

APPENDIX 7.1: LVIA EIA METHODOLOGY

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1.0 Landscape and Visual Impact Assessment Methodology – EIA

1.1 INTRODUCTION

1.1.1 The methodology for this LVIA conforms to the relevant parts of the Guidelines for Landscape and Visual Impact Assessment, Third Edition (Landscape Institute and IEMA, 2013). The assessment focuses on the identification of likely significant landscape and visual effects, including those that are, positive and negative, direct and indirect, long, medium and short term, and reversible and irreversible, as well as cumulative effects.

1.1.2 For the purposes of clarity, the European Landscape Convention (ELC) (2000), the term ‘landscape’ is defined as:

“An area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors”

1.1.3 The ELC confirms that the landscape should be considered as a resource in its own right. It provides an integrated way of conceptualising our surroundings and is increasingly considered to provide a useful spatial framework for thinking about a wide range of environmental, land use and development issues. The ELC applies to all landscapes; natural, rural, urban and peri-urban areas, including land, inland water and marine areas. It considers land landscapes that might be considered outstanding as well as every day or degraded landscapes.

1.1.4 Additional guidance has also been taken from the following publications:

- Council of Europe, *The European Landscape Convention (2000, ratified 2006) ETS no. 175.*
- *An Approach to Landscape Character Assessment, Natural England, October 2014;*
- *An Approach to Landscape Sensitivity Assessment – To Inform Spatial Planning and Land Management, Natural England, June 2019*
- *Landscape Institute Advice Note 06/19 – Visual Representation of Development Proposals Landscape Institute, (Sept, 2019); and*
- *Landscape Institute Technical Guidance Note 02/21 – Assessing landscape value outside national designations, (May 2021).*

1.2 DATA GATHERING METHODOLOGY

Introduction

1.2.1 The LVIA has been conducted across a study area of 2.5 km with a more detailed study area of 1km. The LVIA incorporates a desktop review, field study and modelling of predicted effects through visualisations including photomontages and wire frames. The evaluation of landscape and visual effects are discussed in separate sections. At the outset of the LVIA it is useful to provide a definition of the terms ‘landscape effects’ and ‘visual effects’:

1.2.2 **Landscape Effects:** These consist of the changes in the fabric, character and quality of the landscape which it is predicted would result from the construction and operation of the proposed development, “assessing effects on the landscape as a resource in its own right” (GLVIA 2013). Consideration is given to how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character. The proposed development will have direct and indirect effects on the landscape. Direct effects physically alter landscape elements (directly attributable to the proposed development), whereas indirect effects can affect the landscape character, often away from the site. In order to establish the potential landscape effects the value of the landscape needs consideration.

- 1.2.3 **Visual Effects:** These are the predicted effects on views available from publicly accessible areas and residential dwellings i.e. visual receptors and peoples general visual amenity. Specific effects result from changing the constituent elements within an existing view. This may be caused by the construction of a feature, or the obstruction, or modification of an existing view. The visual assessment also addresses the closer related concept of visual amenity (when required). The requirement has the potential to be undermined if the proposed development would be of such a scale, design or proximity that it would represent an unpleasantly overwhelming and unavoidable presence in main views from a residential property or its garden as to turn an otherwise satisfactory residential property into one that would be unsatisfactory place to live, “assessing effects on specific views and on the general visual amenity experienced by people” (GLVIA 2013).
- 1.2.4 The significance of any landscape / visual effects is a product of the magnitude of any change and the sensitivity of the receptor, which may include the landscape, landscape receptors or people either at home, using the local roads, cycle ways and public rights of way (PROW) network, visiting viewpoints, tourist attractions, and undertaking recreational activities.

1.3 ASSESSMENT METHODOLOGY

- 1.3.1 The following section outlines the stages in the assessment of the landscape and visual effects as a result of the proposed development.

Potential Effects

- 1.3.2 The following table identifies potential landscape and visual effects of a proposed development.

Table 6.3.1: Potential Effects

Phase	Specific Element	Potential Effects	Potential Sensitive Receptors
Construction	Construction plant, temporary construction compound, vehicle movements	Temporary impacts on landscape fabric. Temporary impacts on visual amenity	Landscape character types Designated landscapes Historic gardens and designed landscapes Visual receptors including: Residents, visitors, road users, walkers, cyclists
Operation	Presence of development	Long term but reversible impacts on landscape fabric. Long term but reversible impacts on visual amenity Cumulative impacts with other similar forms of development	
Decommissioning	Construction plant, temporary compound, vehicle movements	Temporary impacts on landscape fabric. Temporary impacts on visual amenity	

1.4 ASSESSING LANDSCAPE EFFECTS

1.4.1 The potential landscape effects, occurring during the construction and operation period, may therefore include but are not restricted to, the following:

- Changes to landscape elements;
- Changes to landscape qualities;
- Changes to landscape character;
- Effects upon nationally and locally designated landscapes (eg Registered Parks and Gardens, Country Parks; and,
- Cumulative landscape effects.

