

# LVA



## Berrington Solar Farm, Berrington

Landscape and Visual Appraisal

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## Quality Assurance

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

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Issue	Date	Amendments
01	17/05/2022	Draft for comment
02	11/01/2022	Cumulative appraisal added.
03	20/02/2023	Minor text amendments

# 1. Introduction

- 1.1. Landscape and Visual Appraisal (LVA) is a tool used to identify and assess the effects of change resulting from development on both the landscape as an environmental resource and on people's views and visual amenity.
- 1.2. An LVA has been undertaken by ADAS for the solar farm development described as 'the proposed development' at land off Cliff Hollow, Berrington, Shrewsbury described as 'the site', the location of which is shown in **Figure 1** in **Appendix 1**. Photographs of the site can be found in **Appendix 2**. This report has been prepared on behalf of the applicant and forms part of a suite of documents accompanying the planning application for this development proposal.
- 1.3. This report identifies planning policy relevant to landscape and visual matters, although it is not within the scope of an LVA to describe whether the proposed development is compliant with these planning policies. It is also not within the scope of this report to determine whether the identified effects should be considered acceptable; the latter is a planning balance decision by which the determining planning authority considers all matters relating to the proposed development.

## Objectives of the report

- 1.4. The objectives of this report are to describe the findings of the LVA as follows:
  - To identify the planning policy context relevant to landscape and visual matters on the site.
  - To describe the baseline landscape character of the site and its surroundings and identify landscape elements associated with the site.
  - To evaluate the landscape's value and susceptibility to change arising from this specific development proposal, which together, provide a measure of the sensitivity of the landscape receptors. Then, considering the magnitude of change, assess the effect that the proposal will have on the local landscape character and landscape elements.
  - To identify potential visual receptors (people who would be able to see the development).
  - To evaluate the sensitivity to change of the visual receptors. Then, considering the magnitude of change, assess the effects the proposal will have on visual amenity.
  - Identify mitigation proposals where these can reduce any adverse effects of the proposed development.

## Structure of the report

- 1.5. The remainder of this report is structured in the following manner:
  - Section 2 **Methodology**. Describes the methodology used to undertake the landscape and visual appraisal.
  - Section 3 **Proposed development**. This section describes the proposed development.

- Section 4 **Planning policy context**. This describes the national, county and district level planning policy relevant to landscape and visual matters in relation to the proposed development.
- Section 5 **Landscape baseline**. This describes the landscape baseline information, identifying landscape receptors (landscape character of the site and the study area, along with the landscape elements within the site).
- Section 6 **Landscape appraisal**. This describes the effects of the proposed development on the landscape receptors identified in section 5.
- Section 7 **Visual baseline**. This part of the report identifies the visual receptors (people who would be able to see the development).
- Section 8 **Visual appraisal**. This describes the effects of the proposed development on the visual receptors identified in section 7.
- Section 9 **Landscape design**. This describes the proposed landscape scheme as part of the proposed development.
- Section 10 **Summary**. This final part of the report summarises the effects on the landscape and visual receptors.

#### Author of the report

- 1.6. This report was written by a Chartered Member of the Landscape Institute (CMLI), who is trained and experienced in undertaking landscape and visual appraisals.
- 1.7. ADAS is a Landscape Institute registered practice and all work is prepared and reviewed internally by senior highly experienced landscape planners with planning appeal experience.

## 2. Methodology

### Relevant guidance

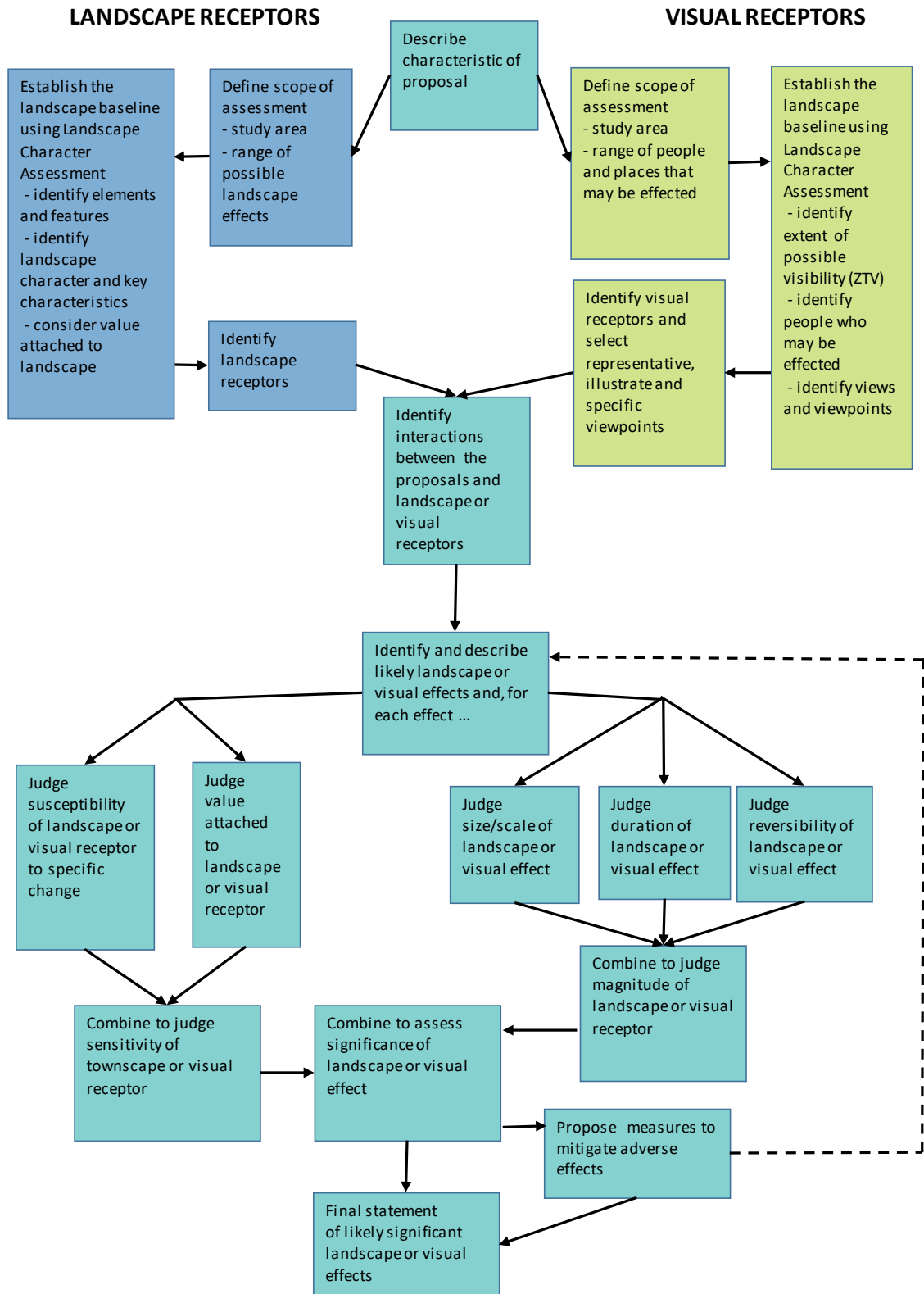
- 2.1. For the purposes of this report, the methodology used takes account of and is based upon recommendations given in ‘Guidelines for Landscape and Visual Impact Assessment’ (GLVIA3) (Third Edition 2013) (Ref.1), produced jointly by the Landscape Institute and the Institute of Environmental Management and Assessment. Terminology used within this report can be found in **Appendix 3** and is primarily based upon that found in GLVIA3 but also references other documents.

### Landscape and visual appraisal methodology

- 2.2. The aim of the LVA is to identify, predict and evaluate potential key effects arising from the proposed development.
- 2.3. Landscape and visual appraisals are separate, though linked procedures. The appraisal of the potential effect on the landscape is carried out as an effect on the environmental resource, i.e. the physical landscape. Visual effects are assessed as an interrelated effect on population.
- 2.4. Landscape effects relate to changes to the features, character and quality of the landscape resource and how it is experienced. Visual effects relate to the changes that arise in the composition of available views as a result of changes to the landscape, and also consider people’s responses to the changes and to the overall effect on visual amenity.
- 2.5. The process involves identifying landscape or visual receptors, judging their sensitivity and then combining this with judgments on the magnitude of change, to determine the level of effect on that receptor appraised at two stages:
- At ‘completion’ of the proposed development comparing the existing site and proposed development at year 0 in the winter when any proposed landscape mitigation has little effect.
  - At the ‘residual’ stage comparing the existing site and proposed development at year 15 in the summer when any proposed landscape mitigation has a full effect.
- 2.6. The definitions of sensitivity, magnitude of change and level of effect are provided in the methodology in **Appendix 4**. A description of effects determined to be ‘moderate’ or above is described in detail. Any effects identified below moderate will be briefly described in a table in the land and visual effects section.
- 2.7. Figure 2.1 below describes the LVA process. The figure combines Figures 5.1 (Ref.1, page 71) and Figure 6.1 (Ref.1, page 99) found in GLVIA3.



Figure 2.1. Steps in Assessing Landscape and Visual Effects



### Site survey

- 2.8. The assessment contained in this report is based on field observations undertaken on 15<sup>th</sup> March and 1<sup>st</sup> April 2022. Use has been made of O.S. Explorer Maps (1:25,000 scale), aerial images, and information obtained from character assessments at national, county and local level (where available).

### Spatial scope

- 2.9. The spatial scope for all the baseline studies including topography, landscape designations and landscape character is a 3km radius from the site described as the 'study area'. Experience on similar projects and initial site appraisal, indicates that noticeable landscape and visual effects were likely to be limited beyond this distance. This is due in part to the scale of the proposed development, the quality and condition of the baseline landscape and also to screening provided from the surrounding, landform, built environment and existing mature vegetation.

### Mapping visibility

- 2.10. To establish the potential extent of visibility of the proposed development a Zone of Theoretical Visibility (ZTV) model was produced, based on the ground level, as illustrated in **Figure 5**. The ZTV was produced, based on a LIDAR Composite Digital Surface Model (DSM) at a 2m spatial resolution. This ZTV considers the vegetation and built features and gives a representation of where the proposed houses could be seen from given the study areas complex landform. The ZTV is based on a maximum height of the proposed development.
- 2.11. The map indicates theoretical visibility only - that is, the areas within which there may be a line of sight. However, the proposal may exhibit lower visibility due to localised screening which is not represented by the Digital Surface Model. As such a ZTV is a guide only and has been supported by field survey.
- 2.12. This ZTV conveys how much of the proposed development may be visible from the areas shown. Areas in red would see a greater proportion of the proposed development such as the whole site, whilst areas in yellow might see a small part.

### Consultations

- 2.13. Proposed viewpoint and photomontage locations were not submitted as part of the pre-application process. Shropshire Council replied on the 8th of March 2022. The response stated that photomontages from appropriate locations should be provided but did not detail these locations. The response also highlights key receptors that could be impacted by the development.

- 2.14. On the 21 of March 2022 a walkover around the site was undertaken with members of the local parish council and community. Several locations were highlighted by the community as areas of concern, which have been included in this assessment.
- 2.15. In October 2022 Shropshire Council requested that a cumulative appraisal be carried out as part of the LVA. The schemes to be included within the cumulative appraisal were subsequently agreed with the council over email in December 2022.

### Visualisations

- 2.16. The production of photographs used as part of the report is proportionate to the level of appraisal and has been guided by 'Visual Representation of Development Proposals' (2019) (**Ref.2**), produced by the Landscape Institute. The methodology used to produce the viewpoint photographs can be found in **Appendix 5**.
- 2.17. All the viewpoint photographs are presented as Annotated Viewpoint Photographs (TYPE 1 visualisations) the aim of which is to represent context and extent of development and of key features. Photographs are reproduced at a size which aids clear understanding of the view and context, with annotations of key features that illustrate the extent of the site within the view. The viewpoints can be found in **Appendix 2**.
- 2.18. Three of the viewpoints have also been represented as Photomontages (TYPE 3 visualisations) the aim of which is to represent appearance, context, form and extent of the proposed development. They provide a reasonable level of locational and photographic accuracy. Type 3 visualisations are not accompanied by verification data, nor is a precise survey of features and camera locations required. These can be found in **Appendix 2**.

### Limitations and assumptions

- 2.19. It has not been possible to enter the curtilage of private dwellings to check views as part of this assessment. In such cases, a reasonable worst-case assumption has been made in dealing with potential views from a publicly accessible point.
- 2.20. It was not possible to walk all the PRow and drive all the roads within the study area, but an assessment was made based on views using Google Earth and reverse visibility from the site.
- 2.21. All visual receptors potentially considered to be most affected by the proposed development were visited.
- 2.22. A night-time assessment has not been undertaken.
- 2.23. This report only deals with the effects of the main solar site and does not include an appraisal of the cable routes or access road.

### 3. Proposed development

#### Description of the scheme

- 3.1. The proposal is for the erection of a solar photovoltaic (PV) array, with a total export capacity of up to 30 MW. Also included as part of the layout is.
- A Substation Area
  - An Inverter
  - A Private Switch
  - A Construction Compound
  - A Distribution Network Operator (DNO)
  - A DNO Access Track
  - Fencing and CCTV Cameras
  - Landscaping Works
  - Other associated infrastructure
- 3.2. The site will be mainly accessed via a main road adjacent to the site's western boundary. This road provides access onto the A458 road to the north, which links to Shrewsbury, and links to the settlement of Cantlop to the south. An access point off an unnamed road that runs between the two parcels of development and leads to Cantlop Mill will also be created into both development parcels. The entrance will include a gate for security purposes and there will also be fencing around the perimeter of the application site.
- 3.3. In regard to the design of the arrays, each of the solar panels will be mounted on a tracked panel system. The panels are covered by high transparency solar glass with an anti-reflective coating which minimises glare and glint, while aiding in the maximum absorption of the available sunlight. The panels are dark grey/blue in colour and are mounted on a frame of anodized aluminium alloy and galvanized steel.
- 3.4. The DNO, Private Switch Gear, Welfare Unit and Spare Containers will be located to the north-west corner of the site. Inverters will be positioned at intervals throughout the site.
- 3.5. The solar PV panels will be erected on posts, ensuring the soil beneath is still available for the infiltration of rainwater. Other aspects of the development, including the DNO Substation, will also be elevated above ground level.

## 4. Planning policy context

### National planning policy and guidance

#### The National Planning Policy Framework (2021)

4.1. The ‘National Planning Policy Framework’ (NPPF) (2021) (**Ref.3**) aims to provide a planning framework within which the local community and local authorities can produce distinctive local plans which respond to local needs and priorities.

4.2. The NPPF promotes a presumption in favour of sustainable development, defined as:

*“...meeting the needs of the present without compromising the ability of future generations to meet their own needs.” (Ref. 3. Page 5, para. 7).*

4.3. The NPPF then identifies a number of aspects which should be considered in developing local plans and reviewing planning applications. Those of relevance to the landscape and visual considerations of the site and proposed development are listed below:

4.4. Section 12. Achieving well-designed places states:

*“Planning policies and decisions should ensure that developments:*

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

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

*c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);*

*d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;” (Ref. 3. Page 39, para. 130).*

4.5. Section 15. Conserving and enhancing the natural environment states:

*“Planning policies and decisions should contribute to and enhance the natural and local environment by:*

*a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*

*b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*

*c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;” (Ref. 3. Page 50, para. 174).*

4.6. Section 15 also notes at paragraphs 175 and 176 also note that:

*Plans should: distinguish between the hierarchy of international, national and locally designated sites. (Ref. 3. Page 50, para. 175).*

*Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues.” (Ref. 3. Page 50, para. 176).*

*“The scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.” (Ref. 3. Page 50, para. 176).*

4.7. Section 15 also states that:

*“Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:*

*b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and*

*c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.” (Ref. 3. Page 53, para. 185).*

#### **Renewable and Low Carbon Energy (June 2015)**

4.8. In relation to the consideration of solar farms, this guidance notes that key considerations include the need for solar farms to be of adequate size and receive enough sun for efficient energy generation; and the need to consider the potential impacts on designated landscapes and local amenity. The guidance specifically notes that.

