2024-01) Notes on Clarifications on aspects of the 3rd Edition Guidelines on Landscape and Visual Impact Assessment.

⁴ LI Technical Guidance Note (2016). (LITGN-2015-08). Landscape Character Assessment

⁵ Landscape Institute (2021). Technical Guidance Note 02/21 Assessing landscape value outside national designations.

⁶ Landscape Institute (2019). Technical Guidance Note TGN 06/19 Visual Representation of Development Proposals.

- 1.3.3 The assessment of landscape and visual effects aims to be as objective as possible; however, professional judgements are required to be made, as GLVIA3 explains in paragraph 2.23, page 21:

‘Professional judgement is a very important part of LVIA. Whilst there is some scope for quantitative measurement of some relatively objective matters, for example the number of trees lost to construction... much of the assessment must rely on qualitative judgements, for example about what effect the introduction of a new development of land use change may have on visual amenity, or about the significance of change in the character in the landscape and whether it is positive or negative.’

- 1.3.4 In accordance with guidance, the LVIA considers the effects on landscape as an environmental resource in its own right, including landscape character and landscape features (landscape receptors), and people’s views / visual amenity (visual receptors), as separate assessment components. The LVIA also identifies and assesses the negative and positive effects (type of effects) and significance of change arising from the Proposed Development on landscape and visual receptors.

- 1.3.5 The assessment of landscape and visual effects makes comparison with the baseline year of 2023, and the assessment periods comprise:

- During the construction period;
- At operation (i.e. on completion of the development); and
- 15 years after completion of the development, when the mitigation planting is assumed to have successfully established and grown to provide effective mitigation.

- 1.3.6 The assessment of visual effects in the winter period is considered to represent the worst-case visibility scenario, due to deciduous vegetation not being in leaf and therefore the Site or Proposed Development would be most visible.

- 1.3.7 The LVIA assesses the maximum parameters which are being sought to be secured as part of the DCO application, and which are set out on ES Figure 3.4: Parameter Plan. Illustrative design / masterplans may inform the assessor’s professional judgements where appropriate, but the assessment does not rely upon illustrative material as it cannot provide certainty to the design of the Proposed Development.

- 1.3.8 The LVIA has been prepared as part of an Environmental Statement (ES) and is submitted to accompany the DCO application.

2 Scope of Assessment

2.1 PEIR to ES Approach

2.1.1 Following extensive consultation as outlined in Table 7.1 of the Landscape and Visual ES Chapter [REF: 6.1], submission of the PEIR, and refinement of the Proposed Development. The assessment has been revised where required to reflect any changes which arose during design refinement, or acting upon stakeholder comments received.

2.1.2 Design changes which arose between PEIR stage and the ES with regards to landscape and visual matters included the following:

- Extension of broadleaved woodland along the northern boundary of Area A adjacent to Branthwaite Road to provide additional screening and potentially reduce the cumulative visual effects associated with Lostrigg Solar;
- Inclusion of enhanced grassland adjacent to the Site boundary to increase biodiversity value within field margins;
- Inclusion of a scrubland margin to the south-western corner of Site to provide additional screening in views from PRow 260005 (Bridleway) and from Wythemoor Head, in addition to preserving height restrictions associated with the nearby Potato Pot Wind Farm;
- Refinement of enhancement areas around Potato Pot Wind Farm (Area D), including enhanced grassland areas, enhancements to the pond area including clearance of unwanted vegetation and the introduction of a bird hide, and inclusion of single-species hedgerow;
- Inclusion of areas of enhanced grassland adjacent to watercourses throughout Area C which will feature protective fencing measures where grazing will occur;
- Additional broadleaf woodland adjacent to the substation parameter areas to enhance visual screening;
- Enhancements to existing woodland blocks on the northern face of the escarpment within Area C to enhance biodiversity value;
- Notable increase to the offset of solar development to the north and west of the residential / commercial properties within the southeast corner of Area C. This offset would include species-rich grassland, scrubland and hedgerow with hedgerow tree planting in order to provide screening of the solar panels for nearby residents while maintaining their long-distance views; and
- Provision of new linear woodland to the northwest of Rigg House within Area C to provide visual screening / filtering of solar development and substation elements from Rigg House and Branthwaite Edge Road.

- 2.1.3 In addition to the changes to the Landscape Strategy Plan (ES Figure 7.6.1-5) [REF: 6.2] outlined above, changes were made to the assessment parameters with regards to the substation footprint and removal of the BESS from the Proposed Development.
- 2.1.4 The addition of up to two PoC masts at 30m height resulted in additional ZTVs being undertaken to understand their potential theoretical visibility across the study area, with the results noted within the Landscape and Visual ES Chapter accordingly.

2.2 Potential Landscape and Visual Effects

- 2.2.1 Potential landscape and visual effects arising from the Proposed Development are those upon the following receptors:
- Landscape character; and landscape features (the 'fabric' or components of the site, which contribute to character); and
 - People's views and visual amenity, from publicly accessible locations.

2.3 Study Area

- 2.3.1 Professional experience of other landscape and visual assessments and area appraisals for solar development, has shown that significant effects on landscape and visual receptors would not typically be experienced beyond 2.5km.
- 2.3.2 The initial search area for the LVIA was based upon, and informed by, a computer-generated Zone of Theoretical Visibility (ZTV) prepared for up to 7.5km from the Site, and which establishes the theoretical 'worst-case' extent to which the Proposed Development would be visible. This was based on a Digital Surface Model (DSM), which includes built form and landscape features as visual barriers within the model and therefore is considered a realistic worst case. In reality, built form and other features would provide additional filtering or reduction of views. Further detail about the methodology for the ZTV analysis is set out in section 4.1 of this document.
- 2.3.3 The ZTV analysis, which was undertaken found that intervening topography, intervening vegetation, and to some extent existing built form

present on-Site, functions to reduce mid-distance views. Visibility from long-distance views increased in some areas as a consequence of higher ground, particularly to the east within the Lake District National Park (LDNP). As a result, the detailed study area for the LVIA was maintained at 2.5km from the Site boundary for landscape designations and landscape character, while the visual study area was extended to include views from the LDNP following consultation with stakeholders.

2.4 Landscape Receptors for Landscape Effects Assessment

2.4.1 Landscape receptors are components of the landscape which are likely to be affected by the Proposed Development. These comprise landscape designations, key characteristics and landscape character, landscape elements or features, and specific aesthetic or perceptual aspects of the landscape, within the Study Area.

2.4.2 Landscape receptors, which are judged to be sensitive to the type of change being proposed, or which are considered likely to be subject to significant landscape effects because of the Proposed Development, have been agreed with relevant stakeholders through the usual scoping process. The landscape receptors which are considered in the LVIA are listed below.

- **Landscape Designations:** The LDNP; in terms of described / published character and special qualities, or locally valued attributes of the designation.
- **Listed Buildings and Scheduled Monuments:** A Scheduled Monument (SM) (Large Irregular Stone Circle and a Round Cairn on Dean Moor) lies on the south-western boundary of Area C; however, this is not publicly accessible and not visible on the ground. There are no Listed Buildings (LB) within the Site.
- **Long Distance Walking Routes (LDWR), Public Rights of Way (PRoW), National Cycle Network (NCN) routes, and Open Access Land:** There are no PRoW within the Site, however there are a number within the wider study area, but these are often poorly connected in contrast with PRoW along the coastline to the west and the LDNP to the east. High Park Open Access Land is located directly to the south of the Site. There are no NCN Routes or LDWR within the detailed study area.
- **Published Regional and Local Landscape Character Areas:** LDNP Landscape Character Assessment and Guidelines (2021) and Cumbria Landscape Character Guidance and Toolkit.

- **Landscape character of the Site:** The Site is relatively rural, and predominantly pastoral with land parcels typically bounded by hedgerow with occasional hedgerow trees supported by timber post and wire fencing. Area C also contains minor watercourses with some limited vegetation. Small blocks of plantation woodland are also present within Area B and C. Existing infrastructure / communications equipment includes high and low voltage electricity pylons and overhead lines which cross Area C, passing through the larger woodland block. The Potato Pot Wind Farm, which consists of three pylons (Area D). Unclassified roads bound the southern, eastern and northern Site boundaries.
- **Topography and Site Landform:** The Site presents an undulating, complex landform, falling sharply from a high plateau within the southern part of Area C, before falling more gradually across the remaining area. The Site is rarely flat however, undulating to greater or lesser degrees from some 200m AOD along Area C's southern boundary to around 99m AOD along Branthwaite Road to the north of Area A.
- **Existing Vegetation of the Site/Green infrastructure network:** The Site lies within a broadly rural area, although Lillyhall Industrial Estate and the A595, which lie around 1-1.5km northwest hold some influence. An area of ancient woodland lies directly adjacent to the Area C boundary, with other vegetation within the wider landscape generally limited to pockets of woodland and field boundaries which are predominantly hedgerow with hedgerow trees. Green infrastructure within the Site is limited and generally of poor quality.
- **Pedestrian Routes not included on the definitive map:** There are several routes within and immediately adjacent to the Site which do not form part of the definitive PRoW network. These are routes that are used by the local community. Currently, these routes are neither PRoW or Permissive Paths, although they have been used by the general public uninterrupted for a number of years. Following this, these pedestrian routes have not been assessed in the ES given they have no official status. These routes are illustrated on Figure 7.7b: Permissive Paths within Appendix 7.7: Outline Landscape and Ecological Management Plan.
- **Landscape elements and features within the Site:**
 - Landform / physical features; Landform within the Area Broadly falls from south to north, with the sharpest fall at the southernmost part of Area C, where levels drop from around 203m AOD to 150m AOD over some 550m. The remainder of the site is gently undulating, culminating at the northern edge of Area A at approximately 99m AOD.
 - Trees, woodland and hedgerows within the Site (landcover); There are two woodland blocks within the northern part of Area C, and one block of young plantation at the southern edge of Area B. Given the agricultural nature of the Site, field boundary treatments are generally hedgerows with occasional hedgerow trees.

- Watercourses / waterbodies; These are limited to Area C, with Thief Gill running from the southern boundary through the Area Being the main waterbody. Other minor watercourses tend to run into Thief Gill from the south and west.
- Existing buildings / built form; Built form within the Site is limited to the farm outbuildings associated with Rigg House.

2.4.3 Receptors which are not considered to experience significant effects include National Character Areas. These receptors are also considered in the assessment.