Establishing the value of the landscape

1.4.2 Landscape value is the *“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”* (GLVIA 2013). Landscape value is assessed as part of the landscape baseline.

1.4.3 In some cases, landscape value is indicated by the presence of a landscape planning designation such as a National Scenic Area or National Park indicating a landscape of national value or a locally designated landscape such as an Area of Great Landscape Value or Special Landscape Area. It should be noted that, in virtually all circumstances, landscapes are valued (frequently highly) in the local context by various, if not all, sections of the local community.

1.4.4 Factors that can help (but are not limited to) in the identification of valued landscapes are listed in Table 6.3.2.

Table 6.3.2: Indications of Landscape Value

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

Associations	Some landscapes are associated with particular people, such as artists or writers, or events in history that contribute to perceptions of the natural beauty of the area.
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- 1.4.5 Following consideration of the value indicators, landscape value is classified as either, High, Medium or Low, based on the criteria set out in Table 6.3.3.

Table 6.3.3: Landscape Value Classification

Value	Sub Value	Typical criteria, scale and examples.
High	Exceptional	Very high importance and rarity, no or limited potential for substitution. International, national. World Heritage Site, National Park, AONB.
	High	High importance and rarity, limited potential for substitution. International, national. National Park, AONB, AGLV. Important to the setting of a registered historic park and garden. Presents locally important landscape characteristics or scenic value; or Presents important public amenity value by way of views, access, biodiversity, cultural or opportunity for quiet enjoyment (relative tranquility).
Medium	Medium	Medium importance and rarity, limited potential for substitution. Regional and local scale. Undesignated but value expressed through non official publications or demonstrable use. Lies wholly or partially within a designated landscape but where localised character and scenic value is less distinctive or has become degraded. Lies adjacent to a designed landscape. Presents locally distinctive landscape characteristics with some scenic interest. Presents some public amenity value by way of views, access, biodiversity, cultural or opportunity for quiet enjoyment (relative tranquility).
Low	Low	Low importance and rarity at local scale. Areas identified as having some redeeming feature(s) and possibly identified for improvement. Does not lie within or adjacent to a designated landscape. Does not present locally important / distinctive landscape characteristics or scenic interest / value. Does not present important public amenity value by way of views, access, biodiversity, cultural or opportunity for quiet enjoyment (relative tranquility).

	Very Low	Low importance and rarity at local scale. Areas identified for recovery, restoration and enhancement.
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Assessing the significance of landscape effects

- 1.4.6 Landscape effects, for each identified landscape receptor, are established through combination of (i) the sensitivity of the landscape receptor and (ii) the magnitude of effect.

1. Landscape Sensitivity

- 1.4.7 Landscape receptors are assessed in terms of their sensitivity combining judgements of their susceptibility to the type of change or development proposed and the value attached to the landscape. Sensitivity is specific to the particular project or development that is being proposed and to the location in question.

Susceptibility to change

- 1.4.8 Susceptibility in considering landscape sensitivity considers the ability of a defined landscape (or visual receptor) to accommodate the specific proposed development without undue negative consequences. This means *“the ability of the landscape receptor (whether it be the overall character or quality / condition of a particular landscape type or area, or an individual element and/or feature, or a particular aesthetic and perceptual aspect) to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies”*. (GLVIA 2013). Susceptibility to change should not be recorded as part of the landscape baseline but it should be considered as part of the assessment of effects.

- 1.4.9 Landscape capacity, existing studies, and specific capacity relating to the proposed development is considered at the baseline stage. Consideration is given to the capacity of a particular type or area of landscape to accommodate the proposed development without unacceptable effects on its character. Common factors relating to higher capacity for renewable development may include large to medium landscape scale and topography, presence and pattern of woodland cover, patterns of landscape change, and the nature of views/visibility.

Value of the Landscape Receptor

- 1.4.10 The value of the landscape receptors is established during the baseline covering:
- The value of the landscape character types / areas or landscape receptor that may be affected, based on a review of designations at both a national and local levels, and, where there are no designations, judgments based on criteria that can be used to establish landscape value;
 - The value of individual contributors to landscape character, especially the key characteristics, which may include individual elements of the landscape, particular landscape features, notable aesthetic, perceptual or experiential qualities, and combinations of these contributors.
- 1.4.11 There can be complex relationships between the value attached to landscape receptors and their susceptibility to change. This is especially important when considering change within or close to designated landscapes. For example:
- An internationally, nationally or locally valued landscape does not automatically, or by definition, have high susceptibility to all types of change. It is possible to have a low susceptibility to change resulting from a particular type of development, by virtue of the characteristics of the landscape and nature of the proposal.
 - The particular type of change or development proposed may not compromise the specific basis for the value attached to the landscape.

2. Magnitude of Landscape Effect

- 1.4.12 Effects of development upon landscape receptors need to be assessed in terms of its scale of effect,

the geographical extent of the area influenced, and its duration and reversibility.