*“The deployment of large-scale solar farms can have a negative impact on the rural environment, particularly in undulating landscapes. However, the visual impact of a well-planned and well-screened solar farm can be properly addressed within the landscape if planned sensitively.*

*Solar farms are normally temporary structures and planning conditions can be used to ensure that the installations are removed when no longer in use and the land is restored to its previous use.” (013 Reference ID: 5-013-20150327)*

4.9. In terms of design, decision makers are guided to consider the colour and appearance of the panels, the potential for glint and glare (and the potential effect of that on neighbours); the potential need for security measures such as fencing and lighting and:

*“the potential to mitigate landscape and visual impacts through, for example, screening with native hedges.” (013 Reference ID: 5-013-20150327)*

4.10. The guidance notes the need for cumulative impacts to be considered, whilst also stating:

*“in the case of ground-mounted solar panels it should be noted that with effective screening and appropriate land topography the area of a zone of visual influence could be zero.” (013 Reference ID: 5-013-20150327)*

### Local planning context

4.11. Local Authorities are responsible for the protection of the landscape within the planning system and the formulation of policies to support this obligation. Treatment of the landscape within the planning process relevant to the current proposed development is covered by policies contained within the Development Plan. The Shropshire County Council ‘Draft Shropshire Local Plan 2016-2038’ (December 2020) (Ref.4) is at an advanced stage of Local Plan review. The draft Local Plan has been submitted to the Secretary of State and is currently under examination. Therefore, this report will address the policies within this document to determine whether this proposed development will comply with them. The table below contain a list of policies relevant to landscape matters.

**Table 4.1: Relevant policies of the draft Shropshire Local Plan 2016-2038 to landscape and visual matters**

Draft Shropshire Local Plan 2016-2038 (2020)	
DP12: The Natural Environment	<p><i>The avoidance of harm to Shropshire’s natural assets and their conservation, enhancement and restoration will be achieved by:</i></p> <p><b>Designated sites and priority species and habitats</b></p> <p>2. <i>Ensuring that the following types of development are determined in line with national policy:</i></p> <ul style="list-style-type: none"> <li>a. <i>on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments); or</i></li> <li>b. <i>resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees)</i></li> </ul> <p><b>Biodiversity Net Gain</b></p> <p>3. <i>Ensuring that all development delivers at least a 10% net gain for biodiversity in accordance with the Environment Act, any future Local Nature Recovery Strategy (LNRS) and policies DP14, DP15, DP16 and DP22.</i></p> <p><b>Natural Assets</b></p> <p>4. <i>Ensuring that proposals which are likely to have an adverse effect on any of the following natural assets:</i></p> <ul style="list-style-type: none"> <li>a. <i>Locally designated biodiversity sites;</i></li> <li>b. <i>Locally designated geological sites;</i></li> <li>c. <i>Priority species;</i></li> <li>d. <i>Priority habitats; and</i></li> <li>e. <i>Geological assets;</i></li> <li>f. <i>Habitats created as part of a Biodiversity Net Gain plan and not covered by a Conservation Covenant are accompanied by an Ecological or Geological Impact Assessment as appropriate.</i></li> </ul>

5. *Ensuring that proposals which are shown to have an adverse effect, directly, indirectly or cumulatively, to those natural assets listed above will only be permitted if it can be clearly demonstrated that:*
  - a. *there is no satisfactory alternative means of avoiding the adverse effect through redesign or by re-locating on an alternative site and;*
  - b. *the social or economic benefits of the proposal outweigh the adverse effect.*
  
6. *Ensuring that where proposals meet these tests, mitigation measures to reduce the harm will be sought in the first instance. Compensation measures for residual harm will only be accepted as a last resort. Mitigation and compensation measures must be demonstrated to be achievable and be in accordance with policies DP14, DP15, DP16, DP17, DP19, DP22 and DP23. Appropriate conditions and/or planning obligations will be used to ensure that such measures are fully implemented and monitored where required.*
  
7. *Maximising opportunities to increase the quantity, quality and connectivity of natural assets in accordance with policies DP14, DP15, DP16 and DP22 through habitat creation and management measures, provision of appropriately designed and suitably located bat and bird boxes and any other such measures e.g swift bricks, which would support protected or priority species.*

**Trees, Woodlands and Hedgerows**

8. *The retention of trees and a significant increase in the extent and distribution of trees, woodlands and hedgerows in Shropshire will be achieved by:*
  - a. *Ensuring that for all proposals directly affecting existing trees or where trees are immediately adjacent to a development site, such trees are recorded in line with guidance in the relevant British Standard and that the record is submitted as part of the planning application. Opportunities to retain trees of high amenity and environmental value taking into consideration both their individual merit and their contribution as part of a group or broader landscape feature should be considered and documented as part of this;*
  - b. *Ensuring that applicants provide details as to how retained trees, hedges and hedge banks will be protected prior to, during and after construction;*
  - c. *Ensuring that no building, hard surfacing, drainage or underground works are permitted that do not accord with the principles of the relevant British Standard and policy DP22 unless, exceptionally, the Council is satisfied that such works can be accommodated without harm to the trees concerned or there are overriding reasons for development to proceed;*
  - d. *Encouraging new development to plant new trees, woodlands and hedgerows in line with the Shropshire Tree and Woodland*



### Draft Shropshire Local Plan 2016-2038 (2020)

	<p><i>Strategy, Shropshire Green Infrastructure Strategy and the provisions of the Environment Act with respect to Biodiversity Net Gain; and</i></p> <p><i>e. Ensuring that native species hedgerows are retained on development sites, unless there are overriding public benefits that justify their removal. Where removal is deemed necessary, details addressing the criteria under the Hedgerow Regulations 1997 (as amended) should be submitted to demonstrate the validity of removal along with details of replacement hedgerows. Replacement hedgerows should be of an equal scale, comprise an appropriate mix of native species and where possible, should be provided on site. Where there are gaps in the existing native species hedgerows on the site, the development should provide sufficient additional hedgerow planting, with appropriate native species, to restore continuity.</i></p>
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4.12. Shropshire County Council’s current adopted policies can be found in the ‘Shropshire Local Development Framework: Adopted Core Strategy’ (March 2011) (Ref.5) and the ‘Shropshire Council Site Allocations and Management of Development (SAMDev) Plan (December 2015) (Ref.6). The tables below contain a list of policies relevant to landscape matters.

**Table 4.2: Relevant policies of the Shropshire Local Development Framework: Adopted Core Strategy to landscape and visual matters**

### Shropshire Local Development Framework: Adopted Core Strategy (2011)

<p>CS17: Environmental Network</p>	<p><i>Development will identify, protect, enhance, expand and connect Shropshire’s environmental assets, to create a multifunctional network of natural and historic resources. This will be achieved by ensuring that all development:</i></p> <ul style="list-style-type: none"> <li><i>• Protects and enhances the diversity, high quality and local character of Shropshire’s natural, built and historic environment, and does not adversely affect the visual, ecological, geological, heritage or recreational values and functions of these assets, their immediate surroundings or their connecting corridors;</i></li> <li><i>• Contributes to local distinctiveness, having regard to the quality of Shropshire’s environment, including landscape, biodiversity and heritage assets, such as the Shropshire Hills AONB, the Meres and Mosses and the World Heritage Sites at Pontcysyllte Aqueduct and Canal and Ironbridge Gorge;</i></li> <li><i>• Does not have a significant adverse impact on Shropshire’s environmental assets and does not create barriers or sever links between dependant sites.</i></li> </ul>
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**Table 4.3: Relevant policies of the Shropshire Council Site Allocations and Management of Development Plan to landscape and visual matters**

Shropshire Council Site Allocations and Management of Development (SAMDev) Plan (2015)	
MD12: The Natural Environment	<p><i>In accordance with Policies CS6, CS17 and through applying the guidance in the Natural Environment SPD, the avoidance of harm to Shropshire’s natural assets and their conservation, enhancement and restoration will be achieved by:</i></p> <ol style="list-style-type: none"> <li>1. <i>Requiring a project-level Habitats Regulations Assessment for all proposals where the Local Planning Authority identifies a likely significant effect on an internationally designated site. Permission will be refused where a HRA indicates an adverse effect on the integrity of a designated site which cannot be avoided or fully mitigated. Where mitigation can remove an adverse effect, including that identified by the HRA for the Plan or the Minerals HRA, measures will be required in accordance with; CS6, CS8, CS9, CS17, CS18, MD2; remedial actions identified in the management plan for the designated site and the priorities in the Place Plans, where appropriate.</i></li> <li>2. <i>Ensuring that proposals which are likely to have a significant adverse effect, directly, indirectly or cumulatively, on any of the following:</i> <ol style="list-style-type: none"> <li><i>i) the special qualities of the Shropshire Hills AONB;</i></li> <li><i>ii) locally designated biodiversity and geological sites;</i></li> <li><i>iii) priority species;</i></li> <li><i>iv) priority habitats</i></li> <li><i>v) important woodlands, trees and hedges;</i></li> <li><i>vi) ecological networks</i></li> <li><i>vii) geological assets;</i></li> <li><i>viii) visual amenity;</i></li> <li><i>ix) landscape character and local distinctiveness.</i></li> </ol> <p><i>will only be permitted if it can be clearly demonstrated that:</i></p> <ol style="list-style-type: none"> <li><i>a) there is no satisfactory alternative means of avoiding such impacts through re-design or by re-locating on an alternative site and;</i></li> <li><i>b) the social or economic benefits of the proposal outweigh the harm to the asset.</i> <p><i>In all cases, a hierarchy of mitigation then compensation measures will be sought.</i></p> </li> <li>3. <i>Encouraging development which appropriately conserves, enhances, connects, restores or recreates natural assets, particularly where this improves the extent or value of those assets which are recognised as being in poor condition.</i></li> <li>4. <i>Supporting proposals which contribute positively to the special characteristics and local distinctiveness of an area, particularly in</i></li> </ol> </li></ol>

**Shropshire Council Site Allocations and Management of Development (SAMDev) Plan  
(2015)**

*the Shropshire Hills AONB, Nature Improvement Areas, Priority Areas for Action or areas and sites where development affects biodiversity or geodiversity interests at a landscape scale, including across administrative boundaries.*

## 5. Landscape baseline

### National landscape character

- 5.1. At the national level the site and the study area is located within the '61. Shropshire, Cheshire and Staffordshire' National Character Area (NCA) (2014) (Ref.7). The NCA profile for this area describes its characteristics as follows:

*"The Shropshire, Cheshire and Staffordshire Plain National Character Area (NCA) comprises most of the county of Cheshire, the northern half of Shropshire and a large part of north-west Staffordshire. This is an expanse of flat or gently undulating, lush, pastoral farmland, which is bounded by the Mersey Valley NCA in the north, with its urban and industrial development, and extending to the rural Shropshire Hills NCA in the south. To the west, it is bounded by the hills of the Welsh borders and to the east and south-east by the urban areas within the Potteries and Churnet Valley, Needwood and South Derbyshire Claylands, and Cannock Chase and Cank Wood NCAs." (Ref.7 Page 3, para. 1).*

- 5.2. Given the size and nature of the proposed development there would be no discernible changes to the key characteristics of the NCA and it will not be considered any further in this report.

### County landscape character

- 5.3. The document 'The Shropshire Landscape Typology' (2006) (Ref.8) defines the landscape character for the district. As shown on Figure 2 the site and majority of the study areas falls within the Estate Farmlands Landscape Character Types (LCT).
- 5.4. The key characteristics of the Estate Farmlands LCT exhibited within the study area and how they would be affected by the proposed development are listed in the landscape appraisal section of this report.
- 5.5. The Shropshire Landscape Typology document did not provide information regarding the LCT special qualities and features or strategy objectives

### Designations and Policies

- 5.6. As shown on **Figure 3** there are several cultural heritage and natural environment designations relevant to landscape and visual matters.

### Cultural heritage designations

#### Listed Buildings

- 5.7. There are many Listed Buildings identified within the study area. The majority of these are located within the settlements with others scattered within the surrounding rural areas. There would be views of the site from a few listed buildings within the study area as listed below:
- Berrington Farmhouse (Grade II), approximately 288m north-east of the site.
  - Newman Hall Cottages (Grade II), approximately 138m south-east of the site.

- Nos. 69 and 70 (Grade II), approximately 500m south of the site.

5.8. There may be glimpsed views of the site from other Listed Buildings in the study area, however, any such views would not be prominent and views from Listed Buildings other than those above have not been considered further within this report.

#### *Conservation Areas*

5.9. The Condover Conservation Area is within the study area. There may be glimpsed views from some of the tall buildings within the Conservation Area, however, any such views would not be prominent, and Conservation Areas have not been considered further within this report.

#### *Registered Parks and Gardens*

5.10. There are there four Registered Parks and Gardens in the study area. There is little or no intervisibility between the site and these Registered Parks and Gardens and they will not be considered any further in this report.

#### *Scheduled Monuments*

5.11. There are several Scheduled Monuments identified within the study area. There is no intervisibility between these and the site and they will not be considered any further in this report.

#### *Natural environment designations*

##### *Traditional Orchards*

5.12. There are several Traditional Orchards in the study area, all of which are over 1km away from the site. As such they would not be affected in landscape terms by any development on the site and they will not be considered further in this report.

##### *Ancient Woodlands*

5.13. There are several Ancient Woodlands in the study area, all of which are over 700m away from the site. As such they would not be affected in landscape terms by any development on the site and they will not be considered further in this report.

##### *Sites of Special Scientific Interest (SSSI)*

5.14. There are several SSSI in the study area, all of which are over 930m away from the site. As such they would not be affected in landscape terms by any development on the site and they will not be considered further in this report.

#### *Topography*

5.15. The topography of the study area is shown on **Figure 1**. The topography of the study area is defined by River Severn valley. The site sits on an area of rising ground along the valley side. To the north,

north-west, west the landform falls away towards the river reaching a low point of 50m AOD. To the west, south-west and south the landform rises away from the river reaching a high point of 130m AOD. To the north-west and south-east the landform stays relatively at the same level of the site. To the south of the site there is a small river valley (approximately 20m deep) which falls to the Cound Brook and then rises again further site as the landform continues to climb.

### Vegetation and land use

- 5.16. As shown on **Figure 4** the site is in area of agricultural land outside of Berrington. There are several settlements in the study area including Cross Houses, Eaton Mascott, Cantlop, Pitchford, Condover and the edge of Shrewsbury. The land within the study area outside of the urban area is predominantly used for arable farming with occasional blocks of woodland and pastoral fields. There are both regular and irregular field patterns, generally geometric in shape, bounded predominantly by lines of trees and hedgerows. The A5 road corridor runs west to east through the northern part of the study area.

### Site description

- 5.17. The site is located to the south-west of Berrington. As shown on **viewpoint 1, 2, 3 and 4** the site is made up of two agricultural fields. There are a few ponds located just outside of the site. There is a track that runs north to south through the centre of the site that leads to some residential properties to the south of the site. The boundaries of the site are lined with hedgerows and occasional hedgerow trees. There are a few isolated trees within the western field of the site. There is a seasonally wet pond in the western field.
- 5.18. In the western field, the site falls from a high point in the north-eastern part of the field to the west and south. In the eastern field, the site falls from a high point in the northern boundary to the south and south-east.
- 5.19. Cliff Hollow runs along much of the northern boundary of the site. Shrewsbury Road runs along the western boundary of the site. An unnamed road runs along much of the eastern boundary. Vehicular access to the site is currently from the access track that runs through the central part of the site.

## 6. Landscape appraisal

### Landscape sensitivity

- 6.1. The sensitivity of landscape receptors is evaluated based on combining judgements of their susceptibility to the type of change or development proposed and the value attached to the landscape.

