



Appendix 12.2 – LVIA Methodology

12.1 Introduction

Overview

- 12.1.1 The Landscape Institute and the Institute of Environmental Management & Assessment's Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA 3), 2013, notes in Chapter 1 that Landscape and Visual Impact Assessment (LVIA) relates to:

"...the effects of change resulting from development on both the landscape as an environmental resource in its own right and on people's views and visual amenity"

- 12.1.2 The methodology employed in carrying out the LVIA for the Proposed Development has been drawn from the guidance set out in the GLVIA 3. The guidelines are not intended as a prescriptive set of rules, and the approach has been adapted to the specific project.

- 12.1.3 LVIAs are undertaken by professionals who are also typically involved in the design of the landscape and the preparation of subsequent management proposals. This can allow the assessment to proceed as an integral part of the overall scheme design. Judgements are based on training and experience and supported by clear evidence and reasoned argument.

- 12.1.4 The purpose of LVIAs is to identify the potential for and assess the likely effects of change resulting from development. Landscape and visual assessments are separate, although linked, procedures. A distinction is made between:

- Landscape - landscape character and the elements and features that contribute to it (landscape receptors); and
- Visual - people who experience views within the landscape (visual receptors).

- 12.1.5 There are typically three key stages to LVIA, as follows:

- Baseline Studies;
- Design and Mitigation; and
- Assessment of Landscape and Visual Effects.

12.2 Baseline Studies

- 12.2.1 The purpose of baseline studies is to record the existing landscape features, characteristics, the way the landscape is experienced and potential visual receptors. The following are typically undertaken as part of the baseline studies:

- Identification of the extents of the study area. The extent of this is based on professional judgement and may vary depending on the type of development proposed and its specific location;
- A desktop study of patterns and scale of landform, land use and built development, relevant current planning policy (including landscape designations) and landscape character publications; and
- Site/context landscape and visual appraisal visit.

12.3 Design and Mitigation

- 12.3.1 LVIA's are undertaken by professionals who are also often involved in the design of the landscape, site design, and the preparation of subsequent management proposals. The design and assessment stages are iterative, with stages overlapping in part.
- 12.3.2 Mitigation measures are embedded within the design of the Proposed Development (or the development parameters for an outline application) arising from desk-based study and LVIA field work. These measures, such as the building layout, massing, height, and arrangement of open spaces and new structural planting, are termed 'Primary Mitigation'. Effective Primary Mitigation strategies avoid or reduce adverse effects by ensuring the key principles of the design of the development, as noted above, are sympathetic with the existing baseline.
- 12.3.3 Additional recommended measures to reduce adverse effects are termed 'Secondary Mitigation'. These may be illustrated in material accompanying the proposal, including a Design and Access Statement.
- 12.3.4 The contribution made by areas of planting introduced as part of the Proposed Development is also considered in terms of the effects at year 1 and the residual effects (allowing for growth of planting over time), and the height of this planting for assessment purposes is assumed to be as follows (based on an average growth rate of 1m in 3 years – the specific rate of growth varies according to species, soil, light, microclimate conditions and management):
- Planting at Year 1: typically 0.7-4.5 metres; and
 - Planting at Year 15: typically 5.5-9.5 metres.
- 12.3.5 Whilst distinct from mitigation of adverse effects, enhancement may be achieved through the Proposed Development (e.g. the creation of a new landscape or public amenity/access; enhancement in character or view; or improved management of existing landscape features secured through the Proposed Development). The beneficial changes resulting from these measures are incorporated into assessment of landscape and visual effects.

12.4 Assessment of Landscape Effects

12.4.1 GLVIA 3 Paragraph 5.1 states:

“An assessment of landscape effects deals with the effects of change and development on landscape as a resource.”

12.4.2 Landscape effects occur as a result of changes to the physical fabric of the landscape that may give rise to alterations to its overriding character and how this character is experienced.