Scale of effect

- 1.4.13 Judgements on the scale of change in the landscape that is likely to be experienced as a result of each effect. The effect of both loss or addition of new features may be judged as major, moderate, minor or none, taking account of:
- The extent of landscape elements that will be lost, proportion of total extents and contribution of elements to the landscape character;
 - The degree to which aesthetic or perceptual aspects of the landscape are altered either by removal of existing components of the landscape or addition of new ones; and
 - Whether the effect changes the key characteristics of the landscape, which are critical to its distinctive character.

Geographical Extent

- 1.4.14 This is distinct from the size / scale of effect, there may, for example, be moderate loss of landscape elements over a large geographical area, or a major addition affecting a very localised area. In general, effects may have an influence at the following scales, although this varies due to the nature of the project, and all are not always relevant on every occasion:
- At the site level, within the development site itself;
 - At the level of the immediate setting of the site;
 - At the scale of the landscape type or character area within which the proposal lies;
 - On a larger scale, influencing several landscape types or character areas.

Duration of Landscape Effect

- 1.4.15 Duration can be judged on the scale such as short term, medium term or long term, where, for example, short term might be zero to five years, medium term five to ten years and long term ten to twenty-five years and permanent. There is no fixed rule on this definition however (GLVIA 2013). When duration is included in an assessment of effects, the assumptions behind the judgement must be made clear.

Reversibility of effect

- 1.4.16 Reversibility is a judgement about the prospects and the practicality of the particular effect being reversed in, for example, a generation. Some forms of development, like housing, can be considered permanent however other developments such as solar farms and wind turbines are considered to be reversible since they have a limited and defined life span (c.25 years) and they can be removed and land reinstated.
- 1.4.17 Consideration of the effect of the development upon the landscape resource is assessed through professional judgment, based on (i) the sensitivity of receptors and (ii) the magnitude of the predicted effects. (GLVIA 2013).

Landscape Sensitivity and Magnitude

- 1.4.18 The evaluation of landscape sensitivity and magnitude are described in the following table and the level of an effect is determined by the consideration of sensitivity and magnitude of change.

Table 6.3.4: Landscape Sensitivity and Magnitude

Landscape Sensitivity Categories	
High	Landscape character, elements, and associated land uses where through consideration of the landscape resource and value they would be unable to accommodate change of the type proposed. Generally, this would be: • High value landscapes, protected at an international or national level (World Heritage Site/Areas of Outstanding Natural Beauty). However aspects which underpin such value may also be present outside designated areas, especially at a local scale. • Areas of special recognised value through use, perception or historic and cultural associations. • Likely to contain features that are rare and could not be replaced. • Landscape elements with a high susceptibility to change, unable to accommodate proposed development without undue consequences.
Medium	Landscape character, elements, and associated land uses which by nature of their character would be able to partly accommodate change of the type proposed. Generally, this would be: • Medium value landscape protected at a local level (Area of Important Landscape Value) or at a non-designated local level. • Where there is evidence of local value and use (non-statutory local publications) through use, perception or historic / cultural associations. • Comprised of commonplace elements and features creating generally unremarkable character, but some sense of place. • Likely to contain some features and elements that could not be replaced. • Landscape elements with a medium susceptibility to change, partly able to accommodate the proposed development without undue consequences.
Low	Landscape character, elements, and associated land uses which by nature of their character would be able to accommodate change of the type proposed. Generally this would be:

• Lower value and non-designated landscapes. • Comprised of features and elements that are discordant, derelict or in decline, indistinct character with little or no sense of place. • Containing few, if any, features of value through use, perception or historic / cultural associations. • Likely to contain few, if any, features or elements that could not be replaced. • Landscape elements with a low susceptibility to change, able to accommodate the proposed development without undue consequences.	
Magnitude of Change Categories	
High	Total loss or substantial alteration to key landscape elements/features/characteristics of the baseline or introduction of uncharacteristic elements which would give rise to a fresh characterising effect.
Medium	Partial loss or moderate alteration to one or more key landscape elements/features/characteristics of the baseline and/or introduction of elements that may be prominent but not necessarily substantially uncharacteristic with the attributes of the receiving landscape but which could co-characterise parts of the landscape.
Low	Minor loss or alteration to one or more key landscape elements/features/characteristics of the baseline and/or introduction of elements that may not be uncharacteristic with the surrounding landscape or may not lead to a characterising or co-characterising effect.
Negligible	Very minor loss or alteration to one or more key landscape elements/features/characteristics of the baseline and/or the introduction of elements that are not uncharacteristic of the surrounding landscape. Change would be barely distinguishable approximating to no change.
No Change	No noticeable loss, damage or alteration to character or features or elements.