### Landscape value

- 6.2. The value of the landscape receptors will to some degree reflect landscape designations and the level of importance which they signify, although there should not be over-reliance on designations as the sole indicator of value. Other considerations include the condition of the Natural heritage, Cultural heritage, Landscape condition, Associations, Distinctiveness, Recreational, Perceptual (scenic, wilderness and tranquillity) and Functionality.
- 6.3. Part of the assessment of local landscape value has been based on the designations shown on **Figure 4** and landscape character assessments. The site is not located within any landscape designations. There are several Listed Buildings, Conservation Areas and Historic Park and Garden located within the study area.
- 6.4. Within the document 'Assessing landscape value outside national designations' (2021) (**Ref.9**), Table 1 (**Ref.9, page 7**) provides guidelines for assessing landscape value by a consideration of the following factors:
- **Natural heritage.** There is some potential for protected species to be present with limited semi-natural habitat on site itself and with some blocks of woodland and ponds within 500m. The site and immediate area (within 500 m) are considered to have a low natural habitat landscape value. The Estate Farmlands LCT is considered to have a medium natural habitat landscape value.
  - **Cultural heritage.** There is some intervisibility between the site and several the cultural heritage designations in the local area (within 500 m). The site is considered to have a low cultural heritage landscape value. The immediate area (within 500 m) and The Estate Farmlands LCT are considered to have a medium cultural heritage landscape value.
  - **Landscape condition.** The landscape elements within and surrounding the site appear to be in fair condition as they are neither declining nor particularly well managed. The landscape condition is considered to be fair for the site, its immediate context and The Estate Farmlands LCT.
  - **Associations.** The document 'The Shropshire Landscape Typology' (**Ref.8**) does not list the site as having any particular cultural associations and the cultural landscape value is considered to be low for the site, its immediate context and The Estate Farmlands LCT.
  - **Distinctiveness.** The document 'The Shropshire Landscape Typology' (**Ref.8**) does not list any rare landscape elements within the landscape character areas within the study area. The landscape characteristics of the site and local landscape are typical of the LCT; however, they

are not considered to be particularly important or rare examples of the key characteristics of the LCT. The landscape of the site and immediate area (within 500 m) and The Estate Farmlands LCT are not considered to be rare or particularly important examples and the distinctiveness landscape value is assessed as low.

- **Recreational.** There a track running through the site that has public access, with others PRow within 500m of the site. The site and immediate area (within 500 m) are considered to have a high recreational landscape value. The Estate Farmlands LCT is considered to have a medium recreation landscape value as it has a network of PRow running through it.
- **Perceptual (scenic).** No formal assessment of scenic quality of The Estate Farmlands LCT has been undertaken, however, the document 'The Shropshire Landscape Typology' (Ref.8) notes that The Estate Farmlands LCT has "...Medium to large scale landscapes with framed views ...". The landscape of the site and immediate area (within 500m) and The Estate Farmlands LCT are considered to have a medium scenic quality.
- **Perceptual (Wilderness and tranquillity).** A formal assessment of tranquillity of The Estate Farmlands LCT has not been undertaken. The document "The Shropshire Landscape Typology' (Ref.8) notes that the LCT has "...Mixed farming landuse...". The landscape of the site and immediate area (within 500m) and L1 Heveningham and The Estate Farmlands LCT are considered to have a medium perceptual landscape value.
- **Functional.** The individua trees, hedgerows and lines of trees and hedgerows that run around its boundaries play a part in the Green Infrastructure network of the locality and LCT. The site and immediate area (within 500 m) and The Estate Farmlands LCT are considered to have a medium natural functional landscape value.

6.5. Combining the value of the surrounding designations, landscape character studies and other criteria it is assessed that the value of the site and immediate area (within 500 m) and The Estate Farmlands LCT is **medium**.

6.6. The landscape of the site is not valued in terms of the NPPF, paragraph 174, as it is not covered by any statutory designations or identified as having high quality in any of the development plan documents or published evidence landscape character study documents.

#### Landscape susceptibility

6.7. GLVIA3 (Ref.1) states that susceptibility means "*the ability of the landscape to accommodate the proposed Development without undue consequences for maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies*". Judgements on landscape susceptibility (high, medium, low) include references to both the physical and aesthetic characteristics and the potential scope for mitigation.

6.8. The site's susceptibility to the type of development proposed, namely a solar PV array, is assessed as **medium**. Although there would be a clearly perceived change to land use on the site, the proposed development would have negligible direct effects on landscape features and the site would be fully restored on decommissioning. In addition, the surrounding landform and vegetation



limits visibility of the proposed development except from areas close to the site and on the higher ground to the south allowing it to absorb the development.

#### Overall sensitivity

- 6.9. Combining landscape value and susceptibility to change provides a guide as to how sensitive a landscape is. The sensitivity of the site, local landscape (up to 500m) and the B2: North Wootton LCA. is assessed as **medium**.

#### Construction phase landscape effects

- 6.10. For the purposes of this assessment construction effects are not considered in detail as the construction would be completed in a relatively short time span (around 3 to 6 months) and any effects would therefore be temporary and transient.

#### Effects on landscape features

- 6.11. There are few landscape features on the site, the most important being the vegetation along the site boundaries and the individual trees within the western field.
- 6.12. A BS5837 tree survey has been undertaken on the trees on the site. The shade cast by their crowns and root protection area constraints have also been incorporated into the design of the proposal. Two short sections of hedgerow would require removal to facilitate the new site access. The remaining trees/groups/hedgerows identified in the survey would be retained and protected as part of the proposed development. For further details, see the Arboricultural Implications Assessment that accompanies the application.
- 6.13. The sensitivity of these trees is medium and the magnitude of change to landscape features during construction would be **negligible adverse** and the level of effects assessed to be **slight** due to the localised, albeit permanent nature of effects.

#### Effects on landscape character

- 6.14. The construction process will introduce temporary and intermittent construction activity, movement of personnel and machinery into the site. However, this will be perceived in the context of the noise and movement associated with the edge of the settlement and a working landscape. The sensitivity of the landscape character is medium. The magnitude of change during construction on landscape character will be temporary and **minor adverse** and the level of effect is assessed as **slight**.

## Operational phase landscape effects

### Effects on landscape features

#### *Effects on trees / scrub / hedgerows*

6.15. A short section of hedgerow would be lost due to the proposed development. The proposed hedgerow and tree planting would increase the overall hedgerow within the site and will have a beneficial effect on landscape features. The sensitivity of most of these receptors is medium and the magnitude of change would be **minor beneficial**, and the level of effect is assessed as **slight** at completion and at year 15.

#### *Effects on topography*

6.16. There would be small changes to the topography of the site as a result of excavations to accommodate the proposed battery storage area and equipment associated with the solar farm. The sensitivity of the topography is medium, the magnitude of change during operation would be **negligible adverse** and the level of effect is assessed as **neutral** at completion and at year 15.

#### *Effects on Land Use*

6.17. The proposal is temporary and reversible in nature and will allow for a return to agricultural use without any harm to the soil structure at the end of the operational period. During the temporary life of the development, it is proposed to use this land for pasture which will enhance and protect the soil structure for a return to commercial arable purposes thereafter. The proposed development will allow the continued agricultural use of the site. The sensitivity of the land use is medium, the magnitude of change during operation would be **no change** and the level of effect is assessed as **neutral** at completion and at year 15.

### Effects on landscape character

6.18. Considerations that arise in respect of landscape character are:

- the physical changes to the fabric or structure of the landscape.
- integration of the development with the surrounding landscape patterns and structure.
- the degree to which opportunities are taken to enhance character where condition is poor, or preserve character where condition is good.

6.19. This section examines the potential impacts of the development proposals on the intrinsic character and quality of the landscape, as described in the baseline section. The scale of these impacts is likely to be greatest at the point at which direct changes in the landscape fabric occur, i.e., at the site level, with the effects diminishing with increasing distance from the site.

6.20. This section therefore examines the potential impacts on landscape character and resources from the site level outwards. The effects on landscape character are described below.

*Effects on landscape character of the site and its surrounding area (within 500m)*

6.21. The development proposals will change the site from agricultural fields to a solar farm. The change in the character to the site itself will inevitably be high for the duration of the solar farm’s lifetime due to the development of the solar arrays, fencing and buildings. However, all the field boundaries will remain intact and will be enhanced, and although the solar panels are constructed over the field, all landscape features are retained so that effects are reversible. The change in the character to the site being developed and its immediate context will inevitably be **major adverse**. The level of effect is assessed to be **large** at completion and at year 15.

*Effects on landscape character of The Estate Farmlands LCT.*

6.22. The following key characteristics identified for the LCT are listed below with an assessment of how they would be affected by the proposed development.

**Table 6.1: Relevant key characteristics of the LCT and how they are affected in landscape terms by the proposed development.**

Key characteristics	Effects of the proposed development
<i>Mixed farming landuse</i>	The landuse of the LCT would not be affected in landscape and visual terms as part of the proposed development.
<i>Clustered settlement pattern.</i>	The settlement pattern of the LCT would not be affected in landscape and visual terms as part of the proposed development.
<i>Large country houses with associated parklands</i>	The large country houses with associated parklands of the LCT would not be affected in landscape and visual terms as part of the proposed development.
<i>Planned wooded character.</i>	There would be an increase in the sense of built form immediately around the site as a result of the proposed development. There would be no loss of woodland as part of the proposed development.
<i>Medium to large scale landscape with framed views</i>	The proposed development would be visible in several views of the site from the surrounding landscape

6.23. The proposed development would not affect most of the key characteristics of the LCT. The sensitivity of this landscape character area is medium. The proposed development would result in a **minor adverse** magnitude of change in the character area with a level of effect assessed to be **slight** at completion and year 15.

## 7. Visual baseline

7.1. This section provides an understanding of the nature and extent of the existing views towards the site and the surrounding area. An integral part of establishing the visual baseline is the identification of the key visual receptors within the study area.

### Key visual receptors

7.2. Visual receptors include the public or community at large, including residents, visitors and travellers through the landscape. The key visual receptors around the proposed development include:

- The local residential properties around and near the site.
- Users of the road network near to the site.
- The users of the PRoW network close to the site.

7.3. Sensitivity of receptors will be dependent on their activity and whether their attention is focused on the landscape. Visual receptors of high sensitivity will generally include residents, recreational users of long-distance routes and visitors to cultural and historic sites as described in more detail in the Methodology in **Appendix 4**.

7.4. Key visual receptors close to the site are shown in **Figure 4** and the extent of visibility is shown on **Figure 5**.

### Public Rights of Way (PRoW)

#### PRoW

7.5. There are several PRoW that experience views of the site. These are shown on **Figures 4** and **5** and are described below. There are no PRoW that cross the site and a small number of PRoW within 500m and others in the wider study area that experience views of the site.

#### PRoW within 500m of the site.

- To the east of the site; 0407/16/1, 0407/1/1, 0407/3R/1.
- To the south of the site; 0407/5R/2.
- To the west of the site; 0413/52/1.

#### PRoW between 500m and 3km of the site.

- To the south of the site; 0413/54/1.
- To the west of the site; 0413/52/1.

7.6. There may be views from other PRoW, but they would be glimpsed in nature and are not considered in any further detail in this report.

## Representative viewpoints

- 7.7. Representative viewpoints form the basis of the assessment of the potential effects of the proposed development on views and visual amenity, in line with GLVIA3. A wide range of potential viewpoints were investigated in the desk study using Google Earth and after consultation with the local community. Twenty-one viewpoints were selected, including sixteen close range (under 500m) and five medium range (500m to 3km) with representative views of the site shown on **Figure 5**. Eight of the viewpoints have been selected based on the request of the local community, following a site walkover and consultation. The photographs are illustrated in the photograph panels in **Appendix 2**, including three of the viewpoints shown as photomontages. The representative viewpoints chosen for the assessment of effects are described below.

### **Viewpoint 1 (Local community location). Cliff Hollow.**

- 7.8. This viewpoint is on the northern boundary of the site, looking south and represents users of Cliff Hollow. Open views of the sites western field parcel are possible at field entrances and views of the wider landscape can be seen beyond the site from these locations. Views of the eastern field parcel are screened from this viewpoint by intervening vegetation. Views along the remaining section of Cliff Hollow become glimpsed due to the boundary vegetation.

### **Viewpoint 2 (Local community location). Unnamed Road leading to Cantlop Mill.**

- 7.9. This viewpoint is in the centre of the site, between the two parcels of land and represents users of the unnamed road looking south. Open views of the sites eastern field parcel are possible from this viewpoint and views of the wider landscape can be seen beyond the site. Views of the western field parcel are screened by boundary vegetation.

### **Viewpoint 3. Unnamed Road leading to Cantlop Mill.**

- 7.10. This viewpoint is in the centre of the site, between the two parcels of land and represents users of the unnamed road looking west. Open views of the sites western field parcel are possible at field entrances and views of the wider landscape can be seen beyond the site from these locations. Views of the eastern field parcel from this viewpoint location are also possible when looking east.

### **Viewpoint 4 (Local community location). Unnamed Road leading to Cantlop Mill.**

- 7.11. This viewpoint is in the centre of the site, between the two parcels of land and represents users of the unnamed road looking south-west. Partial views of the eastern field parcel are possible through boundary vegetation. Views of the western field parcel are screened by the boundary vegetation and sunken nature of the road.

**Viewpoint 5. Unnamed Road leading to Cantlop Mill.**

7.12. This viewpoint is in the centre of the site, between the two parcels of land and represents users of the unnamed road looking north. Views of the site's southern boundary is possible from this location, but due to the topography, views across the site are not possible.

**Viewpoint 6. (Local community location) Unnamed Road leading to Cantlop Mill.**

7.13. This viewpoint is adjacent to the southern boundary of the site and represents users of the road and the residents of Cantlop Mill looking north. Views of the site's southern boundary is possible from this location, but due to the topography, views across the site are not possible.

**Viewpoint 7. (Local community location) Cliff Hollow.**

7.14. This viewpoint is to the north of the site and represents users of the road looking south. Open and partial views of the site is possible at high points in the road and views of the wider landscape can be seen beyond the site from these locations.

**Viewpoint 8. Cliff Hollow / edge of Berrington.**

7.15. This viewpoint is to the north-east of the site and represents users of the road and residents of Berrington looking south-west. Views of the site are screened from this viewpoint by intervening vegetation and landform.

**Viewpoint 9. Unnamed Road leading to Newman Hall Cottages.**

7.16. This viewpoint is on the eastern boundary of the site and represents users of the road looking west. Partial views of the eastern field parcel through the existing vegetation are possible from this road. Views of the western field parcel are screened from this viewpoint by intervening vegetation and landform.

**Viewpoint 10. Unnamed Road leading to Eaton Mascott.**

7.17. This viewpoint is to the south-east of the site and represents users of the road and properties in the area. There are partial views of the site from the section of road that runs adjacent to the site boundary and in connection to Newmans Hall Cottage, but due to was not possible to capture this location at the time of the survey. The viewpoint highlights a section of road further south that does not experience views of the site due to the intervening vegetation screening views of the site.

**Viewpoint 11. (Local community location) PRoW 0407/16/1.**

7.18. This viewpoint to the east of the of the site and represents users of the PRoW looking west. Open views of the eastern field parcel of the site are possible from this location. Views of the western field parcel are screened from this viewpoint by intervening landform.

**Viewpoint 12. PRoW 0407/1/1.**

7.19. This viewpoint to the east of the of the site and represents users of the PRoW. Open views of the eastern field parcel of the site are possible from this location. Views of the western field parcel are screened from this viewpoint by intervening vegetation and landform.

**Viewpoint 13. Unnamed Road / edge of Eaton Mascott.**

7.20. This viewpoint is to the south-east of the site and represents users of the road and properties in Eaton Mascott, and users of PRoW 0407/3R/1. Views of the site are screened from this viewpoint by intervening vegetation and landform.

**Viewpoint 14. (Local community location) Unnamed Road in Cantlop.**

7.21. This viewpoint is to the south of the site and represents users of the road and properties in Cantlop. Views from the road a predominantly screened, but an open view of the of the eastern field parcel and partial view of the western field parcel is possible at a field access point. Views from the properties along the southern edge of Cantlop predominantly experience an open view of the site.

**Viewpoint 15. PRoW 0407/5R/2.**

7.22. This viewpoint is to the south of the site and represents users of the PRoW. Open views of the site are possible from this section of PRoW.

**Viewpoint 16. (Local community location) Unnamed Road in Cantlop.**

7.23. This viewpoint is to the south of the site and represents users of the road. Boundary vegetation predominantly screens views of the site, but open views of the western field parcel at access points into fields are possible. Views of the eastern field parcel are screened from this viewpoint by intervening vegetation and landform.

**Viewpoint 17. (Local community location) Unnamed Road in Cantlop.**

7.24. This viewpoint is to the south of the site and represents users of the road. Boundary vegetation predominantly screens views of the site, but open views of the western field parcel at access points into fields are possible. Views of the eastern field parcel are mostly screened from this viewpoint by intervening vegetation and landform.

**Viewpoint 18. Cantlop Bridge.**

7.25. This viewpoint is to the south of the site and represents users of Cantlop bridge. Views of the site are screened by existing vegetation.

**Viewpoint 19. Unnamed Road.**

7.26. This viewpoint is on the western boundary of the site and represents users of the road. Glimpsed views of the western field parcel through boundary vegetation are possible along this road. Views of most of the western field parcel is screened by landform and views of the eastern field parcel are not possible from this road.