12.4.3 The significance of landscape effects is derived from a combination of assessments of the sensitivity of the landscape receptor and the magnitude of effect experienced as a result of the Proposed Development.

Sensitivity of Landscape Receptors

12.4.4 The sensitivity of a landscape receptor is a combination of the value of the landscape receptor and the susceptibility of the landscape receptor to the type of development proposed, using professional judgement.

12.4.5 The assessment of value is based on a combination of the importance of landscape-related planning designations and the following attributes:

12.4.6 Landscape quality (condition): the measure of the physical state of the landscape. It may include the extent to which typical landscape character is represented in individual areas, the intactness of the landscape and the condition of individual elements.

- Scenic quality: the extent that the landscape receptor appeals to the visual senses;
- Perceptual aspects: the extent that the landscape receptor is recognised for its perceptual qualities (e.g. remoteness or tranquillity);
- Rarity: the presence of unusual elements or features;
- Representativeness: the presence of particularly characteristic features;
- Recreation: the extent that recreational activities contribute to the landscape receptor;
- Association: the extent that natural, cultural or historical associations contribute to the landscape receptor;
- Distinctiveness: the extent that the landscape has a strong sense of identity; and
- Function: the extent that the landscape performs a clearly identifiable spatial role.

12.4.7 Landscapes, including their character and features, may be designated for their landscape and visual qualities at a range of levels (national, county and local level). As a matter of principle, all landscapes

are considered within the assessment as enshrined within the European Landscape Convention (ELC) 2004.

- 12.4.8 The overall value for each landscape receptor is categorised as either High, Medium or Low as set out in Table 1.

Table 1: Landscape Value

Level	Typical Criteria
Very High	Nationally designated landscapes, such as National Landscapes, National Parks or World Heritage Sites. Generally, landscapes in very good condition, with intact and distinctive features. May have elevated levels of tranquillity or appear wild. May contain very rare features and may be of particular historic or ecological interest and value. May have significant recreational value.
High	Often locally designated landscapes, and usually with high landscape quality and in a good condition. May have higher than average recreational value, or ecological or historical interest. May be considered particularly scenic or allow for particularly scenic public views from within the landscape. May have well-known cultural associations. May be identified as a particularly good example of a characteristic landscape or contain particularly good examples of characteristic landscape elements.
Medium	Ordinary landscapes. May have localised scenic qualities, with limited recreational value. May have undesignated heritage or ecological value at a local level.
Low	Degraded landscape. May have limited public accessibility or views. May have many features which detract from the scenic quality or tranquillity. May have little ecological or cultural interest.

- 12.4.9 The susceptibility of the landscape is a measure of its vulnerability to the type of development proposed, without undue consequences for the maintenance of the baseline situation. Landscape character/features of low susceptibility would have a high capacity to accommodate change, and landscape character/features of high susceptibility would have a low capacity to accommodate change.

- 12.4.10 The following criteria are taken into consideration in the assessment of the susceptibility of landscape character, although not all criteria are equally applicable or important within a given landscape / type of development proposed:

- Landform;
- Pattern/Complexity;
- Composition;

- Landcover;
- Relationship of a given landscape area to existing settlements or developments; and
- Potential for appropriate mitigation within the context of existing character and guidelines.

12.4.11 With regard to landscape features, susceptibility relates to the potential for loss/retention of the relevant features in relation to the type of development proposed; and the ease with which such elements may be replaced, where appropriate. Landscape susceptibility is categorised as High, Medium or Low, as set out in Table 2.

Table 2: Landscape Susceptibility

Level	Typical Criteria
Very High	A landscape that is typically of higher value, and with a high susceptibility to change. May include nationally designated landscapes, or landscapes of very high quality or value.
High	A landscape with a limited ability to accommodate change, of higher to medium landscape value. Often landscapes of higher quality, and may be locally designated.
Medium	Landscapes with a good capacity to accommodate change, where change would not lead to major loss or damage to landscape elements or character. Often landscapes of medium value.
Low	A landscape with a very good ability to accommodate change, where change would not lead to major loss of key or important elements. Often lower value landscapes.