Significance of Landscape Effect

- 1.4.19 The significance of effect is determined by consideration of landscape sensitivity and the magnitude of change.
- 1.4.20 In accordance with paragraphs 3.34 and 3.35 of GLVIA 3rd Edition it is acknowledged that the historic use of a matrix, a formulaic approach, led to the same weighting of significance levels which were not always appropriate. A matrix can still be considered however the following criteria are therefore provided to assist in determining the level of significance. The table applies typical criteria to each level of effect however it should be noted that different scenarios of landscape value, sensitivity,

susceptibility to change, scale of effect, geographical extent, reversibility of effects could apply to influence significance as discussed in the assessment. The criteria are typical examples, intermediate levels (e.g. Moderate - Minor) may apply and all effects are clearly explained.

Table 6.3.5: Typical criteria for determining the overall level of landscape effects

Significance of Landscape Effect	Typical Criteria
Severe	The proposal would: • Be at complete variance with the character (landform, scale, and pattern) of the landscape, both locally and at a wider scale. • Permanently degrade, diminish or destroy the integrity of valued characteristic features, elements and/or their setting. • Cause a high value / high susceptible to change landscape to be permanently changed. • Cause a sense of place to be lost. <i>Indicates an effect that is very important in the planning decision making process.</i>
Major	The proposal would: • Be at considerable variance with the character (landform, scale, and pattern) of the landscape. • Degrade or diminish the integrity of valued characteristic features, elements and /or their setting. • Cause a high value / high susceptible to change landscape to be markedly changed. • Large effect within the context of the wider area. • Cannot be fully mitigated and may cumulatively amount to a 'significant' effect. • Damage a sense of place. <i>Indicates an effect that is, in itself, material in the planning decision making process.</i>
Moderate	The proposal would: • Conflict with the character (including quality and value) of the landscape. • Have an adverse impact on characteristic features or elements. • Cause a medium value / medium susceptible to change landscape to be markedly changed. • Noticeable effect within the context of the wider area. • Diminish a sense of place. <i>Indicates a noticeable effect that is not, in itself, material in the decision making process.</i>

Minor	The proposal would: • Not quite fit into the landform and scale of the landscape. • Affect an area of recognised landscape character of medium to low value / susceptibility to change. • Limited effect within the local context. • Affect an area of undistinctive sense of place. <i>Indicates that effect that is trivial in the planning decision making process.</i>
Neutral	The proposal would: • Complement the scale, landform and pattern of the landscape. • Maintain / un-affect existing landscape policy. • Result in a degree of change so small as to have little or no effect upon landscape receptors of low sensitivity. <i>Indicates an effect that is akin to no change and is thus not relevant to the planning decision making process.</i>

- 1.4.21 For this assessment, ‘significant’ landscape and visual effects resulting from the proposed development would be all those effects that result in a ‘**Severe**’ or a ‘**Major**’ effect and any exceptions would be clearly explained. There may, for example, be exceptions in the case of lower magnitudes of change affecting receptors of higher landscape and or visual sensitivity leading to a Major effect. Significant effects are not necessarily always adverse effects or unacceptable and, often, effects may be of a temporary nature (e.g. in the construction phases) and / or reversible through the decommissioning of the development.
- 1.4.22 Where intermediate ratings are given, e.g. ‘Moderate-Minor’, this indicates an effect that is both less than Moderate and more than Minor, rather than one which varies across the range. In such cases the higher range is always given first but this does not mean the impact is closer to that higher rating, but done to facilitate the identification of effects within tables. A ‘Major-Moderate’ effect can be either significant or not significant and dependent upon locally specific factors which will be clearly explained.
- 1.4.23 The conclusion that some effects are ‘not significant’ does not imply that the effects should be entirely disregarded in the assessment, they are to be judged in the whole, considered with all effects as there can be a range of ‘not significant’ effects, from no effect to ‘Moderate’ or ‘Major – Moderate’.
- 1.4.24 The conclusion that some effects are ‘significant’ must not be taken to imply that the development should warrant refusal. As with many aspects of landscape and visual assessment, the level of the effect also needs to be qualified with respect to the scale over which it is felt and the type or nature of the effect. An effect may be locally significant, or significant with respect to a small number of receptors, but not significant when judged in a wider context, considered with other potential effects and benefits.
- 1.4.25 A final statement summarising the significant effects will be provided distinguishing between significant effects that are likely to influence the eventual decision and those that may be of a lesser concern.

Scale of the Development

- 1.4.26 It is also worth noting the form of development e.g. renewables development is in a different category to other forms of development such as mineral extraction or housing development. For example, generally solar farm development will have a large development footprint, and entails the addition of numerous standard sized arrays following the topography of the landscape, usually without removing other physical elements of the landscape, although the site area may be large. In comparison to wind turbines which despite the large form, only require a relatively small site area.