**Viewpoint 20. Unnamed Road.**

7.27. This viewpoint is to the south-west of the site and represents users of the road and PRow 0413/54/1. Partial views of the site are possible where gaps in field boundary vegetation occurs. The site is screened by vegetation from the remaining sections of road and PRow.

**Viewpoint 21. PRow 0413/52/1.**

7.28. This viewpoint is to the south-west of the site and represents users of the PRow. Intervening vegetation screens most of the site, with glimpses of the western field parcel of the site possible through vegetation.



## 8. Visual appraisal

### Extent of visibility

- 8.1. The site visit and ZTV (**Figure 5**) established the potential extent of visibility of the proposed development within the landscape. Views of the site are generally restricted within 3km of the study area. To the north views of the site are screened by the rising landform and vegetation. To the east, views of the site are screened by the intervening vegetation and landform, and where views are possible this is only of the western field parcel. To the west, views of the site are screened by the intervening vegetation and landform, and where views are possible this is only of the eastern field parcel. To the south there are local views of the site across the open landscape from the rising ground.

### Construction phase visual effects

- 8.2. For the purposes of this assessment construction effects are not considered in detail as these would be completed in a relatively short time span and, as a result, any effects would be temporary and transient.

### Operational phase visual effects

- 8.3. Any visual effects considered to be ‘moderate adverse’ or above are discussed in detail in this section. All other effects are presented in tables 8.1 to 8.3 below.

### Visual effects on Public Rights of Way and public access areas

*PRoW 0407/16/1*

- 8.4. This PRoW is located to the east of the site and runs in a north to south direction, linking the settlement of Berrington to the wider countryside. Views from this PRoW are represented by **viewpoint 11**. There are partial views of the eastern field parcel from most of the PRoW as only part of the site is visible, but the site does form a proportion of the wider view. Views from the PRoW become more glimpsed where field boundary vegetation is present and the landform along the PRoW falls and views of the western field parcel are screened by intervening landform.
- 8.5. At completion and after 15 years there would be partial views of the proposed solar development as a proportion of the wider view to the west from this PRoW. The sensitivity of this receptors is high, and the magnitude of change would be **moderate adverse** as the proposed development would form a noticeable feature in the landscape readily apparent to the receptor but would not be a dominant feature. Therefore, the at completion and residual level of effect is considered as **moderate**. Proposed landscape management will allow the boundary hedgerows to grow to a height of 4m, which will reduce the views of the proposed development, as shown in **photomontage viewpoint 11**. However, due to the proximity of this receptor, the residual level of

effect will remain moderate. A change in height to the boundary hedgerows may reduce views from other sections of the PRoW.

*PRoW 0407/1/1*

- 8.6. This PRoW is located to the east of the site and runs in a north to south direction, linking the settlement of Berrington to the settlement of Eaton Mascott. Views from this PRoW are represented by **viewpoint 12**. There are partial views of the eastern field parcel from a 200m section of the PRoW where part of the site is visible, but the site does form a proportion of the wider view. Views of the site from the PRoW are screened to the north and south of this 200m section by landform changes, field boundary vegetation and woodland blocks. Views of the western field parcel are also screened by intervening landform.
- 8.7. At completion there would be partial views of the proposed solar development from this 200m length of the PRoW, as a proportion of the wider view to the west from this PRoW. The sensitivity of this receptors is high, and the magnitude of change would be **moderate adverse** as the proposed development would form a noticeable feature in the landscape readily apparent to the receptor but would not be a dominant feature. Therefore, at completion the level of effect is considered as **moderate**. Proposed landscape management will allow the boundary hedgerows to grow to a height of 4m, which will reduce the views of the proposed development from this receptor after 15 years, as represented by **photomontage viewpoint 11**, which is located on a nearby PRoW. After 15 years the magnitude of change would reduce to **minor adverse**, resulting in a residual level of effect of **slight**.

*PRoW 0407/5R/2*

- 8.8. This PRoW is located to the south of the site on the other side of the valley and runs in an east to west direction, linking the settlement of Cantlop to the wider countryside. Views from this PRoW are represented by **viewpoint 15**. There are open views of the site from most of the PRoW as a clear view of the high ground of the site to the north is visible, which forms a large proportion of the views within the wider landscape, with views reducing to partial as the receptor leads further west, away from the site. Most of the southern, lower ground of the site is screened from views by the existing boundary vegetation.
- 8.9. At completion there would be open views of the proposed solar development. The sensitivity of this receptors is high, and the magnitude of change would be **major adverse** at completion, resulting in a level of effect of **large** at completion. After 15 years the magnitude of change would reduce to **moderate adverse** as vegetation would have matured around the site (as shown in

photomontage viewpoint 15), softening the visual impact of the development. Therefore, there would be a residual level of effect of **moderate** for this PRoW.

*Table 8.1: Summary of visual effects on Public Rights of Way.*

Receptor	Summary of effects	Assessment (Year 0)	Assessment (Year 15)
PRoW 0407/3R/1	<p>This PRoW is located to the south-east of the site and runs in a north-east to south-west direction. It runs from Eaton Mascott to an unnamed road. There are no views of the proposed development illustrated by <b>viewpoint 13</b>. Views would be screened by mature field vegetation that runs adjacent to the PRoW.</p> <p>At completion in the winter there would be no views of the proposed development as they would be screened by the intervening vegetation.</p>	<p>Sensitivity: <b>high</b></p> <p>Magnitude of effect: <b>negligible adverse</b></p> <p>Level of effect: <b>slight</b></p>	<p>Sensitivity: <b>high</b></p> <p>Magnitude of effect: <b>negligible adverse</b></p> <p>Level of effect: <b>slight</b></p>
PRoW 0413/54/1	<p>This PRoW is located to the south of the site and runs in a north-south direction. Users of the receptor can experience glimpsed views of the site, but due to the distance and intervening vegetation it is hard to discern illustrated by <b>viewpoint 20</b>. These maybe combined views or another solar development and the Proposed development from people using these routes. However, they would be difficult to perceive e through the intervening vegetation.</p> <p>At completion in the winter there may be glimpsed views of the proposed development within the wider landscape. In summer the intervening vegetation would likely reduce views of the proposed development and after 15 years the vegetation surrounding the proposed development would further reduce views of the site.</p>	<p>Sensitivity: <b>high</b></p> <p>Magnitude of effect: <b>negligible adverse</b></p> <p>Level of effect: <b>slight</b></p>	<p>Sensitivity: <b>high</b></p> <p>Magnitude of effect: <b>negligible adverse</b></p> <p>Level of effect: <b>slight</b></p>
PRoW 0413/52/1	<p>This PRoW is located to the south-east of the site and runs in a looped east-west direction. Users of the receptor can experience glimpsed views of the site through intervening vegetation illustrated by <b>viewpoint 21</b>.</p> <p>At completion in the winter there would be glimpsed views of the proposed development within the wider landscape. In summer the intervening vegetation would likely reduce views of the proposed development and after 15 years the vegetation surrounding the proposed development would further reduce views of the site.</p>	<p>Sensitivity: <b>high</b></p> <p>Magnitude of effect: <b>negligible adverse</b></p> <p>Level of effect: <b>slight</b></p>	<p>Sensitivity: <b>high</b></p> <p>Magnitude of effect: <b>negligible adverse</b></p> <p>Level of effect: <b>slight</b></p>

Receptor	Summary of effects	Assessment (Year 0)	Assessment (Year 15)
Other PRow within the study area	<p>There is a network of PRow within the study area, as shown on <b>Figure 5</b>. The field survey showed that visibility of the site is limited to the footpaths described above. It was not possible to walk all the PRow within the study area, but an assessment was made based on views from lanes, using Google Earth and reverse visibility from the site. Views appear screened, or greatly limited by intervening vegetation, built form and landform.</p> <p>These maybe combined views or another solar development and the Proposed development from people using these routes. However, they would be difficult to perceive e through the intervening vegetation.</p>	<p>Sensitivity: <b>high</b></p> <p>Magnitude of effect: <b>No change</b></p> <p>Level of effect: <b>Neutral</b></p>	<p>Sensitivity: <b>high</b></p> <p>Magnitude of effect: <b>No change</b></p> <p>Level of effect: <b>Neutral</b></p>

### Visual effects on residential properties

#### *Newmans Hall Cottage*

- 8.10. This property is a listed building located to the south-east of the site, approximately 100m from the site boundary. Views from this property are best represented by **viewpoint 10**, which is located on an adjacent road. There are oblique partial views of the eastern field parcel from the west facing upper storey windows of the property, with intervening vegetation screening sections of the site. Views from lower storey windows become glimpsed due to the intervening vegetation surrounding the site. Views of the western field parcel are screened by intervening landform.
- 8.11. At completion there would be oblique partial views of the proposed solar development. The sensitivity of this receptors is high, and the magnitude of change would be **moderate adverse** at completion, resulting in a level of effect of **moderate** at completion. After 15 years the magnitude of change would remain as **moderate adverse**, but the surrounding vegetation would have matured and slightly soften the visual impact of the development. Therefore, there would be a residual level of effect of **moderate** for this property.

#### *The Rectory, Berrington*

- 8.12. This property is a listed building located to the north-east of the site, approximately 250m from the site boundary. Views from this property are best represented by **viewpoint 9**, which is located on an adjacent road nearer to the site. There are partial views of the eastern field parcel from the southern facing upper storey windows of the property, with most of the site screened by surrounding vegetation and the landform falling away from the property. Views from lower storey windows screened due to the intervening vegetation surrounding the site and views of the western field parcel are screened by intervening landform.

8.13. At completion and after 15 years there would be partial views of the proposed solar development. Views of the development would slightly soften as the boundary vegetation matures, but views would still be possible. The sensitivity of this receptors is medium, and the magnitude of change would be **moderate adverse** as the proposed development would form a noticeable feature in the landscape readily apparent to the receptor but would not be a dominant feature. Therefore, the at completion and residual level of effect is considered as **moderate**.

*Properties along the northern edge of Cantlop*

8.14. These properties are located south of the site on the other side of the valley slope. Views from these properties are best represented by **viewpoints 14** and **15**. There are open views of the site from the north facing upper storey windows of 63, 66 and 72 Cantlop Grange, and from the property Whiteacre, as a clear view of the high ground of the site to the north is visible, which forms a large proportion of the view within the wider landscape. Most of the southern, lower ground of the site is screened from views by the existing boundary vegetation.. Views from lower storey windows become partial and glimpsed views where the surrounding vegetation and settlement screens most of the site.

8.15. There are partial views of the site from the north facing upper storey windows of 70 Cantlop Grange, with most of the site screened by woodland planting adjacent to the property. Views from lower storey windows are reduced to glimpses through a gap in field boundary vegetation for access. Views from the remaining properties in this area are at most glimpses from north facing upper storey windows, with views of the site screened by intervening settlement and vegetation.

8.16. At completion there would be open views of the proposed solar development from upper storey windows, with partial and glimpsed views from the lower storey windows possible through gaps in the vegetation. The sensitivity of this receptors (upper floors) is medium, and the magnitude of change would be **major adverse** at completion, resulting in a level of effect of **large** at completion. After 15 years the magnitude of change would reduce to **moderate adverse** as vegetation would have matured around the site, softening the visual impact of the development. Therefore, there would be a residual level of effect of **moderate** for these properties.

**Table 8.2: Summary of visual effects on residential properties and settlements.**

Receptor	Summary of effects	Assessment (Year 0)	Assessment (Year 15)
1 & 2 Smithy Cottages	These properties are located to the north-east of the site, on the edge of Berrington. Intervening landform and vegetation screens views of the site and proposed planting would screen views of the	Sensitivity: <b>medium</b>  Magnitude of effect:	Sensitivity: <b>medium</b>  Magnitude of effect:

Receptor	Summary of effects	Assessment (Year 0)	Assessment (Year 15)
	<p>proposed development as illustrated in <b>viewpoint 8</b>.</p> <p>At most glimpses of the proposed development in the eastern field parcel would be possible from upper storey windows in winter at completion and year 15.</p>	<p><b>minor adverse</b></p> <p>Level of effect: <b>slight</b></p>	<p><b>negligible adverse</b></p> <p>Level of effect: <b>slight</b></p>
Berrington Manor, The Wain House, The Mill	<p>These properties are located to the north-east of the site, on the edge of Berrington. Intervening landform and vegetation screens views of the site and proposed planting would screen views of the proposed development as illustrated in <b>viewpoint 8</b>.</p> <p>At most glimpses of the proposed development in the eastern field parcel would be possible from upper storey windows in winter, but these would be oblique and hard to distinguish at completion and year 15.</p>	<p>Sensitivity: <b>medium</b></p> <p>Magnitude of effect: <b>minor adverse</b></p> <p>Level of effect: <b>slight</b></p>	<p>Sensitivity: <b>medium</b></p> <p>Magnitude of effect: <b>negligible adverse</b></p> <p>Level of effect: <b>slight</b></p>
The New Barn	<p>This property is a Listed Building located within Berrington to the north-east of the site.</p> <p>Views of the site are screened by the surrounding properties and vegetation. Views of the proposed development would also be screened at completion and year 15.</p>	<p>Sensitivity: <b>high</b></p> <p>Magnitude of effect: <b>negligible adverse</b></p> <p>Level of effect: <b>slight</b></p>	<p>Sensitivity: <b>high</b></p> <p>Magnitude of effect: <b>negligible adverse</b></p> <p>Level of effect: <b>slight</b></p>
Berrington House	<p>This property is a Listed Building located on the edge of Berrington to the north-east of the site. Views of the site are screened by the changing landform surrounding the settlement as illustrated in <b>viewpoint 8</b>.</p> <p>Views of the proposed development in the eastern field parcel at completion would at most be an oblique glimpse of the development on the northern boundary from upper storey windows, with the view of the proposed development reducing as the surrounding vegetation matures at year 15.</p>	<p>Sensitivity: <b>high</b></p> <p>Magnitude of effect: <b>minor adverse</b></p> <p>Level of effect: <b>slight</b></p>	<p>Sensitivity: <b>high</b></p> <p>Magnitude of effect: <b>negligible adverse</b></p> <p>Level of effect: <b>slight</b></p>
Remaining properties in Berrington	<p>Views of the site from these properties to the north-east of the site are screened by the surrounding settlement and intervening vegetation.</p>	<p>Sensitivity: <b>medium</b></p> <p>Magnitude of effect:</p>	<p>Sensitivity: <b>medium</b></p> <p>Magnitude of effect:</p>

Receptor	Summary of effects	Assessment (Year 0)	Assessment (Year 15)
	Views of the proposed development would continue to be screened, but if views of the proposed development were possible, they would be so from upper storey windows and be a distant glimpsed view of the proposed development through vegetation at completion and year 15.	<b>negligible adverse</b>  Level of effect: <b>slight</b>	<b>negligible adverse</b>  Level of effect: <b>slight</b>
Cantlop Mill	This property is located along the southern boundary of the site. Views of the site from this property is screened by the surrounding landform and intervening vegetation as illustrated in <b>viewpoint 5</b> and <b>viewpoint 6</b> .  Views of the proposed development would continue to be screened due to the landform and intervening vegetation at completion and year 15.	Sensitivity: <b>medium</b>  Magnitude of effect: <b>negligible adverse</b>  Level of effect: <b>slight</b>	Sensitivity: <b>medium</b>  Magnitude of effect: <b>negligible adverse</b>  Level of effect: <b>slight</b>
Remaining properties in Cantlop	Views of the site from these properties to the south of the site are screened by the surrounding settlement and intervening vegetation.  Views of the proposed development would continue to be screened, but if views of the proposed development were possible, they would be so from upper storey windows and be a distant glimpsed view of the proposed development through vegetation at completion and year 15.	Sensitivity: <b>medium</b>  Magnitude of effect: <b>negligible adverse</b>  Level of effect: <b>slight</b>	Sensitivity: <b>medium</b>  Magnitude of effect: <b>negligible adverse</b>  Level of effect: <b>slight</b>
Eaton Mascott	Views of the site from these properties to the south-east of the site are screened by the surrounding settlement and intervening vegetation as illustrated in <b>viewpoint 13</b> .  Views of the proposed development would continue to be screened, but if views of the proposed development were possible, they would be so from upper storey windows and be a distant glimpsed view of the proposed development through vegetation at completion and year 15.	Sensitivity: <b>medium</b>  Magnitude of effect: <b>negligible adverse</b>  Level of effect: <b>slight</b>	Sensitivity: <b>medium</b>  Magnitude of effect: <b>negligible adverse</b>  Level of effect: <b>slight</b>
Other properties in the study area	There are several farmsteads and single dwellings located throughout the study area.  It was not possible to confirm views from these properties, but an assessment was made based on views from PRoW, lanes and roads, using Google Earth and reverse visibility from the site.	Sensitivity: <b>high</b>  Magnitude of effect: <b>negligible adverse</b>	Sensitivity: <b>high</b>  Magnitude of effect: <b>negligible adverse</b>

Receptor	Summary of effects	Assessment (Year 0)	Assessment (Year 15)
	Intervening vegetation and topography would screen views of the proposed development from surrounding properties.	Level of effect: <b>slight</b>	Level of effect: <b>slight</b>

### Visual effects on roads

#### *Cliff Hollow*

- 8.17. This road runs along the northern boundary of the site in an east to west directions, linking the settlement of Berrington to the wider countryside. The road is predominantly lined with vegetation. Views from this road are represented by **viewpoints 1, 7 and 8**. There are open views of the site where gaps in the vegetation for field access occur, with views of the wider landscape visible beyond the site. Partial views are possible along sections of the road where it rises above the verge vegetation and glimpsed views through vegetation are possible along the remaining sections of the road that runs adjacent to the site.
- 8.18. At completion there would be open views of the proposed solar development from the sections of road where gaps in the vegetation occur for field access, and partial views from the higher sections of road as the proposed planting would not have matured at this stage. The sensitivity of this receptor is medium, and the magnitude of change would be **moderate adverse** at completion as the proposed development would form a noticeable feature in the landscape readily apparent to the receptor but would not be a dominant feature. Therefore, the level of effect at completion is considered as **moderate**. After 15 years, the proposed planting in the gaps along the northern boundary and around the site would have matured, screening views into the site (as shown in **photomontage viewpoint 1**). This would reduce the magnitude of change to **slight adverse** resulting in a residual level of effect of **slight**.