2.5 Visual Receptors for Visual Effects Assessment

Key Views

- 2.5.1 Key Views are those strategic views, panoramas or contained views which are identified as being important views across a townscape or landscape; these being views from parks and other publicly accessible spaces, or streets, or Conservation Areas, that take in important or defining landmark features, and which help to define key characteristics of that townscape or landscape location.
- 2.5.2 Key Views may be protected and designated through local planning policy. Alternatively, Key Views may be identified and published in local studies or visual strategies, Conservation Area appraisals or Tall Building design guidance. Key Views are reviewed through the LVIA baseline data collection and review process.
- 2.5.3 Where there are no published Key Views, a local planning authority may identify locally important views (Local Key Views) relevant to a Site or Proposed Development through the scoping process; for example, views of a landmark within an historic town core which is visible in long distance views from outside of the town / city, or which is a notable local landmark from within the surrounding area. Where this occurs, the nature and source of the Local Key View is set out in the LVIA.

Visual Receptors and View Locations

- 2.5.4 Visual receptors are always people and their views at particular places; and will, for example, comprise people using PRow, public open spaces,

public realm areas or other outdoor recreational facilities; people who may be visiting, living or working within the study area; and people travelling by roads and rail. View locations are selected to represent a visual receptor's typical views (i.e. to be characteristic, or representative, of examples of people's views) for the purpose of the LVIA.

2.5.5 The following types of views, from publicly accessible locations, are typically considered in an LVIA:

- Representative views (for example representing views of people using a particular footpath);
- Specific views (for example a Key View, or an important view from a specific visitor attraction);
- Illustrative views (chosen to demonstrate a particular effect/specific issue); and
- Sequential views (for example, transient views which occur when travelling along key routes or designated Scenic Routes).

2.5.6 Visual receptors which are judged to be sensitive to the type of change being proposed, or which are considered likely to be subject to significant visual effects because of the Proposed Development, have been identified for the visual impact assessment in the LVIA. This is based upon a review of the available background constraints, character, and landscape features information, together with a review of the ZTV for the Study Area (details of the methodology for production of the ZTV are included in Section 4.1 of this document), consideration of the potential visual receptors, and a site appraisal. Visual receptors and view locations have been agreed with the Council and representatives of the LDNP through the usual scoping process. View locations may also be included to demonstrate there is no visibility / no visual effect for visual receptors.

2.5.7 Potential visual receptors are:

- Residents in close vicinity of the Site, including those at Rigg House Farm, Wythemoor House, and the property at Dean Cross;
- Visitors to the LDNP / WHS, particularly those on the high fells such as Blake Fell and Fellbarrow;
- People living in, working in, or visiting the villages in the area, including Gilgarran and Branthwaite;

- Users of the PRoW network, and pedestrian routes, including footpath 260005 to the east of the Site;
- Pedestrians and people using local transport corridors, in particular the unclassified roads to the south, east and north of the Site.

2.5.8 The visual receptors and associated view locations that have been selected for the LVIA, are set out in the People's Views and Visual Amenity Section of the LVIA. A plan showing the view locations is presented in Figure 7.4 of the LVIA.

2.5.9 View locations selected for the visual assessment are set out in Table 2.1, along with the reasons for their inclusion.

Table 2.1: Selection of Visual Receptors and View Locations for Visual Impact Assessment

View Location Ref	Location	Distance from the Site Boundary	View Direction	Reason for Selection
1 (b-c)	Local PRoW (260005) on edge of Lillyhall	790m (at nearest point)	South	Sequential views of recreational users on local Bridleway, including specific views from the isolated farmstead at Wythemoor Head (VL1c).
2a	Unclassified road south of Gilgarran	760m	Northeast	Representative of road users travelling east towards the Site.
2b	Gilgarran Road near isolated property Colinside	140m	Northeast	Representative of residential receptors at Colinside, added following consultation with the Council on Oct 3, 2023.
2c	Gilgarran Road, northeast of Gilgarran	480m	East	Representative of residential receptors at Gilgarran.
3c	Dean Cross Road near isolated rural properties – Wilson Park / Studford	Adjacent to southern Area C boundary (at nearest point)	East/North	Representative of users of Dean Cross Road travelling east, with specific views from the Area C boundary.

View Location Ref	Location	Distance from the Site Boundary	View Direction	Reason for Selection
6a / 6b	Dean Cross	Adjacent to southern/eastern site boundary	North/West	Representative of users of the local highway and adjacent commercial premises, located near to Dean Moor motocross park.
7	Branthwaite Edge Road adjacent to isolated rural property – Rigg House	Adjacent to eastern Area Boundary	West	Representative of users of Branthwaite Edge Road, and Rigg House residential property.
8 (a-b)	Local PRoW (260005) on edge of Branthwaite	700m (at nearest point)	West	Sequential views, representative of recreational users on local Footpath (260005) with specific views from the settlement edge at Branthwaite.
9	Branthwaite Road near isolated rural property – Wythemoor House	175m	South	Representative of users of Branthwaite Road, and Wythemoor House residential property.
10	Local PRoW (230010) at Caple How	2.4km	South	Representative of recreational users on local Footpath (230010).
15	Pica	1.9km	East	Representative of residential receptors at Pica, added following consultation with the Council on Oct 3, 2023.

Table 2.2: View Locations Outside Proposed Study Area

View Location Reference	Location	Distance from the Site Boundary	View Direction	Reason for Selection
11	Settlement of Dean and local PRoW (225006)	2.9km	West	Representative of residential receptors at Dean, and users of the local Footpath (225006).
12	Local PRoW (412025) near Cogra Moss / Felldyke within LDNP	3.9km	Northwest	Representative of recreational users on the local Footpath (412025) and users of the LDNP including areas of Open Access Land.
13a/13b/13c	View from Blake Fell within the LDNP	5.9km	Northwest	Representative of recreational users of the LDNP including areas of Open Access Land. Added following consultation with the LDNP.
14	View from Fellbarrow within the LDNP	8km	West	Representative of recreational users of the LDNP including areas of Open Access Land. Added following consultation with the LDNP Authority.

2.5.10 The proposed visual receptors and associated view locations for the visual impact assessment was agreed with officers at the Council and the LDNP in September and October 2023.

2.5.11 A response stating agreement with the view locations, including two additional from within the LDNP, was received on September 22 from representatives of the LDNP Authority. As a result, the LVIA has assessed all agreed view locations, including the two additional within the LDNP. A meeting was held with officers at the Council on 3 October 2023, at which time a request for consideration of residential receptors within close proximity to the Site. Two view locations (VL2b and VL15) were added.

2.5.12 In addition to the above view locations, in order to undertake and illustrate the potential effects of cumulative development associated with the proposed nearby Lostrigg Solar, and number of cumulative view locations were chosen, with agreement on these sought with the Council and the

LDNP Authority in September 2024. The cumulative view locations (VLC) put forward and subsequently assessed are set out in Table 2.3 below.

Table 2.3: Selection of Visual Receptors and View Locations for Cumulative Visual Impact Assessment

Cumulative View Locations (VLC)	Location of Visual Receptor	Distance from the Site Boundary & Relevant site	View Direction	Reason for Selection
VLC1	Local PRow (230010) at Caple How	230m (Lostrigg)	North / South	Representative of recreational users on local Footpath (230010).
VLC2	Northern outskirts of Dean on Shawbank Brow	1.9km (Lostrigg)	West	Representative of residential receptors within the settlement of Dean.
VLC3	Dean Cross Road near isolated rural properties – Wilson Park / Studford	Adjacent to Area C boundary (Dean Moor)	North	Representative of users of Dean Cross Road travelling east, with specific views from the Area C boundary.
VLC4	Branthwaite Road near isolated rural property – Wythemoor House	175m (both Sites)	East	Representative of users of Branthwaite Road, and Wythemoor House residential property.
VLC5	View from Blake Fell within the LDNP	5.9km (Dean Moor)	West	Representative of recreational users of the LDNP including areas of Open Access Land.

2.5.13 The proposed view locations for the cumulative visual impact assessment were agreed with officers at the LDNP Authority, and the Council in September 2024 (via email) and October 2024 (via a Teams meeting) respectively. The LDNP that VLC5 should be taken from Blake Fell.

2.5.14 This consultation also included recommendations on visualisations to be prepared to support ES Chapter 7 – Landscape and Visual. This set out that visualisations would be produced to a Landscape Institute TGN 06/19

Type 3 level, as photomontages, with a year one and year 15 scenario presented to demonstrate how the Proposed Development will appear prior to, and post establishment of the landscape measures as identified on the Landscape Strategy Plan (ES Figure 7.6.1-5). Visualisations were produced for the following view locations:

- VL2b Unclassified Road east of Gilgarran (adjacent to Colingate) (a 90-degree view centred on Gilgarran road to the east);
- VL2c Gilgarran Road, northeast of Gilgarran (a 90-degree view centred north-east);
- VL6a Dean Cross (a 180-degree view centred to the west);
- VL7 Branthwaite Edge Road adjacent to isolated rural property – Rigg House (a 180 degree view centred west);
- VL9 Branthwaite Road near isolated rural property – Wythemoor House (a 180-degree view centred to the south-east); and
- VL13 View from Blake Fell within the LDNP / WHS (a 90degree view centred to the north-west).

2.5.15 The methodology and view locations selected where been agreed with the LDNP Authority, and the Council in September 2024 (via email) and October 2024 (via a Teams meeting) respectively. Further detail on the methodology followed is set out in Section 4.3 of this report.

3 Methodology

3.1 Baseline Data Collection and Review

Desktop Study

- 3.1.1 The initial step in LVIA is to establish the baseline landscape and visual conditions. Background data is collected and reviewed to establish the baseline landscape and landscape character receptors and potential visual receptors. The data includes the nature of topography, landscape planning designations and published sources of landscape character or, where relevant, townscape character.
- 3.1.2 Typical information sources include:
- Ordnance Survey OpenData for mapping;
 - 1:25,000 OS Explorer, for example via Bing Maps, for a general map overview of the Site and surrounding area, as well as to review the PRow network (bridleways, footpaths, byways, other routes), including names and locations of Long Distance Route or National Trails, and for Open Access Land area locations and boundaries;
 - Google Earth Pro for aerial photography and Google Street View;
 - An initial review of statutory and non-statutory designations⁷;
 - For routes on the NCN⁸;
 - Historic England;
 - The National Planning Policy Framework (2024)⁹;
 - Local authority websites for Local Plans and Development Frameworks, including Area Action Plans, if relevant;
 - National Character Area Profiles¹⁰;
 - Regional, borough, district or local landscape character assessments and relevant supplementary design or planning guidance (SPD or SPG); and
 - Relevant Conservation Area appraisals.