Nature of Landscape Effect

- 1.4.27 The effect of the development on each identified landscape receptor is classified according to its ability to accommodate the consequent effect of the construction, operation and de-commissioning (if applicable) of the proposed development. This LVIA does not state explicitly whether the effects of the development on landscape and visual amenity is adverse, neutral or beneficial, however it is acknowledged the GLVIA 2014 states that professional opinion should be applied and a positive or negative judgement applied (Para 5.37 and 6.29).
- 1.4.28 It is commonly accepted that the nature (or valency) of effects of a development are subjective based upon the attitude of the individual and public opinion should also be considered. For example when assessing renewables and wind turbines, If one regards them as industrial, alien structures then it is understandable to perceive their influence as adverse. Likewise those who worry about climate change may welcome renewables development as a physical expression of action being taken. All responses are equally valid and will affect the perceptual aspects of landscape character. In examining landscape effects, it is not realistic to ignore public opinion (nor the likelihood that professionally qualified landscape architects may have differing positions).
- 1.4.29 In accordance with GLVIA a precautionary approach is taken so although the nature of effects is not stated within the assessment, effects of new development within the landscape would be negative unless stated otherwise. The precautionary approach of negative effects should be considered with the caveat that the valency of effect must always be considered by the decision makers, the approach should not be concluded to be the final judgement and it should be acknowledged that many people would see the development as either a positive or neutral addition.

1.5 ASSESSING VISUAL EFFECTS

- 1.5.1 The assessment of visual effects deals with the effects of change and development on the views available to people and their visual amenity. Consideration is given to assessing how the surroundings of individuals or groups of people may be specifically affected by changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/or introduction of new elements.
- 1.5.2 The visual effects are identified for different receptors (people) who will experience the view; at their places of residence, during recreational activities, at work, or when travelling through the area. The visual effects may include the following:
- Visual obstruction: Physical obstruction or blocking of a view, only likely to occur close to the development or within the development site boundary;
 - Visual effect: a change to an existing view, views or wider visual amenity as a result of development or the loss of particular landscape elements or features already present in the view;
 - Visual amenity: The overall visual amenity of an area may be affected to the extent that the visual appearance of a particular visual setting, or 'sense of place' of a particular location, such as a settlement or individual property, could be altered by a development. Effects on visual amenity of key locations are considered in the context of landscape change and may also be either negative or positive; and
 - Cumulative visual effects: the cumulative or incremental visibility of similar types of development may combine to have a cumulative visual effect.

1.6 SCOPE OF WORKS

Zone of Theoretical Visibility

- 1.6.1 In order to assist with viewpoint selection and to appreciate the potential influence of the development in the wider landscape and visual receptors, Zone of Theoretical Visibility (ZTV) plans are used. ZTV plans illustrate the areas from where it may be theoretically possible to view all or part of the proposed development. The ZTV does not, however, take account of the screening effects of all buildings, localised landform and vegetation. As a result, there may be receptors in the vicinity of the site and in the wider setting which, although shown as falling within the ZTV, are screened or filtered which precludes viewing opportunities.
- 1.6.2 The ZTVs provide a starting point in the assessment process and accordingly tend towards giving a 'worst case' or greatest calculation of the likely visibility.
- 1.6.3 The ZTVs are calculated using Resoft© software, through the combination of a digital terrain model (DTM) of the landscape, derived from the Ordnance Survey 'Terrain 5' 5m resolution DTM data and a computer model of the development. In calculating inter visibility, the software incorporates earth curvature and the effects of refraction through the atmosphere. The resulting ZTV map is overlaid on OS mapping at an appropriate scale.

Viewpoint Selection

- 1.6.4 The viewpoints are selected on the basis that they would provide views of the proposed development from a variety of directions, a range of distances and from a variety of receptor types (residential, recreational receptors and transportation routes) thus are representative of the varying image of the development in the landscape.
- 1.6.5 It is important to note that the viewpoints relate to the specific location that they are taken from only. For example a viewpoint within or on the edge of a settlement should not be considered representative of the whole settlement. Viewpoints are selected in advance of the assessment and (where possible)

agreed with the determining authority as being potentially sensitive receptor locations and/or likely places where the development would be visible. The selected viewpoints should illustrate the range of visibility and scale of the development within the study area from different receptors. The viewpoint assessment is undertaken within the visual effects section but as a separate standalone sub section. The assessment of the viewpoints is supported through the production of photomontages and wireframes.

Photomontage and Wireframe Production

- 1.6.6 Once a view has been selected, the location is visited, confirmed, assessed and a photographic record taken to record the view. Details of the viewpoint location, and features within the view are also recorded in order to assist in the production of visualisations and to validate their accuracy. All photographs are taken using a Canon EOS 5D Mark II Camera fitted with a Canon EF50mm f/1.4 USM lens. The digital camera is mounted on a tripod with a fixed head set at 15° intervals. All viewpoint co-ordinates are obtained on site using mobile topographic survey equipment to record the position. Individual photographs are 'stitched' together using software Adobe Photoshop CS5.1 (64-bit) to create panoramic photographs (planar and / or cylindrical presentation).
- 1.6.7 Illustrative photomontages are produced using software, which uses digital terrain data to generate computer models of the candidate development and earth curvature information.
- 1.6.8 The photomontages illustrate the extent of view and scale of development that would be experienced by the viewer at the viewpoint. The angle of view does not therefore include the wider 360° visibility that would be experienced at each viewpoint, although these are taken into account in the assessment and are particularly relevant to cumulative assessment.
- 1.6.9 Properly constructed photomontages provide a reasonable, balanced impression of a proposed development; however it is considered that the best impression of the proposed development will be gained from visiting the viewpoint with the visualisations to gain a 'real life' experience of the view and the likely visual effects.