#### *Unnamed road that connects Cliff Hollow to Cantlop Mill*

- 8.19. This road runs between the two parcels of the site and links the residents of Cantlop Mill to the wider countryside and provides a permissive right of way. The road is predominantly lined with vegetation. Views from this road are represented by **viewpoints 2, 3, 4, 5 and 6**. There are open views of the site where gaps in the vegetation for field access occur, with views of the wider landscape visible beyond the site. Partial views are possible along sections of the road where it rises above the verge vegetation and glimpsed views through the vegetation are possible along the remaining sections of the road that runs adjacent to the site.
- 8.20. At completion and after 15 years there would be open views of the proposed solar development from the sections of road where gaps in the vegetation occur for field access, and partial views from the higher sections of road, with glimpses possible through vegetation for the remaining length of



road. The sensitivity of this receptors is medium, and the magnitude of change would be **major adverse** as the proposed development would form a noticeable dominant feature in the landscape readily apparent to the receptor. Therefore, the residual level of effect is considered as **moderate**.

*Unnamed road that connects Berrington to Eaton Mascott*

8.21. This road runs along the eastern boundary of the site in a north to south-east direction, linking the settlement of Berrington to Eaton Mascott. The road is predominantly lined with vegetation and is sunken below hedgerows on banks for most parts. Views from this road are represented by **viewpoints 9, 10 and 13**. There are small open views of the site where gaps in the vegetation for field access occur adjacent to the site and partial views across the eastern field parcel from a 20m section of the road to the south-east corner of the site. Oblique glimpsed views are possible along some sections of the road that runs adjacent to the site where the vegetation thins out.

8.22. At completion there would be open views of the proposed solar development from the sections of road where gaps in the vegetation occur for field access, a partial view from the section of road to the south-east corner of the site and glimpsed views where surrounding vegetation thins out. The sensitivity of this receptor is medium, and the magnitude of change would be **moderate adverse** as the proposed development would form a noticeable feature in the landscape readily apparent to the receptor but would not be a dominant feature. Therefore, the level of effect at completion is considered as **moderate**. After 15 years the infill planting of the gaps would have matured and proposed landscape management will allow the boundary hedgerows to grow to a height of 4m, which will reduce the views of the proposed development from this road after 15 years, resulting in a reduced magnitude of change of **minor adverse** and a residual level of effect of **slight**.

**Table 8.3: Summary of visual effects on roads.**

Receptor	Summary of effects	Assessment (Year 0)	Assessment (Year 15)
Unnamed road that connects A458 to Cantlop	This road runs in a north to south direction, adjacent to the site’s western boundary, linking Cantlop to the wider countryside. The road is predominantly lined with vegetation and follows the topography of the landscape. Views from this road are represented by <b>viewpoints 18 and 19</b> . Most views of the site are screened by vegetation and landform, but glimpses through the vegetation for the section of road along the site’s western boundary is possible in winter.  At completion and after 15 years, glimpsed views of the proposed development through vegetation would be possible along the section of road that’s runs adjacent to the site. The remaining section	Sensitivity: <b>medium</b>  Magnitude of effect: <b>minor adverse</b>  Level of effect: <b>slight</b>	Sensitivity: <b>medium</b>  Magnitude of effect: <b>minor adverse</b>  Level of effect: <b>slight</b>

Receptor	Summary of effects	Assessment (Year 0)	Assessment (Year 15)
	of road would not experience views of the proposed development.		
Unnamed Road through Cantlop	<p>This is a dead-end road that runs in a north to south direction to the south of the site. Views from the road are represented by <b>viewpoints 14, 16, and 17</b>. Much of the road is lined with vegetation and settlement, which screens most views towards the site, with only short gaps (normally field entrances) allowing views towards the site as illustrated in the above viewpoints.</p> <p>At completion glimpsed views of the proposed development will be visible through these gaps or partial views where the road rises the verge vegetation.</p>	<p>Sensitivity: <b>medium</b></p> <p>Magnitude of effect: <b>minor adverse</b></p> <p>Level of effect: <b>slight</b></p>	<p>Sensitivity: <b>medium</b></p> <p>Magnitude of effect: <b>minor adverse</b></p> <p>Level of effect: <b>slight</b></p>
Unnamed Road that connects Cantlop to Condover	<p>This road runs in an east to west direction, connecting Cantlop to Condover. Views from the road are represented by <b>viewpoint 20</b>. Much of the road is lined with vegetation, which screens most views towards the site, with only short gaps (normally field entrances) allowing views towards the site as illustrated in the above viewpoint. These maybe combined and sequential views with other solar projects in the study area from this road. However, they would be difficult to perceive e through the intervening vegetation.</p> <p>At completion and after 15 years, distant glimpsed views of the proposed development where gaps in the vegetation occur would be possible. The remaining section of road would not experience views of the proposed development.</p>	<p>Sensitivity: <b>medium</b></p> <p>Magnitude of effect: <b>minor adverse</b></p> <p>Level of effect: <b>slight</b></p>	<p>Sensitivity: <b>medium</b></p> <p>Magnitude of effect: <b>minor adverse</b></p> <p>Level of effect: <b>slight</b></p>
Unnamed Road that runs through Boreton	<p>This road runs in an east to west direction to the west of the site, connecting Boreton to the wider countryside. The road is predominantly lined by vegetation and views of the site are screened. The only glimpsed view of the site is at the junction of the road, opposite Cliff Hollow as illustrated in <b>viewpoint 19</b>. These maybe combined and sequential views with other solar projects in the study area from this road. However, they would be difficult to perceive e through the intervening vegetation</p> <p>At completion and after 15 years, glimpsed views of the proposed development through vegetation would be possible at the junction of road that's runs adjacent to the site. The remaining section</p>	<p>Sensitivity: <b>medium</b></p> <p>Magnitude of effect: <b>minor adverse</b></p> <p>Level of effect: <b>slight</b></p>	<p>Sensitivity: <b>medium</b></p> <p>Magnitude of effect: <b>minor adverse</b></p> <p>Level of effect: <b>slight</b></p>

Receptor	Summary of effects	Assessment (Year 0)	Assessment (Year 15)
	of road would not experience views of the proposed development.		
Other roads and lanes within the study area	It was not possible to drive all the roads within the study area, but an assessment was made based on views from lanes, using Google Earth and reverse visibility from the site. Views appear blocked, or greatly limited by intervening vegetation, built form and landform.	Sensitivity: <b>medium</b>  Magnitude of effect: <b>negligible adverse</b>  Level of effect: <b>slight</b>	Sensitivity: <b>medium</b>  Magnitude of effect: <b>negligible adverse</b>  Level of effect: <b>slight</b>

## 9. Landscape design

### Landscape strategy

- 9.1. The proposed development affords opportunities to provide biodiversity benefits through the landscape proposals and management of the site during its operational phase. The proposed landscape, biodiversity enhancements and mitigation have not been developed in detail, but indicative proposals can be found on the landscape masterplan **Figure 6**. These mitigation measures form part of the landscape design and overall proposed development and have been considered in the assessment of effects.
- 9.2. The development would seek to retain as many of the important landscape features as possible and include an appropriate landscape scheme. A landscape strategy would be developed for the site with the following broad aims:
- To assimilate built elements into the surrounding landscape.
  - To minimise adverse effects on visual amenity.
  - To enhance and reinforce the existing landscape framework and to improve the quality and character of the local landscape.
- 9.3. The landscape mitigation and enhancement proposals that have responded to the findings of the LVA and strategies and recommendation in relevant landscape character studies are shown on **Figure 6** and are as follows:
1. Retention of existing hedgerows and trees.
  2. Retention of existing waterbodies.
  3. Enhancement of existing features on site to benefit biodiversity net gain.
  4. Proposed hedgerow planting to mitigate for any losses and enhance connectivity.
  5. Landscape management adaptations to increase overall height of hedgerows.
  6. Proposed species rich grassland.
  7. Areas of Skylark mitigation and beehives have also been included as biodiversity enhancements.
- 9.4. The landscape proposals have been guided by local landscape character guidance.

### Indicative planting palette

- 9.5. The palette of indicative species should be the native species present in the vicinity of the site. Planting stock used in the landscape proposals should be wherever feasible, locally sourced to increase resilience to climate change and issues of biosecurity.

## Assumptions of the Growth of Mitigation Planting

- 9.6. For the purposes of this assessment the proposed hedgerows would grow to a height of 4m by year 15. The proposed standard trees are 4m tall at year one and 8.2 m (0.3 m growth per year for 14 years) at year 15.

# 10. Cumulative landscape and visual appraisal (CLVA)

## Scope

10.1. Cumulative landscape and visual effects are defined by GLVIA3 (Ref.1) as:

*result from additional changes to the landscape or visual amenity 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. (Ref. 1. Page 120. Para.7.2).*

10.2. This CLVA considers the potential cumulative impact of the proposed development and the other renewable energy projects within the study area, the locations of which are shown on **Figure 7**. Cumulative projects considered are listed in the table below:

**Table 10.1: cumulative projects considered in appraisal.**

Project number	Panning status	Planning refence number
1	Approved and built	13/03519/FUL
2	Approved and built	14/03446/FUL
3	Approved and built	14/03464/FUL
4	In planning	22/03486/FUL

10.3. All four projects were agreed with Shropshire Council. Three were approved projects, which were considered in the baseline and appraisal sections of this report and will not be included for the purposes of the CLVA. There are no areas where ‘Project 4’ and the proposed development would be seen together as it is approximately 8km away from the site. The distance of the ‘in sequence views’ is large enough that they would not be seen as connected. Therefore, ‘Project 4’ has not been considered any further in this CLVA and not shown on **Figure 7**.

10.4. As such it is considered that the cumulative landscape and visual effects of the proposed development and the cumulative projects described in the CLVA, would not increase the level of effect beyond that already assessed within the LVA.

## 11. Summary

- 11.1. An LVA has been undertaken by ADAS for the proposed solar farm development on land off Cliff Hollow, Berrington.
- 11.2. The primary policies relevant to the site are from the 'Draft Shropshire Local Plan' (**Ref.4**): Policy DP12: The Natural Environment, the 'Shropshire Local Development Framework: Adopted Core Strategy (2011)' (**Ref.5**): Policy CS17: Environmental Network and the 'Site Allocations and Management of Development (SAMDev) Plan (2015)' (**Ref.6**): Policy MD12: The Natural Environment.
- 11.3. The site is located to the south-west of Berrington. As shown on **viewpoint 1, 2, 3 and 4**, the site is made up of two agricultural fields. There are a few ponds located just outside of the site. There is a track that runs north to south through the centre of the site that leads to some residential properties to the south of the site. The boundaries of the site are lined with hedgerows and occasional hedgerow trees. There are a few isolated trees within the western field of the site. There is a seasonally wet pond in the western field.
- 11.4. In summary there would be a **slight** effect on The Estate Farmlands LCT. and a at most a **large** residual (at year 15) effect to the landscape character of the site and its immediate surrounding area (up to 500m).
- 11.5. To the north views of the site are screened by the rising landform and vegetation. To the east, views of the site are screened by the intervening vegetation and landform, and where local views are possible, this is only of the western field parcel. To the west, views of the site are screened by the intervening vegetation and landform, and where local views are possible, this is only of the eastern field parcel. To the south there are local views of the site across the open landscape from the rising ground. The receptors most affected by the development would be the users of the roads, PRoW and properties closest to the site. Most of the receptors visually impacted by the proposed development would not experience a view of the entire site. Views from the east and west would only experience views of one of the field parcels. Receptors located on the rising ground to the south would also be affected by the development. The roads adjacent to the site, Newman's Hall Cottage, The Rectory, residents on the northern edge of Cantlop, PRoW 0407/16/1 and PRoW 0407/5R/2 would experience **moderate** residual effects due to the development. The remaining visual receptors would either experience a **slight** or **negligible** residual level effects because of the development.

- 11.6. The cumulative landscape and visual effects of the proposed development and the cumulative projects described in the CLVA, would not increase the level of effect beyond that already assessed within the LVA.
- 11.7. Proposed mitigation measures include the creation and re-establishment of boundary hedgerows around the site, and adaptation to management to encourage taller hedgerow growth. These measures will assist in reinforcing visual screening of the development from the users of the local roads, PRow and residential properties and other biodiversity enhancements.