12.4.12 Based on the combination of value and susceptibility, an assessment of landscape sensitivity is reached, defined as High, Medium or Low. Typically, a high value and high susceptibility receptor would result in a receptor of high sensitivity; and a low value and low susceptibility receptor would result in a receptor of low sensitivity.

Landscape Magnitude of Effect

12.4.13 The landscape magnitude of effect is informed by judgements about the precise nature of the change brought about by the Proposed Development both in terms of the existing landscape character and landscape elements / features and the addition of new landscape elements / features, and its duration and reversibility.

12.4.14 Factors contributing to the scale of landscape change include:

- The extent/proportion of the physical landscape elements that will be altered with reference to their immediate and local/ wider contribution to the landscape;

- The degree to which aesthetic and/or perceptual aspects will be altered; and
- The geographical area that will be directly and indirectly altered.
- Factors contributing to the duration the change is experienced in the landscape (including consideration of management plans as appropriate) include:
 - Whether the change is wholly reversible or permanent; and
 - Whether the change is temporary (and if so, for what period of time).

12.4.15 The landscape magnitude of effect is categorised as Large, Medium, Small, Very Small or None, as set out in Table 3.

Table 3: Landscape Magnitude of Effect

Level	Typical Criteria
Large	Total loss or major alteration to key receptors, characteristics or features of the baseline.
Medium	Partial loss or damage to key receptors, characteristics or features, or partial improvement, restoration or addition to these features.
Small	Minor loss or alteration, or minor improvement to key receptors, characteristics or features.
Very Small	Very limited loss or alteration, or limited improvement to key receptors, characteristics or features.
None	No identifiable change.

12.5 Assessment of Visual Effects

12.5.1 GLVIA 3 Paragraph 6.1 states:

"An assessment of visual effects deals with the effects of change and development on the views available to people and their visual amenity."

12.5.2 The significance of visual effects is derived from a combination of assessments of the sensitivity of the visual receptor and the magnitude of effect experienced as a result of the Proposed Development.

Viewpoint Selection

12.5.3 In order to assess the effects on visual receptors, a selection of publicly accessible viewpoints is made. This could include representative viewpoints (e.g. representing views of users of a particular footpath) and specific viewpoints (e.g. a key view from a specific visitor attraction).

12.5.4 Views may be categorised as either near distance, medium distance or long distance with the relevant distances dependant on the size and nature of the development, based on professional judgement. They typically fall into three broad categories:

- Representative: selected to represent the experience of different types of receptor;
- Specific: chosen because they are key and sometimes promoted viewpoints within the landscape; and
- Illustrative: demonstrating a particular effect or specific issues.

12.5.5 The type of view is typically described as transient (i.e. experienced when moving) or fixed (i.e. from a static location). It is also described in terms of the degree of screening or openness (e.g. open or uninterrupted; filtered (including where partially screened) by vegetation or other structures; or curtailed by intervening land form, built form or vegetation) and the angle of view (e.g. frontal or oblique).

Sensitivity of Visual Receptors

12.5.6 The sensitivity of a visual receptor is a consideration of the value of the view and the susceptibility of the visual receptor, the latter being primarily based on consideration of the extent to which a visual receptor is focused on appreciation of the landscape.

12.5.7 The value of a visual receptor is established during the baseline stage and is categorised as High, Medium or Low as set out in Table 4.

Table 4: Value of Views

Level	Typical Criteria
Very High	Recognised or iconic views within nationally/internationally designated landscapes, such as National Parks, National Landscapes and/or national/international landmarks with views recognised in planning policy and/or management plans, or from viewpoints specified in guide books or OS maps.
High	Views or viewing places of local importance such as designated historic landscapes, or views across a landscape that includes some high quality elements or features of interest, such as landmarks, which may be identified in the Local Plan, Neighbourhood Plan or Conservation Area Appraisals.
Medium	Views of ordinary landscapes with common landscape elements.
Low	Views of moderate to poor quality landscapes with some detracting features.