1.7 ASSESSING THE SIGNIFICANCE OF VISUAL EFFECTS

- 1.7.1 Visual effects, for each identified visual receptor, are established through combination of (i) the sensitivity of the visual receptor and (ii) the magnitude of visual effect.

1. Visual Receptor Sensitivity

- 1.7.2 The sensitivity of visual receptors (people) is assessed in terms of their susceptibility to the type of change or development proposed and the value attached to the particular views. Sensitivity is specific to the particular project or development that is being proposed and to the location and view in question.

Susceptibility to change

- 1.7.3 The susceptibility of different visual receptors to changes in views and visual amenity is mainly a function of :
- The occupation or activity of people experiencing the view at particular locations; and
 - The extent to which their attention or interest may therefore be focussed on the views and the visual amenity they experience at particular locations.
- 1.7.4 The visual receptors most susceptible to change are generally likely to include:
- Residents at home;
 - People, whether residents or visitors, who are engaged in outdoor recreation, including use of public rights of way, whose attention or interest is likely to be focused on the landscape and particular views;
 - Visitors to heritage assets, or to other attractions, whose views of the surroundings are an important contributor to the experience; and
 - Communities where views contribute to the landscape setting enjoyed by residents in the

area.

1.7.5 Travellers on road, rail or other transport routes fall into an intermediate category of moderate susceptibility to change. Where travel involves recognised scenic routes, awareness of views is likely to be particularly high.

1.7.6 The visual receptors likely to be least sensitive to change include:

- People engaged in outdoor sport or recreation which does not involve or depend upon appreciation of views of the landscape; and
- People at their place of work whose attention may be focused on their work or activity, not on their surroundings, and where the setting is not important to the quality of working life (although to be judged on case by case basis as there may on occasion be cases where views are important to the setting and quality of working life).

1.7.7 The division in levels of susceptibility to change is a gradual one; each project should consider the nature of the groups of people who will be affected and the extent to which their attention is likely to be focused on views and visual amenity. The susceptibility of visual receptors to change is recorded as high, medium or low. (GLVIA 2013).

Value attached to views

1.7.8 When considering the susceptibility of visual receptors to change additional judgements should be made about the value attached to the views experienced, this should take account of:

- Recognition of the value attached to particular views, for example in relation to designed landscapes, or through planning designations;
- Indicators of the value attached to views by visitors, for example through appearances in guidebooks, tourist maps or through the provision of facilities for their enjoyment (e.g. parking / viewing areas, interpretation material and references in literature / art. (GLVIA 2013)

2. Magnitude of Visual Effects

1.7.9 Effects of development upon landscape receptors need to be assessed in terms of its scale of effect, the geographical extent of the area influenced, and its duration and reversibility.

Scale of effect

1.7.10 Judging the magnitude of the visual effects identified needs to take account of:

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

Geographical extent

1.7.11 The geographical extent of a visual effect will vary with different viewpoints and is likely to reflect:

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

Duration and reversibility of visual effects

1.7.12 As with landscape effects these are separate but linked considerations. Similar categories are used, short term, medium term or long term, provided that their meaning is clearly stated with criteria for the lengths of time encompassed in each case. (GLVIA 2013).

Visual Sensitivity and Magnitude

1.7.13 The evaluation of visual sensitivity and magnitude are described in the following table, the level of an

effect is determined by the consideration of sensitivity and magnitude of change.

Table 6.3.6: Visual Receptor Sensitivity and Magnitude

Definition of Visual Receptor Sensitivity (Susceptibility to change) Categories for this VIA	
High	Residents. Users of outdoor recreational facilities including footpaths, cycle ways and recreational (scenic) road users. People experiencing views from important landscape features of physical, cultural or historic interest, beauty spots and picnic areas.
Medium	Road users and travellers on trains experiencing views from transport routes. People engaged in outdoor sport that involves an appreciation of the landscape. Schools and other institutional buildings, and their outdoor areas.
Low	Workers, users of facilities and commercial buildings (indoors) experiencing views from buildings, where setting is not important to the quality of working life. People engaged in outdoor sport / recreation that does not involve / depend upon an appreciation of the landscape.
Magnitude of Change	
High	Substantial change, where the proposals would have a defining influence on the view. Change very prominent leading to a substantial obstruction or complete change in character and composition of the baseline existing view.
Medium	Moderate change in view, occurs where the proposals would be clearly noticeable and an important new element in the view. It may involve partial obstruction of existing view or partial change in character and composition of the baseline existing view.
Low	The proposals would be partially visible or visible at sufficient distance to be perceptible and result in limited or minor changes to the view. The character and composition, although altered will be similar to the baseline existing situation.
Negligible	Change would be barely perceptible. The composition and character of the view would be substantially unaltered, approximating to little or no change.