⁷ DEFRA. Magic Maps. Available at: www.magic.defra.gov.uk Accessed November 2024

⁸ Sustrans (n.d.) <https://www.sustrans.org.uk/> Accessed November 2024

⁹ HM Government (2024). Ministry of Housing, Communities and Local Government (MHCLG). Policy paper National Planning Policy Framework

¹⁰ Hm Government (2014). Department for Environment, Food & Rural Affairs, Natural England. Guidance National Character Area profiles: information for local decision making

Landscape and Visual Survey and Photographic Record

3.1.3 The Site and surrounding area were visited in March and October 2023, and March and October 2024 to undertake the landscape and visual survey, and to collect the photographic record of the visual baseline, to represent people's views from the selected assessment view locations. This exercise also enables the LVIA assessor to:

- Determine the extent of visibility of the Site and any existing built form or structures;
- Determine the visibility of the Proposed Development, utilising the results from the ZTV plan to guide the field work;
- Gain further understanding of the landscape components which create the landscape character; and
- Carry out the assessment of landscape and visual effects.

3.1.4 Where project timings make it possible, representative baseline photographs are taken during winter months in addition to summer. Views of the Site are likely to be greatest during winter months, when intervening trees are without the screening benefit of leaves and full canopies. During summer months, views of the Site are typically reduced due to intervening trees being in full leaf, and therefore the winter visual survey is considered to demonstrate the 'worst case' baseline of views. The winter visual survey for Dean Moor was undertaken in March during the winter period, which is considered to represent the worst-case visibility scenario.

3.1.5 The methodology used for photography is set out at section 4.2 of this document.

3.2 Assessment Stages

3.2.1 A three-stage assessment process is adopted for the LVIA, in accordance with the Guidelines for Landscape and Visual Impact Assessment (Landscape Institute / Institute of Environmental Management and Assessment, 3rd Edition, 2013).

3.2.2 Firstly, the sensitivity of receptors is assessed. Secondly the magnitude of effects likely to result from the Proposed Development is assessed. Lastly,

the level of significance of the identified landscape or visual effect on the receptor is assessed. The type of effect is also determined.

3.3 Types of Effects – Definitions

- 3.3.1 The principal sources of change to landscape character / landscape receptors and people's views and visual amenity, arise from the introduction of new built form and/or structures, and new, or changes to, landscape elements and landscape character.
- 3.3.2 Changes will be direct, or indirect. Direct effects are those which result directly from the development; whereas indirect, or secondary, effects may arise as a consequential change resulting from the development, for example: changes to off-Site and downstream vegetation, because of alterations to a drainage regime.

3.4 Direction of Effects

- 3.4.1 Changes may also be beneficial or adverse; and some changes may initially be adverse, but over time gradually improve. Beneficial effects have a positive influence on the receptor (enhancement); alternatively, adverse effects have a negative influence on the receptor (degradation).
- 3.4.2 It is possible that the type of effect may be judged to be neutral. Where a neutral type of effect is judged to occur for landscape receptors, there would be a change to the landscape features and/or characteristics, but the change would be entirely consistent or in keeping with the existing landscape character or landscape features, such that the existing character or features are maintained, and the change would not cause deterioration or enhancement of the character or features. Where a neutral type of effect is judged to occur for visual receptors, there would be a change to the composition of the view, but that change would be consistent or entirely in keeping with the existing elements of the baseline view, maintain the composition and quality of the existing baseline view, and would not enhance or deteriorate the baseline view.

3.5 Methodology for the Assessment of Landscape Effects

- 3.5.1 The assessment of landscape effects considers how the Proposed Development would affect the landscape features or components of the Site (the 'landscape fabric', for example: landform; trees, woodland and hedgerows; open spaces, amenity spaces, public realm; watercourses, ponds or other waterbodies), and the key landscape characteristics which contribute to its distinctive character (the 'landscape character').
- 3.5.2 Additionally, the assessment considers landscape effects upon the green infrastructure network function of the Site, and Long Distance Walking Routes / PRoW / NCN Routes.
- 3.5.3 A methodical consideration of each effect upon each identified landscape receptor is undertaken, in order to determine the significance of effects, in terms of:
- Value and susceptibility to change (sensitivity of the landscape receptor); and
 - Size / scale, geographical influence, duration and reversibility (magnitude of the landscape effect).

Sensitivity of Landscape Receptors

- 3.5.4 The assessment of landscape receptor sensitivity combines judgements on the value attributed to the landscape receptor and the 'susceptibility to change' of the receptor to the specific type of development proposed.

Value of Landscape Receptors

- 3.5.5 The value of landscape receptors is assessed, including landscape character and the individual landscape features which contribute to that character. Landscapes may be valued at community, local, national, or international levels. Existing landscape designations are taken as an indicator for landscape value, and the value of undesignated landscapes is also considered. At the more detailed scale of the LVIA study area, it may be found that the landscape value of a specific area may be different to that suggested by the broader formal designation.

3.5.6 Table 3.1 sets out the relative importance and value of landscape designations and provides generic descriptions, as well as identifying which of those designations apply to the Site and Study Area.

Table 3.1: Landscape Designations

Typical Designation and Importance (Value)	Description	Actual Designation Applicable to the Site and Surrounding Area
World Heritage Site <i>International (Very High)</i>	Unique sites, features or areas of international importance with settings of very high quality, and Outstanding Universal Values according to UNESCO criteria.	The English Lake District Designated as a WHS in 2017, the English Lake District is situated approximately 3.2km east of the Site.
National Park, AONB (now National Landscapes), Conservation Area, curtilage of Grade I, II and II* Listed Buildings, Registered Parks and Gardens of Special Historic Interest, Scheduled Monuments <i>National (High)</i>	Sites, features or areas of national importance with settings of high quality.	LDNP (As above) The Site is not located within a Conservation Area, and it does not contain listed buildings. The Site is not listed on the Register of Historic Parks and Gardens. There are no Conservation Areas within a 2km radius of the Site, with the nearest being some 6km north-west in Workington. The irregular stone circle, a round cairn on Dean Moor, Studford Stone Circle SM lies to the south-western of Area C. The SM lies partially within the Site. A number of LB lie within the study area, with one Grade II approximately 1km from the Site; Far Branthwaite Edge, Dairy and barn adjoining.
Non-statutory regional landscape designations, such as Special Landscape Areas (SLA) or Areas of Great Landscape Value (AGLV). Long Distance Routes / Paths / Trails / National Cycle Network (NCN) Routes <i>Regional (High or Medium)</i>	Sites, features or areas of regional importance with intact character. Areas of landscape identified as having importance at the regional level.	The Site does not lie within any SLA or AGLV. There are no long-distance paths or NCN Routes within the study area.

Typical Designation and Importance (Value)	Description	Actual Designation Applicable to the Site and Surrounding Area
Non-statutory district or local landscape designations, such as Areas of Local Landscape Importance. Designated Public Open Space, Tree Preservation Orders (TPO) <i>District (Medium)</i>	Sites, features, or areas of importance at the district / local authority level.	<p>The Site does not lie within an Area of Local Landscape Importance.</p> <p>The Site lies adjacent to Struthers Wood Ancient Woodland, and 200m west of Branthwaite Edge Wood Ancient Woodland.</p>
Areas with no designation, local PRow <i>Local (Medium or Low)</i>	General countryside area valued at the local level.	<p>There are no PRow within the Site.</p> <p>There is a network of PRow within the countryside surrounding the Site.</p> <p>High Park Open Access Land is located directly south of the Site and Pica Cottages Road.</p>

3.5.7 Other factors which may influence landscape value are set out in Table 3.2. This list is with reference to Table 1 within the Landscape Institutes TGN 02/21: ‘Assessing landscape value outside national designations’. Where landscapes are not designated, and where no other local authority guidance on value is available, an assessment is made by reference to the criteria in Table 3.2, reviewed on a case-by-case basis. Landscapes may be judged to be of local authority or local community value on the basis of one or more of these factors and informed by the professional experience of the assessor. There may be circumstances where an undesignated landscape is judged to be of national value or equivalent to national value; conversely, there may be areas within designated landscapes which do not meet the designation criteria nor demonstrate the key characteristics or special qualities of the rest of the designated area. In such instances, the reasoning for value judgements is clearly set out.

Table 3.2: Factors which Influence Landscape Value

Attribute	Criteria
Landscape Quality / Condition	Intactness or physical condition of the landscape of both the individual features and overall landscape structure.
Distinctiveness / Sense of Place	Sense of identify related to aesthetic and perceptual qualities which create distinctiveness.
Rarity	Rarity of landscape character areas, types or features.
Representativeness	Particular characteristic/feature/element considered an important example.
Cultural Interest	The presence of archaeological, historic or cultural heritage interest which contributes positively to the landscape.
Natural Heritage	Landscape with clear evidence of ecological, geological, geomorphological or physiographic interest which contributes positively to the landscape.
Recreation	Evidence that the landscape experience forms an important part of recreational activity, e.g., as established in guidebooks.
Function	Landscape which performs a clearly identifiable and valuable function, particularly in the healthy functioning of the landscape.
Perceptual (scenic quality)	General appeal of the landscape to the senses (primarily visual).
Perceptual (wildness and tranquillity)	Landscape with a strong perceptual value notable wildness, remoteness, tranquillity and/or dark skies.

3.5.8 An assessment of value for each landscape receptor is made, informed by designations and based on an overview of the value criteria in Table 3.2. Where appropriate, key individual components of the landscape, including particular features, notable aesthetic and perceptual qualities, are considered in terms of importance in their own right, including whether or not they can realistically be replaced. They may also be judged on their contribution to the overall character and value of the wider landscape. For example, an intact landscape in good condition, where scenic quality, tranquillity, and/or cultural heritage features make a particular contribution to the landscape, or where there are important historical associations, is likely to be highly valued. Conversely, a degraded landscape in poor condition, with no scenic qualities or cultural interest is likely to be considered as low landscape value.

3.5.9 Example criteria descriptions for the continuum from low value to very high value is provided in Table 3.3 Defining Landscape Value.