## 12. References

- Ref.1 Landscape Institute and the Institute of Environmental Management and Assessment (2013), Guidelines for Landscape and Visual Impact Assessment (Third Edition).
- Ref.2 Landscape Institute (2019), TGN 06/19 Visual Representation of development proposals.
- Ref.3 Ministry of Housing, Communities and Local Government (2021), The National Planning Policy Framework.
- Ref.4 Shropshire Council (2020), Draft of the Shropshire Local Plan 2016 to 2038.
- Ref.5 Shropshire Council (2011), Shropshire Local Development Framework: Adopted Core Strategy.
- Ref.6 Shropshire Council (2015), Site Allocations and Management of Development (SAMDev) Plan.
- Ref.7 Natural England (2014), NCA Profile: 61 Shropshire, Cheshire and Staffordshire Plain.
- Ref.8 Shropshire County Council (2006), The Shropshire Landscape Typology.
- Ref.9 Landscape Institute (2021), Assessing landscape value outside natural designations

## Appendix 1: Figures

Figure 1: Topography

Figure 2: National Character Areas

Figure 3: Designations and policy

Figure 4: Context

Figure 5: Visibility and Viewpoints

Figure 6: Landscape Masterplan

Figure 7: Cumulative planning applications

# Appendix 2: Viewpoints and Visualisations



## Appendix 3: Glossary

**Cumulative effects.** Impacts resulting from incremental changes caused by other present or reasonably foreseeable actions likely to occur together with the project. (Ref.1 page 6)

**Direct effect.** An effect that is directly attributable to the proposed development. (Ref.2 page 155)

**Domestic curtilage.** The domestic gardens and access drives / roads immediately surrounding a residential property including patios, terraces, courtyards and forecourts. The domestic curtilage does not extend to surrounding paddocks and other peripheral land / outbuildings within the property ownership, or to public or private approach roads. (Ref.4. page 17)

**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. (Ref.2 page 156)

**Key characteristics.** Those combinations of elements which are particularly important to the current character of the landscape and help to give an area its particularly distinctive sense of place. (Ref.2 pages 156 and 157)

**Landscape capacity** refers to the amount of specified development or change which a particular landscape and the associated visual resource is able to accommodate without undue negative effects on its character and qualities. (Ref.3 page 25)

**Landscape character.** A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse. (Ref.2 page 157)

**Landscape character area (LCA).** These are single unique areas which are the discrete geographical areas of a particular landscape type. (Ref.2 page 157)

**Landscape character type (LCT).** These are distinct types of landscape that are relatively homogeneous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but wherever they occur they share broadly similar combinations of geology, topography, drainage patterns, vegetation and historical land use and settlement pattern, and perceptual and aesthetic attributes. (Ref.2 page 157)

**Landscape effects.** Effects on the landscape as a resource in its own right. (Ref.2 page 157)

**Landscape quality** (or condition). A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements. (Ref.2 page 157)

**Landscape receptors.** Defined aspects of the landscape resource that have the potential to be affected by a proposal. (Ref.2 page 157)

**Landscape value.** The relative value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a whole variety of reasons. (Ref.2 page 157)

**Magnitude** (of effect). 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 whether it is short or long term in duration. (Ref.2 page 158)

**Mitigation.** Measures, which are proposed to prevent, reduce and where possible offset and significant adverse effects (or to avoid, reduce and if possible remedy identified effects), including landscape and visual effects. (Ref.2 page 41, para.3.36)

**Principal room.** The principal room(s) of a residential property is a living room, or one fulfilling the same primary use role. In some properties this room may not be located on the ground floor, but on an upper storey. A conservatory may also fulfil a living room / primary use role depending on the circumstances and the internal arrangement of the residence. (Ref.4. page16)

**Sensitivity.** A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor. (Ref.2 page 158)

**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. (Ref.2 page 158)

**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. (Ref.2 page 158)

**Visual effect.** Effects on specific views and on the general visual amenity experienced by people. (Ref.2 page 158)

**Visual envelope.** An area from which the scheme can be visible. (Ref.1 page 10)

**Visual receptors.** Individuals and/or defined groups of people who have the potential to be affected by a proposal. (Ref.2 page 158)

**Zone of theoretical visibility (ZTV).** A map, usually digitally produced, showing areas of land within which a development is theoretically visible. (Ref.2 page 159)

**Zone of visual influence.** Area within which a proposed development can have an influence or effect on visual amenity. NOTE: This is different from the visual envelope. (Ref.1 page 10)

Ref.1 Highways England, LA 107 Landscape and visual effects, 2020.

- Ref.2 Landscape Institute and Institute of Environmental Assessment, *Guidelines for Landscape and Visual Effect Assessment, 3rd edition, 2013.*
- Ref.3 Natural England, *An approach to landscape sensitivity assessment – to inform spatial planning and land management, 2019.*
- Ref.4 Landscape Institute, *Residential Visual Amenity Assessment (RVAA), Technical Guidance Note 2/19, 2019*

## Appendix 4: Appraisal guidance and methodology

A4.1 The following section outlines the methodology and approach to the appraisal of landscape and visual effects. The methodology sets out the criteria and definitions used for the appraisal of sensitivity, magnitude of change and level of effects.

### Relevant Guidance

A4.2 The landscape and visual effect appraisal has been based on guidelines provided in the following publications:

- Landscape Institute and Institute of Environmental Assessment (2013), Guidelines for Landscape and Visual Effect Assessment, 3rd edition. **(Ref.1)**
- Highways England (2020), LA 107 Landscape and visual effects. **(Ref.2)**
- Highways England (2019), LA 104 Environmental assessment and monitoring. **(Ref.3)**
- Scottish Natural Heritage and the Countryside Agency (2002), Landscape Character Assessment: Guidance for England and Scotland. **(Ref.4)**
- Natural England (2014), An Approach to Landscape Character Assessment **(Ref.5)**
- Landscape Institute (2016), Townscape Character Assessment, 2018. **(Ref.6)**

### Scope of Appraisal

A4.3 To provide an appropriate context, the appraisal includes a comprehensive description of the baseline position for landscape and visual amenity, including reference to landscape and townscape character assessments from national to local scale and a range of visual receptors.

A4.4 The appraisal encompasses desk studies, collection of baseline data and site surveys on the context, character and quality of the Study Area, an evaluation of the landscape and an appraisal of properties and local views potentially affected by the proposed development. The appraisal also recommends mitigation measures to reduce potential adverse effects.

A4.5 Consideration has been given to the construction stage of the scheme, however, the appraisal focuses on the operational period of the proposed development.

A4.6 Heritage assets such as Scheduled Monuments, Listed Buildings, Conservation Areas and Registered Parks and Gardens all contribute to the overall landscape character, context and setting of the area. Visual and Landscape effects on the setting of Listed Buildings and Scheduled Monuments are not included in the scope of this appraisal.

### Impact assessment or appraisal

A4.7 GLVIA 3 and the Statement of Clarification 1/13 **(Ref.7)**, makes clear that for non EIA developments the landscape and visual impact assessment should consider all types of effects: adverse, beneficial and neutral, direct and indirect, and long and short term, as well as cumulative effects. However,

none of these effects should be given a judgement involving the terms ‘significant’ or ‘significance’. GLVIA 3 also stresses that the approach to the assessment needs to be proportionate to the scale of the project being assessed and the nature of the likely effects.

A4.8 This LVA is not part of an Environmental Impact Assessment. As such, discussions on whether effects are significant or not in is not covered in this assessment. Only a LVIA as part of Environmental Impact Assessment would do this.

### Landscape Appraisal Methodology

#### Landscape Baseline

A4.9 Landscape character assessments at a variety of strategic scales provide an understanding of the landscape at a wider level and allows the identification of elements that may be present at a number of different scales (national, regional, local and site specific). This hierarchical assessment will establish the baseline conditions and enable an assessment of the sensitivity of the landscape resource to potential changes as a result of a proposed development. Landscape receptors would be identified at the baseline stage and should include:

- Landscape elements (e.g. existing tree cover, hedgerows, etc).
- Landscape character areas (local or national).
- Designated landscape resources (e.g. Registered Parks and Gardens).

#### Landscape Sensitivity

A4.10 Landscape sensitivity is based on the combination of value (including condition) and the susceptibility of the landscape to the type of development proposed. This is determined by professional judgement.

#### Landscape Value

A4.11 Landscape value relates to the importance attached to a landscape, often as a basis for designation or recognition which expresses national or regional consensus, because of its distinctive landscape pattern, cultural associations, scenic or aesthetic qualities. It should be noted that, in virtually all circumstances, landscapes are valued (frequently highly valued) in the local context by various if not all sectors of the community. The value of the landscape also takes account of factors listed in Table 1 of Assessing landscape value outside National Designations (**Ref.8 page 7**) which include Natural Heritage, Cultural Heritage, Landscape condition, Associations, Distinctiveness, Recreational, Perceptual (Scenic), Perceptual (Wilderness and tranquillity), and Functional. Table A4.1 gives an indication of how landscape condition is assessed.

A4.12 Landscape condition describes the state of repair or condition of elements of a particular landscape, its integrity and intactness and the extent to which its distinctive character is apparent.



**Table A4.1. Landscape Condition**

Condition	Description
<i>Good</i>	<p>Living landscape features are likely to have a diversity of age range and species, with little or no evidence of dead or diseased individuals. There would be evidence of recent appropriate management.</p> <p>E.g. Hedgerows or trees in good condition with signs of appropriate management with no damage. Well managed grassland, not over grazed or overgrown with a good species diversity.</p>
<i>Fair</i>	<p>Living landscape features are likely to have some diversity of age range and species, with some evidence of dead or diseased individuals. There would be evidence of some appropriate management.</p> <p>E.g. Hedgerows or trees in with some signs of appropriate management with limited damage. Grassland with some areas of encroachment, some areas of overgrazing and erosion with some species diversity.</p>
<i>Poor</i>	<p>Living landscape features would have dominance of one age and species, with substantial amount of dead or diseased individuals. There would be no evidence of management or inappropriate management.</p> <p>E.g. Singles species hedgerows or trees in with no management and large gaps and large numbers of dead or diseased individual. Overgrazed grassland with erosion or large areas of encroachment.</p>

A4.13 The value or importance of landscape elements is also considered. The degree of landscape value or importance is therefore a matter for reasoned professional judgement. Where relevant to the appraisal, the value or importance of landscape elements, character areas or designated resources is categorised as either:

- **High** - which may refer to: an internationally designated landscape (rare cases only) – e.g. World Heritage Site; or a nationally designated site, e.g. National Park, AONB, Registered Historic Park or Garden;
- **Medium** - which may refer to a locally designated landscape, i.e. it has been identified by local planning authorities with a local plan policy or landscape character assessment as demonstrating a particular value e.g. Special Landscape Area; or
- **Low** - which may refer to a landscape which is valued at a local scale by local communities but has no documented evidence of value (i.e. in a policy, designation or character assessment).

#### *Landscape Susceptibility*

A4.14 The sensitivity to change of the key landscape characteristics and the ability of a particular type of landscape to accommodate change without material effects upon its integrity, reflects key aspects of landscape character including scale and complexity of the landscape and degree of ‘wildness’ or ‘remoteness’.

A4.15 Table A4.2 provides a list of key characteristics and attributes that have been used in this appraisal as indicators of levels of susceptibility. The table is indicative rather than prescriptive and the susceptibility of the landscape is categorised as High, Medium or Low using professional judgement. Typically a landscape receptor with a High susceptibility to a proposed change would have a lesser ability to accommodate that change without undue consequences; a landscape receptor with a Low susceptibility to a proposed change would have a greater ability to accommodate that change.

**Table A4.2: Susceptibility of Landscape Character to Change**

Key characteristics	Attributes indicating higher susceptibility to change		Attributes indicating lower susceptibility to change
Scale	Small-scale landform/ landcover; fine grained; enclosed; sheltered	↔	Large-scale landform/land cover; coarse grained
Enclosure	Open	↔	Enclosed
Landform	A flat, uniform landscape	↔	An undulating landscape
Landcover and Pattern	Complex, irregular or intimate landscape patterns; diverse land cover	↔	Simple, regular landscape patterns; uncluttered, sweeping lines; consistent land cover
Engineered / Built Influences	General absence of strongly engineered, built or manmade influences such as: electrical infrastructure, roads, a geometric field pattern or man-made watercourses. Predominance of traditional or historic settlements, buildings and structures	↔	Engineered forms/land use pattern; frequent presence of man-made elements, brownfield or industrial landscapes; railways; embankments; wind farms; major road networks; presence of contemporary built structures; electrical infrastructure; man-made watercourses; and commercial forestry
Naturalness and Tranquillity	Landscape with predominance of perceived natural features and forms. Sense of peace and isolation; remote and empty; little or no built development	↔	Non-natural landscape; busy and noisy; human activity and development; prominent movement

*Overall Landscape Sensitivity*

A4.16 Sensitivity is defined as very high, high, medium, low or negligible and descriptions for each category are given in Table A4.3 below.

**Table A4.3: Landscape Sensitivity**

Sensitivity	Description
Very high	Landscapes of very high international/national importance and rarity or value with no or very limited ability to accommodate change without substantial loss/gain (i.e. national parks, internationally acclaimed landscapes - UNESCO World Heritage Sites).
High	Landscapes of high national importance containing distinctive features/elements with limited ability to accommodate change without incurring substantial loss/gain (i.e. designated areas such as Areas of Outstanding Natural Beauty, areas of strong sense of place - registered parks and gardens, country parks).
Medium	Landscapes of local or regional recognition of importance able to accommodate some change (i.e. areas recognised in local plan documents such as 'Special Landscape Areas' features worthy of conservation, some sense of place or value through use/perception).
Low	Local landscape areas or receptors of low to medium importance with ability to accommodate change (i.e. non-designated or designated areas of local recognition or areas of little sense of place).
Negligible	Landscapes of very low importance and rarity able to accommodate change.

Based on LA 107 Landscape and visual effects, Table 3.22 (Ref.2 page 20)

### Magnitude of Change

A4.17 The magnitude of change arising from the proposed development at any particular location is described as major, moderate, minor, negligible or no change based on the interpretation of a combination of largely quantifiable parameters as discussed below.

A4.18 Each effect on the landscape receptors needs to be assessed in terms of its **size or scale**, the **geographical extent** of the area influenced, and its **duration** and **reversibility**. (Ref.1 page 90 para. 5.48)

### Size and Scale

A4.19 The size and scale of the development taking into consideration; the extent of existing landscape elements that would be lost, the proportion of the total extent that this represents and the contribution of that element to the character of the landscape; the degree to which aesthetic or perceptual aspects of the landscape are altered either by the removal of existing components of the landscape, or, the addition of new features; whether the effect changes key characteristics of the landscape which are critical to its distinctive character.

### *Geographical Extent*

A4.20 Consideration of the extent of landscape effect can either relate to the quantification of an effect on existing landscape elements (e.g. an area of tree cover to be removed) or to the extent of the geographical area over which a change in landscape character might be experienced.

A4.21 The extent of landscape change likely to arise as a result of the proposed development upon either landscape elements or within different landscape areas is categorised as **extensive, limited or localised**. It is not possible to provide consistent criteria for these descriptive terms that apply in every instance (i.e. to different types of landscape receptors).

### *Duration of Landscape Effect*

A4.22 The duration of the landscape effect likely to arise as a result of the proposed development on landscape elements or within different landscape character areas or types, long term, medium term or short term. This is used to qualify and contextualise the appraisal of degree of landscape change.

A4.23 For this appraisal the following categories of duration of landscape effect have been adopted:

- **Long term** – an effect likely to persist for more than ten years
- **Medium term** – an effect likely to persist for between five and ten years; and
- **Short term** – an effect likely to last up to five years

### *Reversibility of Landscape Effect*

A4.24 Whatever the expected duration of a landscape effect, consideration of reversibility relates to whether a landscape effect could be reversed rather than will be reversed. This enables a distinction to be made between a new element which is expected to be permanent but could nevertheless be removed without residual effect should it become unexpectedly obsolete and a landscape or visual change that is practicably irreversible. The following criteria have been adopted within this appraisal:

- **Irreversible** - Major changes in landform or the removal of landscape elements, such as veteran trees, that could not be replicated within ten years.
- **Partially reversible** - Changes that could be partially reversed within ten years (e.g. recreation of mature hedgerows of similar but not identical species mix and character).
- **Reversible** - Changes that could be totally reversed within ten years (e.g. removal of introduced features or recreation of juvenile woodland).

A4.25 In order to differentiate between different levels of magnitude the following definitions are provided:

**Table A4.4: Landscape Magnitude of Change Definitions**

Magnitude of Change	Typical Description
Major Adverse	Total loss or large scale damage to existing landscape character or distinctive features or elements; and/or addition of new uncharacteristic, conspicuous features or elements.
Moderate Adverse	Partial loss or noticeable damage to existing landscape character or distinctive features or elements; and/or addition of new uncharacteristic, noticeable features or elements.
Minor Adverse	Slight loss or damage to existing landscape character of one (maybe more) key features and elements; and/or addition of new uncharacteristic features and elements.
Negligible Adverse	Very minor loss, damage or alteration to existing landscape character of one or more features and elements.
No Change	No noticeable alteration or improvement, temporary or permanent, of landscape character of existing features and elements.
Negligible Beneficial	Very minor noticeable improvement of character by the restoration of one or more existing features and elements.
Minor Beneficial	Slight improvement of landscape character by the restoration of one (maybe more) key existing features and elements; and/or the addition of new characteristic features.
Moderate Beneficial	Partial or noticeable improvement of landscape character by restoration of existing features or elements; or addition of new characteristic features or elements or removal of noticeable features or elements.
Major Beneficial	Large scale improvement of landscape character to features and elements; and/or addition of new distinctive features or elements, or removal of conspicuous road infrastructure elements.

Based on LA 107 Landscape and visual effects, Table 3.24 (Ref.2 page 22)

### Level of Effect

A4.26 The level of landscape effect is categorised using a five point scale: Very Large, Large, Moderate, Slight and Neutral. The level of effect is assessed by combining all of the considerations and criteria set out above. This is described by GLVIA3 as an ‘overall profile’ approach to combining judgements and requires that all the judgements against each of the identified criteria (susceptibility; value; degree; extent; duration; and reversibility) are used within an informed professional appraisal of the overall level of landscape effect.

A4.27 The relative weight attributed to each of the six considerations is a matter for experienced professional judgement and will vary depending on the specific visual receptor or effect being assessed. In relation to landscape appraisal susceptibility is more relevant to landscape character than to the removal of landscape elements such as tree cover and short term reversible effects on the landscape.