1.8 SIGNIFICANCE OF VISUAL EFFECT

- 1.8.1 The significance of effect is determined by consideration of the visual receptor sensitivity and magnitude of visual change.
- 1.8.2 In accordance with paragraphs 3.34 and 3.35 of GLVIA 3rd Edition it is acknowledged that the historic use of a matrix, a formulaic approach, led to the same weighting of significance levels which were not

always appropriate. Although a matrix can still be used as a guide, the following criteria are therefore provided to assist in determining the level of significance. The table assigns typical criteria to each level however it should be noted that the different scenarios of susceptibility to change, value of the view, sensitivity of the receptor location, size, geographical extent and reversibility of effects could apply to influence significance to give rise to the effects as described in the assessment. The criteria in the following table are provided as typical examples only, intermediate levels (e.g. Moderate- Minor) may apply and all effects will be clearly explained.

Table 6.3.7: Typical criteria for determining the overall level of visual effects

Significance of Visual Effect	Typical Criteria
Severe	The proposal would: • Cause the permanent loss of views from a high sensitivity / susceptibility to change receptor and / or experienced by a very large number of people, and; • Constitute a dominant discordant feature in the view, totally out of character with the existing situation. <i>Indicates an effect that is very important in the planning decision making process.</i>
Major	The proposal would: • Cause a substantial deterioration to a view from a high sensitivity / susceptible to change receptor, and; • Constitute a major discordant feature in the view. <i>Indicates an effect that is, in itself, material in the planning decision making process.</i>
Moderate	The proposal would: • Cause a noticeable deterioration to a view, but not dominating from a medium sensitivity / susceptible to change receptor, • Be experienced by a medium number of people, and; • Constitute a moderate discordant feature in the view <i>Indicates a noticeable effect that is not, in itself, material in the decision making process.</i>
Minor	The proposal would: • Cause a barely noticeable deterioration to a view from a low sensitivity / susceptible to change receptor • Be experienced by a small number of people, and; • Constitute a minor discordant feature in the view <i>Indicates that effect that is trivial in the planning decision making process.</i>

Neutral	The proposal would: - Result in no discernable deterioration (or improvement) to the existing view; - Be experienced by a very small number of people, visual receptors would be of low sensitivity to the changes. <i>Indicates an effect that is akin to no change and is thus not relevant to the planning decision making process.</i>
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- 1.8.3 For this assessment, 'significant' visual effects resulting from the development would be all those effects that result in a '**Severe**' or a '**Major**' effect and any exceptions would be clearly explained. There may, for example, be exceptions in the case of lower magnitudes of change affecting receptors of higher sensitivity leading to a 'Major' effect. Significant effects are not necessarily adverse effects or unacceptable and, often, effects may be of a temporary nature (e.g. in the construction phases) and / or reversible through the decommissioning of the development where applicable.
- 1.8.4 The conclusion that some effects are 'not significant' does not imply that the effects should be entirely disregarded in the assessment, they are to be judged in the whole, considered with all effects as there can be a range of 'not significant' effects, from no effect to 'Moderate' or 'Major – Moderate'.
- 1.8.5 Where intermediate ratings are given, e.g. 'Moderate-Minor', this indicates an effect that is both less than 'Moderate' and more than 'Minor', rather than one which varies across the range. In such cases the higher range is always given first but this does not mean the impact is closer to that higher rating, but done to facilitate the identification of effects within tables. A 'Major-Moderate' effect can be either significant or not significant and dependent upon locally specific factors which will be clearly explained.
- 1.8.6 A final statement summarising the significant effects will be provided distinguishing between significant effects that are likely to influence the eventual decision and those that may be of a lesser concern.

1.9 NATURE OF VISUAL EFFECT

- 1.9.1 The effect of the development on each identified visual receptors is classified according to consequent effect of the construction, operation and de-commissioning of the proposed development. This LVIA does not state explicitly whether the effects of the scheme on landscape and visual amenity is adverse, neutral or beneficial, however it is acknowledged the GLVIA 2014 state that professional opinion should be applied and a positive or negative judgement applied (Para 5.37 and 6.29).
- 1.9.2 It is commonly accepted that the nature (or valency) of effects of a development are subjective based upon the attitude of the individual and public opinion should also be considered. For example in the assessment of renewable energy development and wind turbines, if one regards them as industrial, alien structures then it is understandable to perceive their influence as adverse. Likewise, those who worry about climate change may welcome renewable development as a physical expression of action being taken. All responses are equally valid and will affect the perceptual aspects of visual amenity. In examining visual effects, it is not realistic to ignore public opinion (nor the likelihood that professionally qualified landscape architects may have differing positions).
- 1.9.3 In accordance with GLVIA a precautionary approach is taken so although the nature of effects is not stated within the assessment, effects would be negative unless stated otherwise. The precautionary approach of negative effects should be considered with the caveat that the valency of effect must always be considered by the decision makers, the approach should not be concluded to be the final judgement and it should be acknowledged that many people would see the development as either a positive or neutral addition.
- 1.9.4 It should be reiterated that although the LVIA has considered visual effects from a number of viewpoints, including some representative views from close to residential properties, planning law