3.5.10 The assessment of susceptibility of landscape receptors to the type of change arising from the Proposed Development, is based upon the criteria set out in Table 3.4.

Table 3.3: Defining Landscape Value

Level of Value	Typical criteria descriptors
Very High	Designations and/or conservation interests: of international importance, i.e. UNESCO World Heritage Sites (WHS) which have been designated internationally due to their Outstanding Universal Importance, or a designated WHS Buffer.
High	<p>An area possessing a notably distinctive sense of place and character, and / or attributes which make a fundamental contribution to the landscape or landscape character. Indicators:</p> <ul style="list-style-type: none"> • Designations and/or conservation interests: of national/regional importance. Valued for its contribution to a national landscape designation and / or a designated cultural heritage asset. Important characteristics and features recognised as forming intrinsic part of nationally designated landscape or regionally designated non-statutory landscape, or which form a fundamental part of the regional green infrastructure network. • Key characteristics and features: features which are prevalent within the landscape and are fundamental to defining the distinct landscape character of an area. Highly valued for its landscape character or high value assigned in published landscape character assessment. • Distinctive individual or rare features and which contribute to a landscape character that has a notably strong sense of place. • Highly valued for its scenic quality. • Landscape in good condition: a distinct landscape structure with strong pattern and intact features. • Few detractors or uncharacteristic features present. • Valued for contribution to recreational activity and / or part of a long-distance walking route / path / trail. <p>Important cultural or historic associations.</p>
Medium	<p>An area with a moderately defined sense of place and character, and / or attributes which contribute to the landscape or landscape character. Indicators:</p> <ul style="list-style-type: none"> • Designations and/or conservation interests: local, district, or regional importance (e.g., Special Landscape Areas, Long Distance Walking Routes), designated Public Open Spaces. • Key characteristics and features: features that are mostly intact and contribute to the overall character of an area and / or provide some scenic quality and cultural interest. • Landscape features protected by local policy such as TPOs. • Landscape condition: landscape exhibits recognisable structure and characteristic patterns and in moderate

Level of Value	Typical criteria descriptors
	condition. May be undesignated. Some detracting features present.
Low	<p>An area with a weak sense of place or poorly defined character, and / or attributes which make some contribution to the landscape or landscape character. Indicators:</p> <ul style="list-style-type: none"> • An undesignated landscape. • Key characteristics and features: features that are uncharacteristic, disjointed or weak character and / or which detract from the landscape character of an area. • Landscape condition: degraded landscape structure with fragmented pattern and poor legibility of character. Typically, in poor condition. • Absence of distinctive individual or rare features. Landscape character that has a poor sense of place, few scenic qualities and / or little cultural interest. <p>Contains a high level of discordant or detracting features which are notable and have a strong influence on the perception and quality of the landscape.</p>

Table 3.4: Landscape Receptor Susceptibility to Change

Level of Value	Typical criteria descriptors
High	Limited ability to accommodate the Proposed Development without undue consequences for the maintenance of the baseline landscape / landscape features / landscape character and/or the achievement of landscape planning policies and strategies. Landscapes with irreplaceable features or character.
Medium	Some ability to accommodate the Proposed Development without undue consequences for the maintenance of the baseline landscape / landscape features / landscape character and/or the achievement of landscape planning policies and strategies.
Low	Substantial ability to accommodate the Proposed Development without undue consequences for the maintenance of the baseline landscape / landscape character, potential for substantial enhancement of the landscape feature / character, and/or the achievement of landscape planning policies and strategies.

3.5.11 An overall assessment of sensitivity was made for each landscape receptor, based on a combined judgement of the above criteria, using the typical scales set out in Table 3.5.

Table 3.5: Indicative Landscape Receptor Sensitivity

Level of Value	Typical criteria descriptors
Very high	Landscapes of very high international importance and rarity with no, or very limited, ability to accommodate the Proposed Development and / or which contains irreplaceable landscape features or character.
High	An area possessing a notably distinctive sense of place and character, and / or attributes which make a critical contribution to the landscape or landscape character, and which has limited ability to accommodate the Proposed Development and / or irreplaceable features or character.
Medium	An area with a moderately defined sense of place and character, and / or attributes which contribute to the landscape or landscape character, and with partial tolerance to change of the type proposed.
Low	An area with a weak sense of place or poorly defined character, and / or attributes which make some contribution to the landscape or landscape character, and with the ability to tolerate substantial change of the type proposed.

Magnitude of Landscape Effects

- 3.5.12 Development proposals can create beneficial and/or adverse effects upon the landscape. The evaluation of the architectural design and appearance of buildings is a subjective issue, and one which does not form part of the LVIA. The assessment of landscape and visual effects is based upon the scale, form, and massing of Proposed Development as set out in the Parameter Plan (ES Figure 3.4) [REF: 6.2], and the consequential effects upon landscape, landscape character and people's views and visual amenity.
- 3.5.13 The magnitude of a landscape effect is assessed in terms of its size or scale, the geographical extent of the area influenced and its duration and degree of reversibility.

Size/Scale of Landscape Change

- 3.5.14 The size or scale of change upon a landscape receptor that is likely to be experienced as a result of the Proposed Development considers:
- The extent of existing landscape elements that will be lost or added, the proportion of the total extent that the loss or addition represents and the contribution of that element to the character of the landscape,

or for designated areas the contribution of that element to the special qualities and/or purpose of the designation.

- The degree to which aesthetic or perceptual aspects of the landscape are altered either by removal of existing components of the landscape or by the addition of new ones.
- Whether the effect changes the key characteristics of the landscape, which are critical to its distinctive character.
- The scale of the receiving landscape and the landscape context to the Site.

3.5.15 The size / scale of the landscape effect is based upon professional judgement and is described as a scaled range, from Very Large, Large, Medium, Small, Very Small or No Change. For example, a large size / scale change may result from the complete removal or removal of a large proportion of a feature which is considered a key characteristic and is critical to the landscape's distinctive character. An example of a small size / scale change may result from the removal of a small or limited proportion of a feature.

Table 3.6: Indicative Size/Scale Criteria

Criteria Level	Size or Scale of Change to Landscape Receptor
Very large	Fundamental change to the baseline feature or key characteristics; total loss or permanent alteration, with integrity of the landscape / landscape character compromised or greatly enhanced; and/or forming a dominant new feature in the landscape.
Large	Substantial change to the baseline feature or key characteristics; all, or a large proportion, of the feature is lost or permanently altered, with its integrity compromised or greatly enhanced; and/or forming a prominent new feature in the landscape.
Medium	Partial change to the baseline feature or key characteristics, which may diminish or enhance its overall integrity; and/or result in a conspicuous loss or alteration to the existing landscape / landscape character; and/or form a noticeable new feature in the landscape.
Small	Limited change to the baseline feature or key characteristics, such that a small proportion of the feature is affected, with little effect on its integrity; and/or limited loss or alteration to the existing landscape / landscape character; and/or forming a new feature in the landscape.
Very Small	Very little discernible change to the baseline feature or key characteristics, resulting in very little loss or permanent alteration, with very little to no effect on its integrity; and/or forming a barely discernible new feature in the landscape.

Criteria Level	Size or Scale of Change to Landscape Receptor
No Change	The proposed development will not cause any change to the baseline feature or key characteristics.

Geographical Influence of Landscape Effect

- 3.5.16 The geographical extent over which a landscape effect would be experienced is considered separately as a slight modifier to the size / scale of effect.
- 3.5.17 The geographical extent is determined by the indicative criteria set out in Table 3.7.

Table 3.7: Geographical Extent Criteria

Criteria Level	Size or Scale of Change to Landscape Receptor
Wider landscape level	The effect extends across the wider landscape, across several landscape character areas / types, beyond the Site.
Landscape Character Type / Area level	The change would affect the entire a landscape type/character area as well as the Site itself.
Adjacent / localised landscape level	The effect would be experienced within the Site and within the immediate setting or adjacent surroundings of the Site only, these being within only part of a landscape type / character area.
Site level	The effect would be experienced only within the Site itself.

Duration of Effect

- 3.5.18 The duration of a change is considered as a slight modifier to the size / scale of effect and is determined by the criteria set out in Table 3.8.

Table 3.8: Duration Criteria

Criteria Level	Description
Long-term	More than 30 years.
Medium-term	5 to 30 years.
Short-term	1 to 5 years.
Brief	Less than 1 year.

Reversibility of Effect

- 3.5.19 Reversibility is a judgement about the prospects and practicality of the effect being reversed, typically, in the lifetime of a generation. The typical categories of reversibility are set out in Table 3.9 below:

Table 3.9: Reversibility Criteria

Criteria Level	Description
Permanent / Irreversible	Change cannot be realistically reversed. e.g., change of land use from agricultural fields to urban housing development. Change that lasts for 15 years+ is deemed permanent / irreversible.
Partially reversible	Change is partially reversible, or moderately difficult to reverse but not impossible e.g. the restoration of a quarry to something similar to the pre-quarry landscape baseline, or introduction of elements which are representative of baseline features / characteristics.
Reversible	Change which will endure for a finite period of time and can be fully or largely reversed. e.g., wind turbines or solar panels, with a limited operational life and permission, and which have high potential for removal and reinstatement of the landscape at decommissioning; or construction activities which would be reversed once construction is complete e.g., installation of temporary hoardings around a construction site.

Overall Magnitude of Effect

- 3.5.20 Consideration of the size/scale, geographical influence, duration, and reversibility, as described above, is then combined with professional judgement to determine the likely magnitude of change that will occur to landscape receptors as a result of the Proposed Development. Indicative criteria descriptions are set out in Table 3.10.