A4.28 The level of the effect on the landscape resource may be determined by correlating the magnitude of change with the sensitivity of the landscape resource. Table A4.5 below sets out the main correlation between magnitude and sensitivity. Where an option between, for example, ‘slight’ and ‘moderate’ level of effect is indicated in the table, the choice will depend on the specifics of the effect and may be qualified by professional judgement.

**Table A4.5: Landscape Effects Matrix**

		MAGNITUDE OF CHANGE				
		No change	Negligible	Minor	Moderate	Major
LANDSCAPE SENSITIVITY	Very High	Neutral	Slight	Moderate <u>or</u> Large	Large <u>or</u> Very Large	Very Large
	High	Neutral	Slight	Slight <u>or</u> Moderate	Moderate <u>or</u> Large	Large <u>or</u> Very Large
	Medium	Neutral	Neutral <u>or</u> Slight	Slight	Moderate	Moderate <u>or</u> Large
	Low	Neutral	Neutral <u>or</u> Slight	Neutral <u>or</u> Slight	Slight	Slight <u>or</u> Moderate
	Negligible	Neutral	Neutral	Neutral <u>or</u> Slight	Neutral <u>or</u> Slight	Slight

Based on LA 104 Environmental assessment and monitoring, Table 3.8.1 (Ref.3 page 15)

A4.29 Level of effects and typical descriptions are described below:

- **Very large** - Effects at this level are material in the decision-making process.
- **Large** - Effects at this level are likely to be material in the decision-making process.
- **Moderate** - Effects at this level can be considered to be material decision-making factors.
- **Slight** - Effects at this level are not material in the decision-making process.
- **Neutral** - No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.
- Based on LA 104 Environmental assessment and monitoring, Table 3.7 (Ref.3 page 14)

**Visual Appraisal Methodology**

**Extent of Visibility**

A4.30 The visibility of a proposed development is influenced by landform, vegetation, built development and existing infrastructure. It is important to determine the extent to which the project would influence the existing views and identify the likely receptors. This is normally established using a



ZTV or by field study and the method for this report is described in the body of the report. These would include:

- Residents, in individual residential properties and settlements.
- Users of Public Rights of Way.
- Road users.
- People located in other key recreational or visitor locations

A4.31 The extent of visibility of the site or proposed development from each visual receptor is described below:

- **Open view** – A clear view of a large proportion of the site within the wider landscape.
- **Partial view** – A view of part of the site or a distant view in which the site forms a proportion of the wider view.
- **Glimpse view** - a very brief, passing view of the site or a distant view in which the site forms a small proportion of the view in the wider view.
- **No view** – Views towards the site are blocked by visual barriers or a view of the site is difficult discern.

A4.32 For the purposes of this appraisal, close range views are less than 500m from the site. Medium range views are between 500m and 2km from the site. Long range views are more than 2km.

A4.33 It has not been possible to enter the curtilage of private dwellings to check views as part of this appraisal. In such cases, a reasonable worst-case assumption has been made in dealing with potential views from a publically accessible point.

#### **Sensitivity of Visual Receptors**

A4.34 Assessing the overall effect on visual amenity is achieved by relating the sensitivity of the visual receptors or features, to the potential magnitude of change to a particular view. General assumptions have been made in accordance with current guidance in relation to the sensitivity of visual receptors.

A4.35 Those living within view of the proposed development are usually regarded as the highest sensitivity group as well as those engaged in outdoor pursuits for whom landscape experience is the primary objective. The sensitivity of the potential visual receptors will vary depending on the location and context of the view, the activity of the receptor and importance of the view.

#### **Value Attached to Views**

A4.36 An appraisal of visual amenity value or importance refers to the judgement of whether any particular value or importance is likely to be attributed by people to their available views. For example, views experienced by travellers on a highway may be considered to be more highly valued

due to the scenic context or views experienced by residents of a particular property may be considered to be less valued or important due to a degraded visual setting. The degree of value or importance is therefore a matter for reasoned professional judgement. Where relevant to the appraisal, the value or importance of visual amenity is categorised as **High, Medium, or Low**.

*Susceptibility of Visual Receptors to Change*

A4.37 Considerations of visual susceptibility and value overlap, which is in contrast to the equivalent landscape considerations which are more distinct. This is because indicators of landscape value are more readily available, for example documentary evidence of a designation. In the case of visual value, documentary evidence relating to views which are particularly valued exists, however value is more likely to relate to a reasoned judgement, as set out in the previous paragraph. Therefore the judgement as to whether a view is categorised as having high, medium or low value will be applied as a modifier to the judgement of susceptibility to give a combined sensitivity of high, medium or low. For example, a visual receptor may be judged as being of low susceptibility and high value. In this instance it may be appropriate to conclude that this receptor is of medium susceptibility, with the consideration of value being used to modify the original appraisal of susceptibility.

*Overall Visual Sensitivity*

A4.38 Visual receptor sensitivity is defined as high, medium or low in accordance with the criteria in Table A4.6.

**Table A4.6: Visual Receptor Sensitivity Criteria**

Sensitivity	Typical Criteria
Very high sensitivity	1) Static views from and of major tourist attractions; 2) Views from and of very important national/international landscapes, cultural/historical sites (e.g. National Parks, UNESCO World Heritage sites); 3) Receptors engaged in specific activities for enjoyment of dark skies.



Sensitivity	Typical Criteria
High sensitivity	<ol style="list-style-type: none"> <li>1) Views by users of nationally important PRoW / recreational trails (e.g. national trails, long distance footpaths);</li> <li>2) Views by users of public open spaces for enjoyment of the countryside (e.g. country parks);</li> <li>3) Static views from dense residential areas, longer transient views from designated public open space, recreational areas;</li> <li>4) Views from and of rare designated landscapes of national importance (AONBs).</li> <li>5) Views by users of normal PRoW whose attention or interest is likely to be focused on the landscape.</li> </ol>
Medium sensitivity	<ol style="list-style-type: none"> <li>1) Static views from less populated residential areas, schools and other institutional buildings and their outdoor areas;</li> <li>2) Views by outdoor workers;</li> <li>3) Transient views from local/regional areas such as public open space, scenic roads, railways or waterways, users of local/regional designated tourist routes of moderate importance;</li> <li>4) Views from and of landscapes of regional importance.</li> <li>5) Views by users of normal PRoW whose attention or interest is likely not to be focused on the landscape.</li> </ol>
Low sensitivity	<ol style="list-style-type: none"> <li>1) Views by users of main roads or passengers in public transport on main arterial routes;</li> <li>2) Views by indoor workers;</li> <li>3) Views by users of recreational/formal sports facilities where the landscape is secondary to enjoyment of the sport;</li> <li>4) Views by users of local public open spaces of limited importance with limited variety or distinctiveness.</li> </ol>
Negligible	<ol style="list-style-type: none"> <li>1) Quick transient views such as from fast moving vehicles;</li> <li>1) Views from industrial area, land awaiting re-development;</li> <li>2) Views from landscapes of no importance with no variety or distinctiveness.</li> </ol>

Based on LA 107 Landscape and visual effects, Table 3.41 (Ref.2 page 28)

### Magnitude of Change

A4.39 The magnitude of a visual effect is about understanding the scale, nature, extent and duration of visual change a new development will have on a view.

A4.40 The magnitude of change arising from the proposed development at any particular location is described as major, moderate, minor, negligible or no change based on the interpretation of a combination of largely quantifiable parameters as discussed below.

*Each of the visual effects identified needs to be evaluated in terms of its **size or scale**, the **geographical extent** of the area influenced, and its **duration and reversibility**. (Ref.1 page 115 para. 6.39)*

A4.41 Other parameters included in the appraisal would include; distance of the viewpoint from the development; angle of view in relation to main receptor activity; proportion of the field of view occupied by the development; background to the development; and the extent of other built development visible, particularly vertical elements.

#### *Size and Scale*

A4.42 The size and scale of visual change that takes place taking account of: the loss or addition of features; changes in composition including the proportion of the view occupied by the proposed development; the degree of contrast or integration of new features with existing landscape elements and characteristics in terms of form, scale, mass, line, height, colour, texture; the nature of the view of the proposed development in terms of the relative amount of time over which it would be experienced, and, whether views would be full, partial or glimpses.

#### *Geographical Extent*

A4.43 Consideration of the extent of visual effects relates to the geographic area over which changes in visual amenity may arise (i.e. it does not relate to the how much of a specific view is altered as this is included in the appraisal of the degree of visual change). The extent of visual effect is not therefore relevant to the appraisal of visual effects at specific viewpoints or upon specific visual receptors in fixed locations. Its relevance as a consideration in determining level of effect is instead limited to the extent of a route which might be affected by visual change (i.e. sequential visual effects) or to a summary appraisal of the overall effect of the proposed development on general visual amenity.

A4.44 Where relevant, the extent of visual change likely to arise as a result of the proposed development is categorised as extensive, limited or localised. It is not possible to provide consistent criteria for these descriptive terms that apply in every instance. Instead, the terms are used in the appraisal of visual effects as qualifiers that contextualise the appraisal of individual viewpoints and receptors.

#### *Duration of Visual Effect*

A4.45 The duration of the visual effect likely to arise as a result of the proposed development on the duration of the visual effect likely to arise on different visual receptors is categorised as, long term, medium term or short term. This is used to qualify and contextualise the appraisal of degree of landscape or visual change. For this appraisal the following categories of duration of landscape effect have been adopted:

- **Long term** – an effect likely to persist for more than ten years
- **Medium term** – an effect likely to persist for between five and ten years; and
- **Short term** – an effect likely to last up to five years

#### *Reversibility of Visual Effect*

A4.46 Whatever the expected duration of a visual effect, consideration of reversibility relates to whether a visual effect could be reversed rather than will be reversed. This enables a distinction to be made between a new element which is expected to be permanent but could nevertheless be removed without residual effect should it become unexpectedly obsolete and a visual change that is practicably irreversible. The following criteria have been adopted within this appraisal:

- **Irreversible** - Major changes in landform or the removal of landscape elements, such as veteran trees, that could not be replicated within ten years.
- **Partially reversible** - Changes that could be partially reversed within ten years (e.g. recreation of mature hedgerows of similar but not identical species mix and character).
- **Reversible** - Changes that could be totally reversed within ten years (e.g. removal of introduced features or recreation of juvenile woodland).

A4.47 Table A4.7 below provides definitions for the different levels of magnitude of change.

A4.48 Where possible to do so with a reasonable level of professional objectivity the effects of the proposed development on the landscape are identified as likely to be generally considered positive (beneficial), neutral or negative (adverse).

**Table A4.7: Visual Magnitude of Change Definitions**

Magnitude of change	Typical Criteria
Major	The project, or a part of it, would become the dominant feature or focal point of the view.
Moderate	The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.
Minor	The project, or a part of it, would be perceptible but not alter the overall balance of features and elements that comprise the existing view.
Negligible	Only a very small part of the project work or activity would be discernible, or being at such a distance it would form a barely noticeable feature or element of the view.
No change	No part of the project work or activity would be discernible.

Based on LA 107 Landscape and visual effects, Table 3.43 (Ref.2 page 31)

#### **Level of Effect**

A4.49 The level of visual effect is categorised using a five point scale: Very Large, Large, Moderate, Slight and Neutral. The level of effect is assessed by combining all of the considerations and criteria set

out above. This is described by GLVIA3 as an ‘overall profile’ approach to combining judgements and requires that all the judgements against each of the identified criteria (susceptibility; value; degree; extent; duration; and reversibility) are used within an informed professional appraisal of the overall level of visual effect.

A4.50 The relative weight attributed to each of the six considerations is a matter for experienced professional judgement and will vary depending on the specific visual receptor or effect being assessed. In relation to visual appraisal the geographical extent of visual change is more relevant to an area or route than to a fixed viewpoint and short term reversible visual effects.

A4.51 The level of the effect on the visual receptors may be determined by correlating the magnitude of change with the sensitivity of the visual receptor. Table A4.8 below sets out the main correlation between magnitude and sensitivity. Where an option between, for example, ‘slight’ and ‘moderate’ level of effect is indicated in the table, the choice will depend on the specifics of the effect and may be qualified by professional judgement.

Table A4.8: Visual Effects Matrix

		MAGNITUDE OF CHANGE				
		No change	Negligible	Minor	Moderate	Major
VISUAL SENSITIVITY	Very High	<i>Neutral</i>	<i>Slight</i>	<i>Moderate <u>or</u> Large</i>	<i>Large <u>or</u> Very Large</i>	<i>Very Large</i>
	High	<i>Neutral</i>	<i>Slight</i>	<i>Slight <u>or</u> Moderate</i>	<i>Moderate <u>or</u> Large</i>	<i>Large <u>or</u> Very Large</i>
	Medium	<i>Neutral</i>	<i>Neutral <u>or</u> Slight</i>	<i>Slight</i>	<i>Moderate</i>	<i>Moderate <u>or</u> Large</i>
	Low	<i>Neutral</i>	<i>Neutral <u>or</u> Slight</i>	<i>Neutral <u>or</u> Slight</i>	<i>Slight</i>	<i>Slight <u>or</u> Moderate</i>
	Negligible	<i>Neutral</i>	<i>Neutral</i>	<i>Neutral <u>or</u> Slight</i>	<i>Neutral <u>or</u> Slight</i>	<i>Slight</i>

Based on LA 104 Environmental assessment and monitoring, Table 3.8.1 (Ref.3 page 15)

A4.52 Level of effects and typical descriptions are described below:

- **Very large** - Effects at this level are material in the decision-making process.
- **Large** - Effects at this level are likely to be material in the decision-making process.
- **Moderate** - Effects at this level can be considered to be material decision-making factors.

- **Slight** - Effects at this level are not material in the decision-making process.
- **Neutral** - No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.
- Based on LA 104 Environmental assessment and monitoring, Table 3.7 (Ref.3 page 14)

### Cumulative Landscape and Visual Appraisal (CLVA)

A4.53 The aim of this Cumulative Landscape and Visual Impact Assessment (CLVA) is to describe and assess the ways in which the proposed development would have additional effects when considered together with other existing, consented or proposed developments, especially those of a similar type. The assessment follows guidance provided in GLVIA3.

A4.54 This CLVA is based on a site visit undertaken as part of the LVIA and review of the LVIA produced for the proposed development.

A4.55 No cumulative photomontages have been produced.

A4.56 The following types of projects are considered within the CLVA

- Operational developments are included in the baseline, approved development which are expected to be constructed, form part of the future baseline and will be included as such.
- Proposals in planning considered where there is good reason to assume that the timing of decisions may be similar and significant cumulative effects are likely. The assessment of effects is considered within the cumulative assessment.
- Proposals in screening are noted but not considered within the cumulative assessment, as there is no certainty that these proposals will progress to planning submissions and the nature of the proposed schemes may be subject to change.

### Cumulative Landscape Effects

A4.57 Cumulative landscape effects are likely to include impacts on:

- the fabric of the landscape as a result of removal of or changes in individual elements or features of the landscape and/or the introduction of new elements or features;
- the aesthetic aspect of the landscape – for example its scale, sense of enclosure, diversity, pattern and colour, and/or on its perceptual or experiential attributes, such as sense of naturalness, remoteness or tranquillity; and
- the overall character of the landscape as a result of changes in the landscape fabric and/or in the aesthetic or perceptual aspects, leading to modification of key characteristics and possible creation of new landscape character if the changes are substantial enough.

A4.58 The cumulative landscape effects will be considered particularly in terms of consequences for key characteristics of the landscape. Judgements will be made about the compatibility of the proposals considered with the existing characteristic of the landscape, for example its scale and pattern, and

whether or not the character of the landscape is changed to such an extent that it becomes a new landscape type or sub-type.

A4.59 The cumulative landscape assessment will consider:

- the susceptibility of the landscape receptor to the type of change under consideration;
- the value attached to the receptor under consideration, reflecting in particular its designation status, including internationally recognised and national designated landscapes, locally designated landscapes and other valued components of the landscape;
- the size and scale of the cumulative landscape impacts identified;
- the extent of the geographical area covered by the cumulative landscape impacts identified; and
- the duration of the cumulative landscape impacts, including the timescales relating to both the project being assessed and the other projects being considered, and the extent to which the cumulative impacts may be considered reversible.

#### Cumulative Visual Effects

A4.60 Cumulative visual effects are the impacts on views and visual amenity enjoyed by people, which may result either from adding the effects of the project being assessed to the effects of the other projects on the baseline conditions or from their combined effect. This may result from changes in the content and character of the views experienced in particular places due to introduction of new elements or removal of or damage to existing ones.