confers no right of view. Accordingly, a finding that there may be adverse effect upon a view would not be, of itself, capable of justifying a decision to grant or refuse planning permission.

1.10 CUMULATIVE ASSESSMENT

1.10.1 Cumulative effects are defined as “the additional changes caused by a proposed development in conjunction with other similar developments or as the combined effect of a set of developments, taken together (SNH, 2012:4)”.

Cumulative Landscape Assessment

1.10.2 Cumulative landscape effects are described as effects that “can impact on either the physical fabric or character of the landscape, or any special values attached to it’ (SNH, 2012:10)”.

1.10.3 Cumulative landscape effects are likely to include effects:

- 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;
- On the aesthetic aspects of the landscape e.g. scale, sense of enclosure, diversity, pattern, and / or on perceptual or experiential attributes such as a sense of naturalness or tranquillity; and
- On the overall character of the landscape as a result of changes in the landscape fabric and/or in aesthetic or perceptual aspects, leading to a modification of key characteristics and possible creation of new landscape character if the changes are substantial enough.

1.10.4 The magnitude of cumulative change to landscape character is the additional influence the development has on the character and characteristics of the area assuming the other schemes are already present.

1.10.5 The magnitude of cumulative change is determined with reference to the following table.

Table 6.3.8: Definition of Magnitude of Cumulative Change to Landscape Character

Magnitude of Cumulative Change	Definition
High	An obvious additional change, in conjunction with other developments, to landscape character.
Medium	Discernible, but not obvious additional change, in conjunction with other developments, to landscape character
Low	Slight additional change, in conjunction with other developments, to landscape character.
Negligible	Indiscernible additional change, in conjunction with other developments, to landscape character

1.10.6 The level of cumulative effect is judged in the same way as for the prescribed LVIA methodology.

Cumulative Visual Assessment

1.10.7 Cumulative visual effects are defined as effects that can be caused by combined visibility, which occurs where the observer is able to see two or more developments (of the same type, eg solar farm, industrial, wind turbine) from one view point and / or sequential effects which occur where when the observer has to move to another viewpoint to see different developments.

1.10.8 The cumulative visual assessment employs the same methodology described previously (and assessment study area), but is applied to the development type under assessment (*landfill and solar in the Masons Landfill case*) in combination with other similar developments. The cumulative visual assessment incorporates developments that have planning permission but are not yet built as well as other developments currently in the planning system, where sufficient information is available i.e.

proposals for which a planning application has been submitted. Existing developments that are already constructed/operational form part of the visual baseline and if visible will be visible in the viewpoints / visual receptors.

1.10.9 The cumulative assessment focuses on the additional effect of the proposal in conjunction with the identified developments (those in planning and consented awaiting construction). Three types of cumulative visual effect are considered:

- Combined Visibility – In combination: where the receptor would be able to see two or more developments from a viewpoint in combination (where more than one development would be simultaneously visible within the receptor's arc of vision i.e. up to 90o);
- Combined Visibility – In succession: where the receptor is able to see two or more developments from one viewpoint but has to move their head through 90-180-360 degrees to do so; and,
- Sequential Visibility: the potential situation where a viewer may gain progressive views of two or more developments along a course of their route. The developments may not be inter-visible at the same time, but could combine to have a cumulative effect on the viewer as they travel through the study area.

1.10.10 There has to be clear visibility of more than similar development (of which one is the proposed development) for there to be an additional cumulative effect. Where the proposed development is clearly visible and other developments are not, no cumulative assessment is undertaken.

1.10.11 The magnitude of cumulative change is determined with reference to the following table.

Table 6.3.9: Definition of Magnitude of Cumulative Change to Views

Magnitude of Cumulative Change	Definition
High	An obvious additional change, in conjunction with other developments, to the view.
Medium	Discernible, but not obvious additional change, in conjunction with other developments, to the view
Low	Slight additional change, in conjunction with other developments, to the view
Negligible	Indiscernible additional change, in conjunction with other developments, to the view.

1.10.12 The level of significance of cumulative effect is judged in the same way as for the prescribed LVIA methodology.

1.11 DISTANCES

1.11.1 Where distances are given in the assessment, these are approximate distances between the site boundary and the nearest part of the receptor in question, unless the measurement is explicitly stated otherwise.