Table 3.10: Indicative Criteria for Magnitude of Landscape Effect with Direction of Effect

Criteria Level	Description for Type of Effect	
Major	Major Adverse The proposals would result in a total change in the key characteristics of landscape character; would introduce elements totally uncharacteristic to the attributes of the receiving landscape such as its massing, scale, pattern and features; and/or would destroy or permanently degrade the integrity of landscape character; or is in total conflict with established planning objectives for landscape and visual elements of enhancement of the landscape; and/or result in a substantial or total loss, or alteration of key features / characteristics.	Major Beneficial The proposals would totally accord with the landscape features / characteristics, including scale, pattern, massing; or would restore, recreate or permanently enhance the condition or character of the landscape and enhance characteristic features through the use of local materials or planting; and/or deliver established planning objectives for landscape and visual elements of enhancement of the landscape.
Moderate	Moderate Adverse The proposals would result in a partial change in the key characteristics of landscape character; would introduce elements uncharacteristic to, out of scale or at odds with the attributes of the receiving landscape, such as its massing, scale, pattern and features; and/or would result in partial loss, or alteration of key features / characteristics; or be in conflict with established planning objectives for landscape and visual elements of enhancement of the landscape.	Moderate Beneficial The proposals would achieve a good fit with the landscape features / characteristics, such as massing, scale, and pattern; or would noticeably improve the condition or character of the landscape and enhance characteristic features through the use of local materials; and/or support established planning objectives for landscape and visual elements of enhancement of the landscape.
Slight	Slight Adverse The proposals would result in little change in the key characteristics of landscape character and would introduce elements that do not quite fit with the attributes of the receiving landscape such as its massing, scale, pattern and features; and/or would result in a minor loss or alteration of features / characteristics; and/or contribute to degrading the landscape character; or would not fit with established planning objectives for landscape and visual elements of maintaining the landscape.	Slight Beneficial The proposals would achieve a degree of fit with the landscape features / characteristics and provide some enhancement to the condition or character of the landscape.

Criteria Level	Description for Type of Effect	
Negligible	Negligible Adverse The proposals would result in a just discernible change to landscape features / characteristics, which would not be quite in keeping with the existing landscape and landscape character.	Negligible Beneficial The proposals would result in a just discernible improvement to the landscape features / characteristics.
Indistinct	As a result of the proposals, there would be a change to the landscape features / characteristics, but the change would be entirely in keeping with the existing landscape character or landscape features such that the existing character and/or features are maintained, and that change does not cause deterioration or enhancement of the character.	
No Change	The proposals would not cause any change to the landscape features / characteristics.	

3.6 Assessment of Effects on Views and Visual Amenity

- 3.6.1 This assesses how the Proposed Development will affect the views available to people and their visual amenity.
- 3.6.2 Visual receptors always comprise people; and include users of PRow, public open spaces, public realm or other outdoor recreational facilities, and also travellers in vehicles who may be visiting, living or working within the study area, and their views at particular places.
- 3.6.3 The following terminology is used to describe the approximate distance between the representative viewpoint and the proposed development:
- Local or short distance or close-range view: under 0.5km;
 - Medium distance or mid-range view: 0.5km – 2km; and
 - Long-range or long-distance view: beyond 2km.
- 3.6.4 The type of view, and the number of viewers likely to experience the view, is described in the following terms:
- Glimpsed (i.e., seen in passing) / Filtered / Oblique / Framed / Open Views; and
 - Few / Moderate / Many Viewers.
- 3.6.5 A methodical consideration of each visual effect upon each identified visual receptor is undertaken, in order to determine the significance of effects, in terms of:

- Value and susceptibility to change (sensitivity of the visual receptor, or viewer); and
- Size / scale, geographical influence, composition, duration and reversibility (magnitude of the visual effect).

3.6.6 LVIA relates to public amenity and therefore the value of views to the public. Therefore, no private viewpoints are assessed. However, where appropriate, representative views have been selected from publicly accessible locations within or on the edge of main settlements, or to represent views that would be experienced from property groupings or other buildings likely to be significantly affected by the Proposed Development.

Sensitivity of Visual Receptors

3.6.7 The assessment of visual receptor sensitivity combines judgements on the value attributed to the visual receptor and the 'susceptibility to change' of the receptor to the specific type of development proposed.

3.6.8 The value assigned to views has regard to several factors, including:

- Recognition through planning or heritage assets; and
- The popularity of the viewpoint, its appearance in guidebooks, literature or art, on tourist maps, and the facilities provided to enable enjoyment of the view.

3.6.9 The criteria for the assessment of the value of views is summarised Table 3.11; note that these are provided for guidance and are not intended to be absolute.

Table 3.11: Value of Views Criteria

Criteria Level	Description
Very High	Views with very high scenic value or where the view forms an important part of the experience within landscapes of international importance i.e. UNESCO World Heritage Sites, or for people's views from within a designated WHS Buffer.
High	Views with high scenic value within landscapes of national or regional importance and statutory landscape designations including, but not limited to, National Parks, Areas of Outstanding Natural Beauty etc; and/or highly popular visitor attractions where the view forms an important part of the experience and could be expected to be regularly experienced; and/or views from landscapes with important cultural associations / historic estates with specific views or designed focussed views; and/or the view is identified as a published Key View / vista / view cone in statutory documents, planning policies or supplementary planning documents.
Medium	Views with moderate scenic value within undesignated landscapes or those from landscapes of regional or district importance or moderately popular visitor attractions or well-used open spaces where the view forms part of the experience, or with local cultural associations, and / or a local key view / vista / view cone identified by the LPA through the scoping process, and which is not defined within published guidance.
Low	Views with unremarkable scenic value within undesignated landscape; or with partly degraded visual quality and/or containing visual detractors; or views that are not particularly popular; and with minimal or no cultural associations.

3.6.10 The susceptibility of people to changes in views is a function of:

- The occupation or activity of the viewer at a given location; and
- The extent, therefore, to which a person's attention or interest may be focussed on a particular view and the visual amenity experienced.

3.6.11 For the purposes of the visual impact assessment, visual receptor's susceptibility to change is based upon the criteria in Table 3.12.

Table 3.12: Criteria for Visual Receptors Susceptibility to Change

Criteria Level	Description
High	<ul style="list-style-type: none"> • Residents at home; • People engaged in outdoor recreation, including visitors to areas of open space (e.g., country parks) or users of Long Distance Trails / Routes or PRoW, whose attention is likely to be focussed on the visual experience of the landscape and on particular views; • Visitors to heritage assets, landmarks or other attractions where views of the surroundings are an important part of the experience; • Communities where the quality of the views contribute to the landscape setting enjoyed by residents; and • Travellers on scenic or tourist routes, including cyclists on national cycle routes designed to provide an attractive experience.

Criteria Level	Description
Medium	<ul style="list-style-type: none"> • Travellers on general road, rail or other transport routes, where the view is moderately important to the quality of the journey and/or the speed of travel is moderate or low speed; • Visitors to heritage assets or other attractions where views of the surroundings are a minor contribution to experience and enjoyment; • People using local parks, open spaces, public realm, or walking on streets or local PRow, with moderate interest in their visual environment.
Low	<ul style="list-style-type: none"> • People engaged in active outdoor sport or recreation, which does not involve appreciation of, or focus upon views; • People at their place of work or shopping, where the landscape setting is not important to the experience or quality of working life and/or the surroundings are irrelevant to the enjoyment of the activity; and • Travellers, where the view is fleeting and incidental to the journey, e.g. high-speed roads / trains.

3.6.12 An overall assessment of sensitivity is made for each visual receptor, based on professional judgement and informed by the combination of the identified value and susceptibility criteria. Typically, a worst-case approach is taken, i.e., a value of High combined with a susceptibility of Medium would result in an overall sensitivity of High. Professional judgments may adjust this approach, when there are reasons associated with the value of the view that lead to a reduction or increase in overall sensitivity. In such instances, the rationale for the professional judgment which has been made is provided in the baseline description.

3.6.13 The indicative criteria used for the overall assessment of sensitivity are set out in Table 3.13. Note that these are provided for guidance and are not intended to be absolute.

Table 3.13: Indicative Criteria for Visual Receptor Sensitivity

Criteria Level	Description
Very High	Views with a very high scenic value, within landscapes of international importance i.e. UNESCO World Heritage Sites or designated WHS buffers and experienced by people whose attention is highly focused on the visual experience of the landscape.
High	Typically views with a high scenic value within landscapes of national or regional importance; and/or people using scenic routes or national trails / walking routes, or using national cycle routes designed to be an attractive experience; and/or highly popular visitor attractions where the view forms an important part of the experience; and/or views from landscapes with important cultural associations / historic estates with specific views or designed focussed views; and/or the view is identified as a published Key View / vista / view cone in statutory documents, planning policies or supplementary planning documents; and/or forms part of the landscape setting to communities. The view is experienced by people whose attention is focused on the landscape and/or on particular views.
Medium	Typically views of a moderate scenic value within landscapes of regional / district importance, or views from moderately popular visitor attractions or well-used open spaces; the view forms part of the experience to a moderate extent; or has been identified by the local authority as a locally important view through the scoping process, but otherwise is not defined within publications. The view is experienced by travellers on general roads / railways or other transport routes, visitors to heritage assets or other attractions where views of the surroundings are a minor contribution to experience and enjoyment, people using local parks, open spaces, public realm areas or streets or local PRoW and other people with moderate interest in their surrounding visual environment.
Low	Typically views of unremarkable scenic value, with partly degraded visual quality and presence of visual detractors. Views experienced by people with limited appreciation of, or focus upon, views of their surroundings, and/or where the visual setting is not important to the experience or quality of activity, and/or where the view is fleeting and incidental.

Magnitude of Visual Effects

- 3.6.14 The magnitude of a visual effect is assessed in terms of its size or scale, the geographical extent of the area influenced and its duration and degree of reversibility. These criteria are combined with professional judgement to determine the likely magnitude of change that will occur to visual receptors as a result of the Proposed Development.

Size / Scale of Visual Change

- 3.6.15 The size or scale of change in the view relates to the degree of contrast to, or integration with, the visual composition, which is likely to result from the

proposed development; and is influenced by the relative time over which a view is experienced and whether it is a full, partial, or glimpsed view.

3.6.16 The judgement of size or scale of visual change in the view considers:

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

3.6.17 The size / scale of the visual effect is based upon professional judgement and is described as a scaled range, from Very Large, Large, Medium, Small, Very Small, to No Change.

3.6.18 The indicative criteria set out in Table 3.14 is used to inform the judgement of the size / scale of visual effects, based on the degree of change to the view or composition.

Table 3.14: Indicative Size/Scale of Change

Criteria Level	Description
Very Large	Fundamental to complete change to the view. The proposals would be seen as the most dominant feature(s) in the view, and completely change the composition of the view, be seen across the entire view and/or create a high level of visual contrast with other features in the view, and/or cause fundamental change that degrades or enhances the view. The proposals would form the primary focus of the view. Typically, the view would be experienced from within the Site or very close to the Site, and the Proposed Development would occupy the foreground view.
Large	Substantial change to the view. The proposals would cause a dominant or complete change or contrast to most of the view / view composition, which would affect a large proportion or portion of the view, resulting from the loss of features or addition of new elements in the view; and will substantially alter (degrade or enhance) the appreciation or composition of the view. The Proposed Development would typically lie at the centre of the view, forming the focus of the view. Typically, the view would be experienced from close to the Site.