12.5.8 The susceptibility of each visual receptor is a measure of their vulnerability to the type of development proposed, without undue consequences for the maintenance of the baseline situation. The following criteria are taken into consideration in the assessment of visual susceptibility:

- The extent to which the viewers' attention is focussed on the landscape;
- The extent to which the view contributes to the viewers' amenity experience; and
- The nature of the activity the viewer is involved in (or otherwise).

12.5.9 Professional judgement is used to determine these factors, based on considerations set out in Table 5.

Table 5: Visual Susceptibility

Level	Typical Criteria
High	People whose attention or interest is focused on their view, such as residents, or it forms an important part of the reason for visiting, for example designated viewpoints, promoted routes and PRow within designated landscapes.
Medium	People whose attention is less focussed on their view or are passing through the area where views are relevant to the experience of the journey but are not specific to the reasons for visiting, for example users of local roads and PRow outside of designated landscapes.
Low	People passing through the area at higher speeds where their attention is not focussed on their surroundings or where the view is not relevant to the activity, for example users of main roads, railways or people at work.

12.5.10 The sensitivity of a visual receptor results from the combination of value and susceptibility and is rated as High, Medium or Low. Typically, a high value and high susceptibility receptor would result in a receptor of high sensitivity; and a low value and low susceptibility receptor would result in a receptor of low sensitivity.

Visual Magnitude of Effect

12.5.11 In the evaluation of the effects on views and the visual amenity of the identified receptors, the magnitude of visual effect is typically described with reference to the scale of change in the view with respect to the loss or addition of features in the view and changes in its composition. Factors contributing to this include:

- The angle of view in relation to the main activity of the receptor;
- The distance of the viewer from the Proposed Development; and

- The extent of the area over which the changes would be visible.

12.5.12 Factors contributing to the duration the change is experienced visually are also considered in the evaluation of the effects on views and the visual amenity of the identified receptors, with reference to:

- Whether or not the view is experienced in fixed or transient views and, in the latter, whether it is intermittent/glimpsed or continuous; and
- The duration of the change, whether temporary or permanent, and how readily reversible it is likely to be.

12.5.13 The criteria for the magnitude of visual effects is set out in Table 6.

Table 6: Visual Magnitude of Effect

Level	Typical Criteria
Large	A pronounced change to the existing view, resulting in the loss or addition of features that will substantially alter the composition of the view. The change may be long-term or may be irreversible.
Medium	A noticeable change in the view, resulting from the loss or addition of features in the view and will noticeably alter the composition of the view. The change may be medium-term or may be irreversible
Small	A limited change in the view, which will not materially alter the composition of the view. The change may be short-term or reversible.
Very Small	A barely perceptible change in the view. The change may be short-term or reversible.
None	No change discernible in the view.

12.6 Significance of Effects

12.6.1 In order to draw conclusions about the significance of landscape or visual effects, the combination of the sensitivity of the receptors and the magnitude of effect are considered for the Proposed Development at Year 1 of the operational phase (once the Proposed Development has been completed) and at Year 15.

12.6.2 The significance of effects are rated on a scale of Neutral to Major. The assessment of significance of effects is subject to professional judgement but in broad terms, where a receptor of High sensitivity experiences a Large magnitude of effect as a result of the Proposed Development, the significance

of effect is likely to be Major. Conversely, where a receptor of Low sensitivity experiences a Very Small magnitude of effect as a result of the Proposed Development, the significance of effect is likely to be Negligible.

- 12.6.3 Where it is considered that there is potential for both beneficial and adverse changes, these aspects are noted and are defined as beneficial, adverse, or neutral. This consideration is termed the 'balance of effects', factoring in both the potentially beneficial and adverse aspects associated with a given change, with the balance of these considerations used to inform conclusions on significance of effect.