A4.61 The first step is to define the study area. In this case the study area is the combined study area defined in the LVIA's for each scheme, the area within approximately 5 km of the sites.

A4.62 The baseline for the cumulative visual effects is likely to be the same as for the visual effects assessment of the main project being considered. Assuming that relevant visual receptors and viewpoints have been identified and used in defining the study area, the baseline should consider:

- the people likely to be affected at each location, the activity they are involved in (and therefore their susceptibility to changes in views and visual amenity) and the number affected; and
- the extent, nature and characteristics of the views and visual amenity enjoyed by those people at those viewpoints.

A4.63 As a number of separate developments must be considered, there is interest in the way in which they may be experienced. At one viewpoint someone looking at the view in one direction may see all the projects at the same time, or someone turning through 360° may see different developments in different directions and sectors of the view in succession. Users of linear routes, especially footpaths or other rights of way, or transport routes, may potentially see the different

developments revealed in succession as a series of sequential views. The types of cumulative visual effects are described in table below.

#### A4.64 The Types of Cumulative Visual Effects

Generic	Specific	Characteristics
<p><b>Combined</b></p> <p>Occurs where the observer is able to see two or more developments from one viewpoint</p>	<p>In combination</p>	<p>Where two or more developments are or would be within the observer’s arc of vision at the same time without moving her/his head</p>
	<p>In succession</p>	<p>Where the observer has to turn her/his head to see the various developments</p>
<p><b>Sequential</b></p> <p>Occurs 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</p>	<p>Frequently sequential</p>	<p>Where the features appear regularly and with short time lapses between instances depending on speed of travel and distance between the viewpoints</p>
	<p>Occasionally sequential</p>	<p>Where longer time lapses between appearances would occur because the observer is moving very slowly between the viewpoints</p>

#### References for Methodology

- Ref.1 Landscape Institute and Institute of Environmental Assessment, *Guidelines for Landscape and Visual Effect Assessment, 3rd edition*, 2013.
- Ref.2 Highways England, LA 107 Landscape and visual effects, 2019.
- Ref.3 Highways England, LA 104 Environmental assessment and monitoring, 2019.

- Ref.4 Scottish Natural Heritage and the Countryside Agency, Landscape Character Assessment: Guidance for England and Scotland, 2002.
- Ref.5 Natural England, An Approach to Landscape Character Assessment, 2014.
- Ref.6 Landscape Institute, Townscape Character Assessment, 2018.
- Ref.7 Landscape Institute, GLVIA3 Statement of Clarification 1/13, issued 10/06/2013
- Ref.8 Landscape Institute, Assessing landscape value outside national designations, 2021



## Appendix 5: Photograph methodology

A5.1 The following section outlines the methodology and approach to the site photography and photomontages.

### Relevant Guidance

A5.2 These photographs and photomontages have been based on guidelines provided in the following publications:

- Landscape Institute and Institute of Environmental Assessment (2013), Guidelines for Landscape and Visual Effect Assessment, 3rd edition. **(Ref.1)**
- Landscape Institute (2019), Visual Representation of Development Proposals. **(Ref.2)**

### Scope of Photography and Photomontages

A5.3 The type of photographs and photomontages used as part of this report are proportionate to the level of appraisal and have been guided by Visual Representation of Development Proposals **(Ref.2)** which states:

*To maintain a proportionate approach, different types of visualisation may be required, depending on:*

- *the type and scale of project;*
- *the aim (Purpose) and likely audience (Users) of the visualisation in the decision-making process; and*
- *the Sensitivity of the receptors and Magnitude of potential landscape and visual change.*

*The time, effort, technical expertise and cost involved in producing visualisations should be proportionate to these factors. (Ref.2 page 3 para. 1.3.1 and 1.3.2)*

A5.4 The types of visualisations produced for this report have been guided by the contents of Table A5.1 below extracted from Visual Representation of Development Proposals **(Ref.2)**.

**Table A5.1: Relationships between Purpose, User and Visualisation Types**

Category	Purpose and Users	Appropriate Visualisation Types
A	Evidence submitted to Public Inquiry, most planning applications accompanied by LVIA (as part of formal EIA), some non-EIA (LVA) development which is contrary to policy or likely to be contentious. Visualisations in public domain.	2 - 4
B	Planning applications for most non-EIA development accompanied by LVA, where there are concerns about landscape and visual effects and effective mitigation is required. Some LVIAs for EIA development. Visualisations in public domain.	1 - 4

Category	Purpose and Users	Appropriate Visualisation Types
C	Planning applications where the character and appearance of the development is a material consideration. LVIA / LVA is not required but supporting statements (such as Planning Statements and Design and Access Statements) describe how the proposal responds to landscape context and policies. Visualisations in public domain	1 - 3
D	To inform the iterative process of assessment and design with client, and / or pre-application consultations with the competent authority. Visualisations mainly confidential.	1 - 2

Based on Visual Representation of Development Proposals, Table 1 (Ref.2 page 9)

## Types of visualisation

A5.5 The types of visualisation are listed in the table below:

**Table A5.2: Visualisation Types**

Type of visualisation	Description
<i>Type 1</i>	<p>Annotated Viewpoint Photograph:</p> <p>Reproduced at a size which aids clear understanding of the view and context, these simply show the extent of the site within the view, and annotate any key features within the view.</p> <p>Type 1 is the most basic form of visual representation with a focus</p>
<i>Type 2</i>	<p>3D Wireline / Model:</p> <p>This covers a range of computer-generated visualisation, generally without a photographic context. Wirelines and other 3D models are particularly suited to graphically describing the development itself.</p> <p>Type 2 visualisations use basic graphic information to assist in describing a proposed development and its context.</p>
<i>Type 3</i>	<p>Photomontage / Photowire:</p> <p>This Type encompasses photomontages and photowires which will commonly be produced to accompany planning applications, LVAs and LVIAs. They provide a reasonable level of locational and photographic accuracy, but are not suitable for the most demanding and sensitive of contexts. Type 3 visualisations do not need to be accompanied by verification data, nor is a precise survey of features and camera locations required. Although minimum standards are set for image presentation, the visualisations do not need to be reproduced with scale representation.</p> <p>Type 3 visualisations offer an appropriate level of detail and accuracy for a range of EIA and non-EIA projects.</p>

Type of visualisation	Description
Type 4	<p>Photomontage / Photowire (survey / scale verifiable):</p> <p>Type 4 photomontages and / or photowires require the use of equipment and processes which provide quantifiable verification data, such that they may be checked for accuracy (as per industry-standard 'AVRs' or 'Verified Views'). Precise survey of features and viewpoint / camera locations may be included where warranted. Type 4 visualisations are generally reproduced with scale representation.</p> <p>Type 4 visualisations represent the highest level of accuracy and verifiability for use in the most demanding of situations.</p>

Based on Visual Representation of Development Proposals (Ref.2 page 16)

A5.6 A summary table below extracted from Visual Representation of Development Proposals (Ref.2) describes the information required for each visualisation type:

Table A5.3: Visualisation Type Specifications

Table 2 Visualisation Types 1-4		Type 1	Type 2	Type 3	Type 4
	<b>Aim of the Visualisation</b>	<b>Annotated Viewpoint Photograph</b> To represent context and outline or extent of development and of key features	<b>3D Wireline / Model (non-photographic)</b> To represent 3D form of development / context	<b>Photomontage / Photowire</b> To represent appearance, context, form and extent of development	<b>Photomontage / Photowire Survey / Scale Verifiable</b> To represent scale, appearance, context, form, and extent of development
<b>Photographic Equipment</b>	<b>Tripod</b>	Recommended but discretionary	Not relevant	Recommended	Necessary
	<b>Panoramic head</b>	Not relevant	Not relevant	Recommended for panoramas	Necessary for panoramas
	<b>Minimum Camera / Lens</b>	Cropped frame or FFS + 50mm	Not relevant	Cropped frame or FFS + 50mm	Full Frame Sensor (FFS) + 50mm FL lens <sup>1</sup>
<b>Location Accuracy</b>	<b>Source of camera/viewpoint location data</b>	GPS, OS Maps, geo-referenced aerial photography	Varies according to technology	Use good quality data: GPS, OS Maps, geo-referenced aerial photography, LiDAR	Use best available data: High resolution commercial data, LiDAR, GNSS, or measured / topographic surveys
	<b>Survey-verified<sup>2</sup></b>		Not relevant		When appropriate
<b>Data &amp; Presentation</b>	<b>Verifiable (SNH)<sup>3</sup></b>		Not relevant		Required
	<b>3D model</b>	Not required		Required	
	<b>Image Enlargement<sup>4</sup></b>	Typically 100%	Not relevant	Typically 100%	100% - 150%
	<b>Form of Visualisation</b>	sketch / outline / arrows	massing / wireline / textured	wireline / massing / rendered / textured	wireline / massing / rendered / textured to agreed AVR level <sup>5</sup>
	<b>Viewpoint mapping</b>		Dedicated viewpoint location plan		Dedicated viewpoint location plan, + individual inset maps recommended
	<b>Reporting of methodology and data sources</b>	Outline description of sources and methodology recommended		Data, sources and methodology recommended	Verifiable data, sources and methodology required

Based on Visual Representation of Development Proposals (Ref.2, Table 2, page 11)

## Type 1 - Annotated Viewpoint Photograph

### Field Survey and Photography

A5.7 The camera used for the photography was a Canon 6D DSLR (full frame sensor) which can be used to produce photographs equivalent to those from a standard 35mm SLR camera. All photographs were taken with a fixed 50mm focal length lens (Canon EF 50 mm f/1.8 II). As standard all photographs were taken using a Manfrotto, tripod, panoramic head and leveller except where stated. The camera location was recorded using a Trimble Catalyst GPS unit set to 1cm accuracy.

### Presentation of images

A5.8 All photographs are presented as follows:

- Single image - A3 paper size. Images are presented at a size of 390 x 260mm. enlargement at 100% and a horizontal field of view of 39.6° ; or
- Panoramic image - A1 paper size. Images are presented at a size of 820 x 250mm. enlargement at 96% a horizontal field of view of 90°.

A5.9 The following information is presented which each photograph.

- Grid reference (easting and northing)
- Attitude of ground level (using OS open terrain data)
- Camera height above ground level
- Distance from site boundary (to nearest boundary edge)
- Weather conditions when the photograph was taken (based on Met Office descriptions)
- Date and time the photograph was taken
- Camera, lens and equipment used to capture the photograph.
- Horizontal field of view
- Paper and image size
- Projection
- Enlargement factor
- Map illustrating the site and viewpoint location

### Viewing procedure

A5.10 When viewing the represented views and Photomontages, the viewer must keep their head motionless and fix their eyes on the centre of the view. When comparing the view in the field, the viewer must also keep the head motionless. This ensures that the represented view falls within the human field of view.

A5.11 It must be borne in mind that photographs and photomontages are not intended to replace the real-time visual experience and that a consensus can only be made by comparing the printed images in the field from the viewpoint whilst observing the correct viewing procedure.

### Type 3 - Photomontage / PhotowireType

#### Field Survey and Photography

A5.12 The camera used for the photography was a Canon 6D DSLR (full frame sensor) which can be used to produce photographs equivalent to those from a standard 35mm SLR camera. All photographs were taken with a fixed 50mm focal length lens (Canon EF 50 mm). As standard all photographs were taken using a tripod, panoramic head and leveller except where stated. The camera location was recorded using a GPS unit set to 1cm accuracy.

#### Digital production of photomontages

##### *Digital Image Preparation*

A5.13 The original Canon image files were processed in Adobe Photoshop to adjust White Balance, colour accuracy and sharpness. The images underwent further correction procedure to ensure the horizon is precisely horizontal and any barrel distortion is compensated for. The panoramic views were stitched using Adobe Photoshop. The corrected baseline image, which is known as the background plate, is then ready for the visualisation work to begin. All final images are output as uncompressed JPEG or TIFF files. The photographs are all equally sized according to the preferred reproduction size or desired viewing distance.

##### *Model Position and Height Check*

A5.14 AutoCAD is predominantly used for the first stage of the model construction process prior to constructing an existing base model using 3D Studio Max Design. The base model is used to generate a model of all the existing elements required to map the photographic viewpoints to the verified view. The building finished floor levels and ridge heights were provided by the client.

A5.15 All elements of the scheme are combined with the site survey and mapping data, so that they correspond with each other. Any additional data can then be applied to the 3D model at this stage to create a basic skeleton for the final solid rendered model. The co-ordinate system is used when doing this, so that information regarding viewpoints can be accurately located such as the viewpoint markers.

A5.16 The heights and levels of the key features of the proposed scheme are then cross checked against the design drawings and sections to check they correspond.

### *Camera Matching Process*

- A5.17 Irrespective of whether the final photomontage is output as a single or composite panoramic image, each photomontage is based upon a single photograph.
- A5.18 The viewpoint markers are used to tie the photograph to the CAD Camera view. These are usually surveyed items such as lamp posts, walls, field boundaries and buildings; in essence, anything that has a known location. At least four points are required to enable a high degree of accuracy with some at least at a height above ground level i.e. tops of lampposts and buildings.
- A5.19 The background plate photograph is imported into 3D Studio Max, to verify the accuracy of the match.
- A5.20 The location and angle of view can also be checked by triangulating the position. This is a reliable method successfully used for location finding in the field.
- A5.21 The rendered views were based on single photographs to match the corresponding section of the panorama.
- A5.22 A wireframe model of the existing and proposed model is then rendered, overlaid onto the photograph and issued for approval.
- A5.23 At this stage the model may be sent to the client and design team can confirm that they are satisfied with the camera matching and mass and scale of the scheme before proceeding to the next stage.

### *Texturing and Rendering*

- A5.24 3D Studio Max Design is then used for applying the photorealistic surfaces and materials to the 3D model. Once this is complete, the lighting can be added to create a realistic scene. The exact reactions to sunlight can be calculated by using the software's ability to place it in the direction according to the time of day/month etc. Additional transparent lighting effects are also added to add the final touches.
- A5.25 Rendering is the term used to describe the process of generating a two-dimensional rendered bitmap image from the 3D model.
- A5.26 Texturing is the application of photorealistic surfaces to the 3D model to reflect what the proposed scheme would look like once constructed. Using information provided by the designers and manufacturers plus samples (e.g. types of glass metal, brickworks etc) we produce the qualities and appearance which most closely represents the real-world materials.
- A5.27 Lighting and sun direction is an important factor in representing the scheme proposals as they would appear in the photograph. From the photograph META data and observations in the field; the sunlight and daylight system in 3D Studio Max is used to accurately simulate the real-world

lighting as it was when the photograph was taken. The Sunlight and Daylight System calculates the movement of the sun over the earth at a given location. In addition, the software reproduces the ambient lighting, shadows and reflections.

A5.28 The exact resolution of the photograph is noted and used as the size for the final rendered output of the 3D Model view so that the two overlay each other precisely

#### *Post Production*

A5.29 Adobe Photoshop is used to blend the modelled information with the existing base line / base plate photograph. Various masks are created to position the development behind any existing details. Colour correction is then applied if necessary to give it that “lived in look”.

A5.30 Finally, proposed vegetation can be introduced along with the removal of any existing details on site that would be removed during the development process.

A5.31 The blending of any additional imagery and rendered models to provide context and realism is undertaken before the final image is completed, to allow an accurate “before & after” comparison.

#### **Presentation of images**

A5.32 All photographs are presented as follows:

- Single image - A3 paper size. Images are presented at a size of 390 x 260mm. enlargement at 100% and a horizontal field of view of 39.6° ; or
- Panoramic image - A1 paper size. Images are presented at a size of 820 x 250mm. enlargement at 96% a horizontal field of view of 90°.

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- Paper and image size
- Projection
- Enlargement factor
- Map illustrating the site and viewpoint location



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A5.35 It must be borne in mind that photographs and photomontages are not intended to replace the real-time visual experience and that a consensus can only be made by comparing the printed images in the field from the viewpoint whilst observing the correct viewing procedure.

### References for Methodology

- Ref.1 Landscape Institute and Institute of Environmental Assessment (2013), Guidelines for Landscape and Visual Effect Assessment, 3rd edition.
- Ref.2 Landscape Institute (2019), Visual Representation of Development Proposals.
- Ref.3 Mayor of London (2012), The London View Management Framework