Criteria Level	Description
Medium	The proposals would cause clearly noticeable change or contrast to the composition of the view; and/or change to only a proportion of the view / view composition, being a conspicuous new feature or features in the view, that would partially contrast or be in harmony with other features in the view. Typically, the Proposed Development would be subordinate to existing features in the view composition, it would likely be seen in the centre of the view or as part of an oblique view and would occupy the middle ground of the view or form only part of the foreground of the view.
Small	Limited change to the view. The proposals would occupy a small portion of the view and cause a perceptible change or contrast to the view, but the balance and composition of the view would only slightly alter from baseline view. The visual change would partially integrate with the surroundings in the view, and/or form a minor new feature in the view. Typically, the visual change would be experienced as little change to the baseline view, and/or as a filtered view or glimpsed view / in a narrow angle of view within the overall view composition; and/or be seen at an oblique angle. Typically, the Proposed Development would be seen at some distance, occupying the mid-ground to background of the view.
Very Small	Very little change to the view. The proposals would cause a barely perceptible visual change or contrast to the view, which would not affect the baseline view composition. Typically, the Proposed Development would be experienced as a very filtered view through vegetation or at a considerable distance, occupying the background / long- or far-distance in the view. would affect a very small part of the overall view, and/or lie at a very oblique angle.
No Change	The proposals would fully maintain the existing view composition and would not cause any changes in the view.

Geographical Influence of Change to Views and Orientation/Length of Views

- 3.6.19 The geographical influence of change to views determines how far the visual effect would be experienced; this is distinct to the size/scale of visual effect. The geographical extent of the visual effect arising from the Proposed Development varies depending on the location of the visual receptor. Consideration is given to the orientation of the view, in relation to the main activity of the visual receptor and the focus of the view; the distance between the visual receptor and the Proposed Development; and the extent of the area over which visual change would be experienced. Geographical extent is a slight modifier to the size/scale of effect and is determined according to the indicative criteria set out in Table 3.15.

Table 3.15: Indicative Geographic Extent Criteria

Criteria Level	Description
Widespread	The visual change would occur to visual receptors over a widespread area or lengths of routes.
Large	The visual change would occur to visual receptors over a large area or large lengths of routes.
Medium	Visual change would occur to a moderate geographical area or lengths of routes.
Small	Visual change would be evident over a small geographical area or short lengths of routes.
Very Small	Visual change would occur to visual receptors over a very small area or very short lengths of routes.

Duration and Reversibility

- 3.6.20 Duration and reversibility are assessed using the same criteria as were used for landscape effects – see Table 3.8 and Table 3.9 above.

Overall Magnitude of Effect

- 3.6.21 Consideration of the size/scale, geographical influence, duration and reversibility, as described above, is combined with professional judgement to determine the likely magnitude of change that will occur to visual receptors. Indicative criteria descriptions are set out in Table 3.16.

Table 3.16: Indicative Criteria for Magnitude and Type of Visual Effect

Criteria Level	Description for Type of Effect
Major	The proposals would cause a dominant or complete change or contrast to the view, resulting from the loss or addition of features in the view and substantially alter (degrade or enhance) the appreciation of the view or composition of the view.
Moderate	The proposals would cause a clearly noticeable change or contrast to the view, which would have some effect on the composition, resulting from the loss or addition of features in the view and would moderately alter (degrade or enhance) the appreciation of the view or the composition of the view.
Slight	The proposals would cause a perceptible change or contrast to the view, but which would only partially change the composition of the view or the appreciation of the view. There may only be a partial view of the Proposed Development in the view.
Negligible	The proposals would cause a barely perceptible change or contrast to the view, which would barely alter the appreciation of the view or the composition of the view.

Criteria Level	Description for Type of Effect
Indistinct	There would be very limited change to the composition of the view, but that change would be entirely in keeping with the existing elements of the view and would maintain the composition and quality of the existing baseline view and does not enhance or degrade the baseline view.
No Change	The proposals would maintain the existing view entirely and cause no change to that view.

3.7 Methodology for the Assessment of Cumulative Landscape and Visual Effects

3.7.1 Definition of cumulative landscape and visual effects was first set out in the 2002 edition of the Guidelines for Landscape and Visual Impact Assessment, and since then has been further refined, in terms of windfarm development, by guidance produced in Scotland, which is used more widely than windfarms, and not only in Scotland. The current definitions, as set out in '*Assessing the Cumulative Impact of Onshore Wind Energy Developments*', Scottish Natural Heritage (SNH), 2012, are referred to in paragraph 7.3 of GLVIA3 and for the purpose of the LVIA are interpreted and defined as follows:

- Cumulative effects - *'the additional changes caused by a Proposed Development in conjunction with other similar developments or as the combined effect of a set of developments, taken together'*.
- Cumulative landscape effects - effects that *'can impact on either the physical fabric or character of the landscape, or any special values attached to it'*.
- Cumulative visual effects - effects caused by combined visibility, which *'occurs where the observer is able to see two or more developments from one viewpoint'* and/or sequential effects which *'occur when the observer has to move to another viewpoint to see different developments'*.

3.7.2 In accordance with the emphasis in EIA, the cumulative assessment is required to focus on cumulative landscape and visual effects which are likely to be significant, rather than providing a comprehensive listing of every conceivable cumulative landscape and visual effect that might occur. The approach must be reasonable and proportional to the proposed development.

3.7.3 Paragraph 7.18 of GLVIA3 refers to different focuses of a cumulative effects assessment: *'...the additional effects of the main project under consideration, or on the combined effects of all the past, present and*

future proposals together with the new project.’ GLVIA3 recognises some of the limitations of assessing combined cumulative effects, noting that *‘...the assessor will not have assessed the other schemes and cannot make a fully informed judgement.’*

3.7.4 The cumulative landscape and visual effects assessment (CLVEA) in the LVIA is informed by reference to the baseline photographs which have been prepared for the proposed development, contained in Appendix 7.4: Cumulative Assessment of the LVIA, as well as the LVIA assessor’s knowledge from the visual survey.

3.7.5 The CLVEA considers the effects of the Proposed Development in terms of:

- An extension or intensification of the landscape and/or visual effects of other similar developments;
- ‘Filling’ an area over time with similar development, such that the landscape resource, views and visual amenity are judged to be substantially altered; and
- Incremental change arising from the proposal, because of successive individual developments.

Additional Cumulative Effects

3.7.6 Additional cumulative effects are defined in GLVIA3, at paragraph 7.10, as the additional effects of the project in conjunction with other developments of the same type. This is typically assessed as the effect arising from the proposed development when considered against a baseline containing the other developments in the scenario being considered.

Combined Cumulative Effects

3.7.7 Combined cumulative effects are those which result from the combination of the Proposed Development and committed developments. Paragraph 7(3) within LITGN-2024-01 further identifies combined cumulative effects as those which *‘would consider the addition of all unbuilt schemes, including the proposed development, to the existing baseline (rather than the combined effect of all past, present, and future schemes against a ‘bare landscape’).*’

3.7.8 Where appropriate, these may be further identified as additive effects (a total effect produced by the Proposed Development and committed

developments in combination; being the sum of the parts or the overall consequence. For example, in simplest terms, Project X results in 1ha of woodland removed, Project Y results in 2ha of woodland removed, resulting in a combined additive cumulative effect of 3ha of woodland removed); or synergistic effects (where the combined effect is greater than the sum of the separate effects of the cumulative developments, and which would not have occurred from the Proposed Development or any of the committed developments in isolation. For example, the losses of woodland from Project X and Project Y combine to have a new effect on a species that is not affected by the loss of woodland from either Project X or Project Y in isolation). Where combined effects are assessed, the assessment is made against the 2024 baseline year (i.e. all developments, combined, assessed against baseline).

Cumulative Visual Effects

- 3.7.9 Visual cumulative effects can be described as combined or sequential. Combined visual effects occur when *‘the observer is able to see two or more developments from one viewpoint’*. Specific elements of combined visual cumulative effects are:
- In combination – where two or more developments are or would be within the arc of vision at the same time without moving his / her head; and
 - In succession – where the observer has to turn his / her head to see the various developments – actual and visualised.
- 3.7.10 Sequential cumulative effects occur *‘when the observer has to move to another viewpoint to see the same or different developments. Sequential effects may be assessed for travel along regularly used routes such as major roads or popular paths.’*
- 3.7.11 Similarly to combined effects, sequential effects can be divided, as follows:
- Frequently sequential – Where the features appear regularly and with short time lapses between instances depending on speed of travel and distance between the viewpoints; and
 - Occasionally sequential – where longer time lapses between appearances would occur because the observer is moving very slowly and / or there are larger distances between the viewpoints.

Limitations to the Cumulative Landscape and Visual Effects Assessment

3.7.12 It is acknowledged that there will be limitations to the assessment of combined cumulative effects in the CLVEA. Typical limitations include:

- Limited information that is available in the public domain and/or to the assessor. In some cases, committed development proposals or permissions may not be accompanied by a LVIA due to their scale of development or local authority requirements.
- The author did not prepare the LVIAs, (or in the case of Lostrigg Solar, the Scoping Report), for the committed developments. A different assessor will have a different professional judgement of landscape and visual effects and use different assessment methodologies in LVIAs.
- Different baseline dates between the LVIAs for the Proposed Development and the committed developments.
- Assessments of different landscape and visual receptors, that are not comparable; and
- The absence of verified views for the committed developments.

3.8 Landscape and Visual Mitigation Measures

3.8.1 Primary mitigation measures are defined as those which have been developed through the iterative design process, and which have become integrated or embedded into the Proposed Development.

3.8.2 Embedded (primary) mitigation measures are described in detail in ES Chapter 3 – Site and Proposed Development Description **[REF: 6.1]** and are only briefly referred to in the LVIA.

3.8.3 Secondary, or further mitigation and enhancement measures are those which would be proposed in order to address adverse effects which remain after the embedded (primary) mitigation has been incorporated into the Proposed Development. These are discussed at Year 15 of the Proposed Development within the LVIA.

3.9 Assessment of Level of Significance of Landscape and Visual Effects

3.9.1 The level of significance of landscape and visual effects vary with the location, landscape context and type of proposed development.

3.9.2 The level of significance of landscape and visual effects is a matter of professional judgement, which is informed by the combination of the receptor sensitivity and the magnitude of effects, as set out in Table 3.17. Substantial, Major to Substantial, Major, and Moderate levels of significance of effect are considered to be 'significant'. Minor and Negligible levels of significance of effect are identified as 'not significant'.

Table 3.17: Levels of Significance of Landscape and Visual Effects

Magnitude of Effect						
	Major Effect	Moderate Effect	Slight Effect	Negligible Effect	Indistinct Effect	No Change
Very High Sensitivity*	Substantial	Major to Substantial	Major	Moderate	Minor	No Change
High Sensitivity	Major to Substantial	Major	Moderate	Minor	Negligible	No Change
Medium Sensitivity	Major	Moderate	Minor	Negligible	Negligible	No Change
Low Sensitivity	Moderate	Minor	Minor	Negligible	Negligible	No Change

*A 'Very High' level of Sensitivity is only applicable to international designated landscapes or views from those international designated landscapes, i.e. World Heritage Sites that meet UNESCO criteria.

3.9.3 The above table has regard to guidance in the Guidelines for Landscape and Visual Impact Assessment, (3rd Edition, 2013), at paragraph 5.56, page 92 (significance of landscape effects) and paragraph 6.44, page 116 (significance of visual effects).

3.9.4 A substantial level of significance of effect is assigned where a landscape or visual effect is considered to represent a key factor in the decision-making process. Such effects are generally, but not exclusively, associated with altering the integrity of sites and features of international, national, or regional importance. However, a change at a district scale of site or feature may also enter this category, though that is subject to professional judgement and will be proportional to the type and extent of development that is being assessed. Where there is a combination of a receptor's high sensitivity and a major effect, professional judgement may be applied to determine a 'major to substantial level of significance of effect, where it is considered that either the effect would not represent a

key factor in the decision-making process, or where the development would have limited effects such that it would not alter the integrity of sites and features of international, national or regional importance.

- 3.9.5 The judgements of significance are not judgements of acceptability, because they do not consider the policy context, which is a matter for decision-makers.

4 Technical Methodologies

4.1 Zone of Theoretical Visibility

- 4.1.1 A ZTV analysis is a computer-generated tool to identify the 'theoretical' extent of visibility for the Proposed Development.
- 4.1.2 The ZTV shows theoretical visibility only and so it is important to fully understand that its accuracy is limited to the digital information that it has been based upon and the algorithm used in its calculation. It is stressed that the ZTV remains only as a tool in the landscape and visual impact assessment of the Proposed Development. A ZTV alone cannot indicate the potential visual impacts, nor show the likely significance of impacts that the Proposed Development will have.
- 4.1.3 However, it does guide an appreciation of the potential and maximum visibility of the Proposed Development, that can then be used to focus the visual assessment process on those areas affected and avoids those areas which will not be affected.
- 4.1.4 A series of ZTV analysis was undertaken, based upon the final development parameters as defined on ES Figure 3.4: Parameter Plan. This was generated by selecting the following number of points to simulate the Proposed Development Footprint; 140 points set to 3.3m height for the Initial Solar PV infrastructure Parameter Area, 14 points set to 9m height for the Grid Connection Infrastructure Parameters, and 9 points set to 30m height for the Point of Connection Mast Siting Parameter Area.
- 4.1.5 The ZTV calculation is performed using ESRI ArcGIS Pro 3.0.2, under the Viewshed Spatial Analyst tool.
- 4.1.6 The ZTV computer software processes landform data and other selected features influencing the extent of visibility, for example, woodland and settlements, in order to identify the theoretical extent of the area from which the Proposed Development is likely to be visible. For this ZTV analysis two datasets were considered:

- A Digital Terrain Model (DTM) ZTV illustrates the worst-case scenario, in that it will only consider of the landform, i.e., it is solely the terrain surface, or bare earth model.
- A Digital Surface Model (DSM) ZTV includes heights of objects, such as principal areas of woodland and settlements as well as the terrain surface. Using the DSM allows for a more pragmatic approach to analysing where the potential and maximum visibility of the Proposed Development will occur, due to having a live screening effect from both the buildings and vegetation contained within the DSM. This ZTV is considered a realistic worst case, however important to note that other features, such as hedgerows or street trees, which have not been included are likely to provide additional filtering of views.

4.1.7 The viewer height of the ZTV was set at 1.6m above ground level. This is higher than the camera height recommended for photograph visualisations and compensates for potential inaccuracies in digital terrain data and to ensure that the 'worst case' is represented.

Limitations and Assumptions

- The ZTV analysis remains only as a tool in the landscape and visual impact assessment of the Project. A ZTV alone cannot indicate the potential visual impacts, nor show the likely significance of impacts that the Proposed Development will have.
- DSM has been based on EA National LiDAR Programme 2019/20 DSM LIDAR data (1 metre resolution).
- The ZTV analysis has been clipped to a 7.5km search area.
- A visualisation for view location 6a has been prepared without the proposed hedgerow along Braithwaite Road being shown. This hedge forms part of the proposed landscape measures for the Proposed Development and would restrict visibility to the Proposed Development from this view. Therefore, a conceptual visualisation has been prepared for illustrative purposes only and shows a scenario where the hedge along Branthwaite Road is not visible. For a representation of the view which accords to the Landscape Strategy (ES Figure 7.6.1-7.6.5) please refer to Sheet 16 of the Appendix 7.6.

4.2 Baseline Views Photography

4.2.1 The requirements for the collection of baseline views photography and presentation of photography are described within the Landscape Institute Visual Representation of Development Proposals Technical Guidance Note 06/19 (TGN 06/19) (Landscape Institute, 2019), and this has been considered.

- 4.2.2 Baseline photography was captured during March (winter) and October (summer) 2023 and 2024.

Equipment

- 4.2.3 High-resolution digital photographs were captured using a Canon EOS 6D Mark II Full Frame Digital SLR, using a Canon EF 50mm f/1.8 STM which is a fixed focal-length lens. The camera was fixed to a tripod (typically 1.65m above the ground), mounted on a Vanguard Alta Pro 263AP and utilised a Manfrotto MA 454 Micro Positioning Plate to remove parallax errors. Once stitched and cropped appropriately this method provides a more accurate method of producing panoramas.

Methodology

- 4.2.4 Preliminary view locations to represent visual receptors were agreed with the Council (as detailed in Section 2.2) prior to the data capture, and this was refined during the visual survey of the Site and surrounding area.
- 4.2.5 At each location, the centre of the camera was positioned at a height of 1.5m above the ground to simulate average viewing height. Each photograph was taken with a lens that provides an approximate 40-degree field of view in landscape format. At each location the desired view angle was captured. Photography was captured on site with a 50% overlap between each individual shot to reduce distortion with image blending.

Presentation

- 4.2.6 All photography has been presented to showcase a 90° Horizontal Field of View (HFoV) x ~27° Vertical Field of View (VFoV) on an A1 length, A3 height sheet with an image size of 820mm x 250mm, in cylindrical projection.
- 4.2.7 Baseline photography representing people's views is presented on a series of photosheets within Appendix 7.5 [REF: 6.3]. Each photosheet labels key existing features visible in the view along the top of the image alongside the approximate extents of the Site and areas of potential areas of development which could be theoretically visible to aid interpretation by the reader.

4.3 Visualisations

- 4.3.1 The requirements for visualisations are included within Landscape Institute Visual Representation of Development Proposals Technical Guidance Note 06/19 (TGN 06/19), and this has been considered.
- 4.3.2 The visualisations have been undertaken by Stantec, and visualisations prepared for all view locations set out in Section 2.5 of this report.
- 4.3.3 For this project visualisations have been produced as Type 3, photomontages. For these outputs images identify the location of the proposals, the size and scale and degree of visibility. The methodology aligns with TGN 06/19 Type 3 Photomontage output.
- 4.3.4 A year 1 and year 15 scenario have been presented to demonstrate how the Proposed Development will appear prior to, and post establishment of the landscape measures as identified on the Landscape Strategy Plan (Figure 7.6.1-7.6.5). The year 1 scenario is set on the winter baseline images, and the year 15 on the summer scenario to show the seasonal variation, and full effectiveness of the proposed mitigation.
- 4.3.5 Visualisations are presented in Appendix 7.6 **[REF: 6.3]** and have been based on the Proposed Development as presented on ES Figure 3.4: Parameter Plan.

Methodology

- 4.3.6 The production of a visualisation includes the following tasks:
- Preparation of a base CAD file containing all view locations and reference elements (using aerial imagery), and creation of camera positions in 3DS Max for each view location.
 - Lighting system (Daylight) set up in 3DS Max.
 - Cameras are adjusted to best match each photographic panorama against imported reference elements.
 - Lighting system adjusted to match shadows visible on each photographic panorama.
 - Receipt of 3D design information added to 3DS Max Software.
 - Each view is rendered as an image with the 3DS camera matched with the 3D model of the Project, at the same size, scale, resolution and aspect ratio as the digital photography.

- This gives a series of 3D rendered images ready for compositing with the photos of the existing baseline site.
- Non-visible areas of the rendered 3D model are masked in the image using Photoshop.
- High-resolution render processed for each view – producing a raster image (alpha separated).
- Final colour balancing/clean-ups carried out and image is exported from Photoshop.
- Images imported into InDesign using predefined drawing templates for each view location.

Table 4.1: Technical Methodology Checklist – Type 3

Technical Methodology	Response
Methodology	Non-Verifiable
Photography	
Method used to establish the camera location (e.g. handheld GPS/GNSS, GNSS/RTK, survey point, visual reference)	Visual Reference on-Site and on aerial imagery
Likely level of accuracy of location (#m, #cm etc)	<1m
If lenses other than 50mm have been used, explain why a different lens is appropriate	50mm lens used on full frame DSLR camera
Written description of procedures for image capture and processing	No
If panoramas used: make and type of Pano head and equipment used to level head	Vanguard Alta Pro 263AP and a Manfrotto MA 454 Micro Positioning Plate
If working outside the UK, geographic co-ordinate system (GCS) used (e.g. WGS-84)	OSGB36
3D Model / Visualisation	
Source of topographic height data and its resolution	Combination LiDAR + OS Terrain 2m and 5m and Google Earth Pro
How have the model and the camera locations been placed in the software?	Based on Photograph GPS coordinates, Google Earth Pro, and aligned with features in the photograph
Elements in the view used as target points to check the horizontal alignment	Existing buildings, telegraph poles, pylons, gantries, Trees, and various fixed points
Elements in the view used as target points to check the vertical alignment	Existing buildings, telegraph poles, pylons, gantries, Trees, and various fixed points
3D Modelling / Rendering Software	Autodesk 3ds Max 2023

Technical Methodology	Response
Any limitations in the overall methodology for preparation of the visualisations?	Photograph GPS coordinates are used as a guide as they are not accurate especially in elevation
Visualisation Type	Photomontage - Type 3 TGN 06-19
Projection	Reposition
Enlargement factor for intended sheet size	100% @A3
Date and Time of captured photography	Varies. Summer 07.03.23, & 06.03.24, Winter 05.10.23, & 10.10.24
Make and model of camera, and its sensor format	Canon EOS 6D Mark II Full Frame Digital SLR, using a Canon EF 50mm f/1.8 STM in landscape orientation
Make, focal length of the camera lens(es) used	50mm
Horizontal Field of View (HFOV) of photograph / visual	90°
Direction of View: bearing from North (0°) or Compass Direction	Stated on each sheet
Camera location grid coordinates: eastings & northings to relevant accuracy; height of ground in metres Above Ordnance Datum (mAOD)	Grid location on each sheet
Distance to the nearest site boundary, or key development feature, as most appropriate	Stated within Table 2.1 of this Appendix
Height of the camera lens above ground level and, if above 1.65m or below 1.5m, why?	1.65m
Additional imagery	
Baseline photograph	Yes
A composite view generated by overlaying multiple layers of image data: the photograph, 3D model of terrain (LiDAR DTM) and / or 3D model of LiDAR DSM, 3D model of proposed development, 3D model of landscape mitigation. This can explain how the photomontage has been generated.	No
A photograph of the tripod location to confirm the camera / tripod location	Yes

Limitations and Assumptions

- 4.3.7 The year 15 visualisations show a representation of the established landscape measures as identified on the Landscape Strategy Plan (Figure

7.6.1-7.6.5). The heights of the proposed landscape measures modelled are as follows:

- Broadleaved Woodland modelled at a height of 8-10m
- Native Hedgerows modelled at a maximum height of 3.5m but varying heights in accordance with ES Figure 7.5: Landscape Strategy Plan
- Scrub Planting modelled at a height of 2-5m.

5 Standard LVIA Glossary and Abbreviations

5.1 LVIA Glossary

5.1.1 Standard terms used in the LVIA are set out in Table 5.1.

Table 5.1: LVIA Glossary

Term	Description
Baseline Conditions	The environment as it appears (or would appear) immediately prior to the implementation of the Proposed Development together with any known or foreseeable future changes that will take place before completion of the project
Baseline Information	Collection of background information on the environmental, social and economic setting of a proposed development, to be used to predict changes and compare and evaluate them in terms of importance
Characteristics	Features, or combinations of, which contribute to distinctive landscape or townscape character
Committed Development	Development projects that are either under construction or which have valid planning permission/consents
Conservation Area	Land awarded protection status to prevent change to the natural features, cultural heritage and biodiversity of the area
Cumulative effects	Additional changes caused by the Proposed Development in conjunction with other developments (associated with or separate to it), or actions that occurred in the past, present or are likely to occur in the foreseeable future. And: The summation of effects that result from changes caused by a development in conjunction with other past, present, or reasonably foreseeable actions
Designated Landscape or Townscape	Areas of landscape or townscape identified as being of importance at international, national or local levels, either defined by statute or identified in development plans or other documents
Desktop Studies	The gathering and analysis of existing data from the public domain, scientific and commercial databases, and available project sources, in order to identify environmental constraints and opportunities
Direct Effect	An effect that is directly attributable to the proposed development
Development	Any proposal that results in a change to the landscape and/or visual environment
Enhancement	Proposals that seek to improve the landscape resource and the visual amenity of the Proposed Development site and its wider setting, over and above its baseline condition
Environmental Impact Assessment	Method for identifying and evaluating the likely significant environmental effects of a proposed development

Term	Description
Environmental Statement	Supporting document to Planning Application providing environmental information to the planners (in a form suitable for public consumption) reporting the outcome of the EIA
Features	Particularly prominent, "eye-catching" elements or characteristic components (i.e. Tree clumps, church towers, or wooded skylines).
Heritage	The historic environment and especially valued assets and qualities such as historic buildings and cultural traditions
Historic Environment Records	Details of both designated and non-designated heritage assets, previous archaeological events and secondary source
Key Characteristics	Those combinations of features which are particularly important to the current character of the landscape or townscape, and which help to give an area its particularly distinctive sense of place
Landscape	An area, as perceived by people, the character of which is the result of action and interaction of natural and/or human factors
Landscape or Townscape Character	A distinct and recognisable pattern of features that occurs consistently in a particular type of landscape or townscape and which makes one landscape or townscape different from another. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement, built form and layout, scale, mass and legibility. It creates the particular sense of place of different areas of the landscape or townscape
Landscape or Townscape Effects	Effects on the landscape or townscape as a resource in its own right
Landscape or Townscape Quality (condition)	A measure of the physical state of the landscape or townscape. It may include the extent to which typical character is represented in the individual areas, the intactness of the landscape or townscape and the condition of individual features
Landscape or Townscape Receptors	Defined aspects of the landscape or townscape resource that have the potential to be affected by a proposal.
Landscape or Townscape Value	The relative value that is attached to different landscapes or townscapes by society. A landscape or townscape may be valued by different stakeholders for a variety of reasons.
Listed Buildings	A building with historic, artistic or architectural interest, which has been listed on the statutory list of buildings
Magnitude	A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and the length of its duration. Includes consideration of whether the effect is reversible or irreversible. Magnitude is presented in terms of being major, moderate, slight or negligible. Magnitude is defined for LVIA in the LVIA Methodology Appendix.
Mitigation Measures	Action taken to avoid reduce or offset adverse environmental, social and economic impacts of a project

Term	Description
Indirect Effects	Effects that result indirectly from the proposed project as a consequence of the direct effects, often occurring away from the site, or as a result of a sequence of interrelationships or a complex pathway. They may be separated by distance or in time from the source of the effects.
Phase 1 Habitat Survey	Recognised methodology used for collating information on the habitat structure of a particular site
Photomontage	The superimposing of an image onto a photograph for the purpose of creating a realistic representation of proposed or potential changes to a view
Receptor	Physical resource or user group that would experience an effect, either negative or positive from the Proposed Development
Residual Effects	Impacts that would remain following the implementation of the mitigation measures
Schedule 2	Plans or projects which are listed under Annex II of the EIA Directive, and Schedule 2 of the EIA Regulations
Sensitivity	A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change of development proposed and the value related to that receptor
Scoping	Scoping is the process of determining what issues are to be addressed and setting out a methodology in which to address them in a structured manner appropriate to the plan or programme. Scoping is carried out in consultation with the appropriate bodies.
Site of Special Scientific Interest (SSSI)	Sites that support a range of habitats and/or species considered to be of national nature conservation interest designated and protected under the WCA 1981
Special Protection Area (SPA)	An area designated under the Wild Birds Directive to protect important bird habitats. Implemented initially under the Wildlife and Countryside Act 1981
Significance	A measure of the importance or gravity of the environmental effect, defined by significance criteria specific to the environmental topic. This assessment considers the sensitivity or importance of the receptor (high, medium, low and negligible) and the magnitude/scale of change (large, medium, small and negligible) which is likely to occur in the receiving environment after mitigation. The combined effect of these creates a significance level which ranges from 'none', 'slight', 'moderate', 'significant' and 'very significant'
Study Area	Areas surrounding and including the proposed development, where there is reasonable potential for environmental, economic and social impacts arising from the proposed development. Study areas are defined for each topic of the EIA
Susceptibility	The ability of a defined landscape or townscape or visual receptor to accommodate the specific Proposed Development without undue negative consequences

Term	Description
Townscape	The character and composition of the built environment including the buildings and the relationships between them, the different types of urban open space, including green spaces, and the relationship between buildings and open spaces
Visual Amenity	The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of activities of the people living, working, recreating, visiting, or travelling through an area.
Visual Effects	Effects on specific views and on the general visual amenity experienced by people
Visual Receptor	Individuals and/or defined groups of people who have the potential to be affected by a proposal. Typically represented by a selected viewpoint location.
Visualisation	A computer simulation, photomontage or other technique illustrating the predicted appearance of a development. Accurate Visual Representations (AVRs) are produced in accordance with specific methodology.
Zone of Theoretical Visibility (ZTV)	A map, digitally produced, showing areas of land within which a development is theoretically visible, typically using a Digital Terrain Model or bare earth base.
ZTV with visual barriers	A map, digitally produced, showing areas of land within which a development is theoretically visible, typically using a Digital Surface Model which accounts for built form and vegetation features.

5.2 Standard Abbreviations

5.2.1 Standard abbreviations used in the LVIA are set out below:

- AOD – Above Ordnance Datum
- BS – British Standard
- CEMP - Construction Environmental Management Plan
- CRoW Act – The Countryside and Rights of Way Act 2000
- EA – Environment Agency
- EIA – Environmental Impact Assessment
- ES – Environmental Statement
- EU - European Union
- GI – Green Infrastructure
- GIS – Geographical Information Systems
- GLVIA3 – Guidelines for Landscape and Visual Impact Assessment, Landscape Institute (Third edition)
- IEMA – Institute of Environmental Management & Assessment
- LCA – Landscape Character Area

- LCT – Landscape Character Type
- LDP – Local Development Plan
- LDO – Local Development Order
- LI – Landscape Institute
- LPA – Local Planning Authority
- LVIA – Landscape and Visual Impact Assessment
- MAGIC – English Government’s online mapping tool
- NCA – National Character Area
- NPPF – National Planning Policy Framework
- NTS – Non Technical Summary
- PEIR – Preliminary Environmental Information Report
- PROW - Public Rights of Way
- SM – Scheduled Monument
- SPG – Supplementary Planning Guidance
- VE – Visual Envelope
- WHS – World Heritage Site
- ZTV – Zone of Theoretical Visibility