The Great Grid Upgrade

North Humber to High Marnham

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North Humber to High Marnham

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1. Introduction

1.1 Overview

1.1.1 This Appendix to **Application Document 6.6 Chapter 6 Landscape** describes the methodology used in the production of **Application Document 6.6 Chapter 6 Landscape**. It describes the methods used to determine baseline conditions, receptor sensitivity, the magnitude of change, and the approach to assessing the level or importance of likely landscape effects.

1.1.2 The methodology is an updated version of that submitted as part of **Application Document 6.5.A1 Appendix 5.1 Environmental Impact Assessment Scoping Report** and Preliminary Environmental Information Report (National Grid, 2025) and takes into account comments received as part of **Application Document 6.5.A2 Appendix 5.2 Scoping Opinion** and statutory consultation. Detailed information on the production of the Zone of Theoretical Visibility (ZTV) map and site photography is provided in **Application Document 6.7.A2 Visual Methodology**.

1.1.3 Landscape assessment deals with the effects on the landscape as a resource in its own right (landscape receptors), whilst the assessment of visual effects considers the changes to specific views and general visual amenity experienced by people (visual receptors).

1.1.4 Landscape and visual assessments are inter-related. Visual effects can be considered independently of their impact on the landscape in which they are seen, but landscape effects require consideration of the Project's visual effects. The assessment of visual effects is considered in **Application Document 6.7 Chapter 7 Visual** and methodology for the visual assessment is provided in **Application Document 6.7.A2 Visual Methodology**.

1.2 Guidance Specific to Landscape Assessment

1.2.1 In accordance with the approach to the EIA outlined in **Application Document 6.5 Chapter 5 Environmental Impact Assessment Approach and Methodology**, the landscape assessment, cumulative landscape assessment, and presentation of landscape effects adhere to relevant legislation. Additionally, the assessment follows the applicable guidelines, as they apply to the Project, including:

- Guidelines for Landscape and Visual Impact Assessment – 3rd Edition (GLVIA3) (Landscape Institute and IEMA, 2013);
- Technical Guidance Note (TGN) 01/24 Notes and Clarifications on aspects of the 3rd Edition Guidelines for Landscape and Visual Impact Assessment (GLVIA3) (Landscape Institute, 2024);
- Technical Information Note (TIN) Landscape Character Assessment (TIN 08/15), (Landscape Institute, 2016);
- Technical Guidance Note 02/21 Assessing landscape value outside national designations (Landscape Institute, 2021);

- Technical Guidance Note 06/19 Visual Representation of Development Proposals (Landscape Institute, 2019);
- Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment (Planning Inspectorate, 2025);
- An Approach to Landscape Sensitivity Assessment – to inform spatial planning and land management (Natural England, 2019); and
- An Approach to Landscape Character Assessment (Natural England, 2014).

1.3 Definition of Landscape Effects

1.3.1 The assessment of landscape effects, as defined in paragraphs 5.1 and 5.2 of GLVIA3 (Landscape Institute and IEMA, 2013), states:

'the effects of change and development on landscape as a resource. The concern ... is with 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 area of landscape that should be covered in assessing landscape effects should include the site itself and the full extent of the wider landscape around it which the proposed development may influence in a significant manner'.

1.3.2 Two categories of landscape receptor are considered in the assessment:

- Designated landscapes; and
- Landscape character (combinations of landscape elements and aesthetic and perceptual aspects that make an area distinctive).

1.3.3 The Project may have direct (physical) effects on the landscape as well as indirect effects on landscape character, which may be perceived over a wide area.

2. Approach to Landscape Assessment

2.1 Assessing Landscape Effects

2.1.1 The methodology used for conducting the landscape assessment builds upon the general assessment methodology for the ES outlined in **Application Document 6.5 Chapter 5 Environmental Impact Assessment Approach and Methodology**. This ensures that the landscape assessment follows a consistent, structured approach aligned with the overall EIA methodology.

2.1.2 Guidelines for Landscape and Visual Impact Assessment – 3rd Edition (Landscape Institute and IEMA, 2013) and associated Notes and Clarifications (Landscape Institute, 2024) are the established good practice guidance for landscape assessment and comply with the requirements of National Policy Statements EN-1 (Department for Energy and Net Zero, 2026) and EN-5 (Department for Energy and Net Zero, 2026).

2.1.3 It is emphasised in GLVIA3 (Landscape Institute and IEMA, 2013) that the assessment should reflect the scale and complexity of the development, focusing on the likely significant effects rather than every possible effect. This approach allows for scoping out receptors where significant effects are unlikely, resulting in a more concise and meaningful assessment.

2.1.4 The GLVIA3 (Landscape Institute and IEMA, 2013) approach to assessing landscape effects is summarised as follows:

- **Identify a study area**: This is the geographical area where potential landscape effects from the Project could be experienced. The extent of the study area is determined by preparing ZTV maps, which indicate the areas of the landscape likely to be affected by the Project. The ZTV maps help define the spatial scope for assessing landscape impacts.
- **Establish baseline conditions:** This involves collating baseline landscape information through desk-based studies and field/photographic surveys to evaluate the current landscape across the study area. The baseline includes a review of published landscape character assessments, an appraisal of the existing landscape (including any high-voltage infrastructure), and a judgement on the landscape's relative value. Recognising that landscapes are dynamic, potential future changes independent of the Project are also considered. This includes consideration of future baseline conditions, where known changes such as committed developments could change the baseline environment prior to construction of the Project.
- **Determine landscape receptor sensitivity**: This involves making separate professional judgements on the value of the landscape and its susceptibility to changes introduced by the Project.
- **Assess effects on landscape receptors**: This involves evaluating effects based on their size/scale, geographical extent, and their duration and reversibility. This analysis helps determine the magnitude of change likely to occur.

- **Apply professional judgement:** This requires making an overall judgement on the significance of effects by weighing the value of the landscape and its susceptibility to change against the magnitude of the anticipated change introduced by the Project.

2.1.5 This structured process allows for a comprehensive evaluation of how the landscape would be impacted and whether the changes are likely to result in significant effects.

2.2 Assessing Cumulative Effects

2.2.1 There are two major sources of cumulative effects: 'intra-project' and 'inter-project' effects as described below:

- Intra-project effects (also referred to as combined or interactive effects) occur when a single receptor is affected by multiple sources of impact from within the same project, where different aspects of the Project act together to influence that receptor.
- Inter-project cumulative effects arise when a receptor is affected by impacts from two or more separate projects at the same time, which may increase the overall level of effect. Although each individual project's effects may not be significant on their own, their combined influence could result in a significant cumulative effect.

2.2.2 For the purposes of assessing the cumulative effects of the Project, existing developments, such as wind turbines and other vertical infrastructure (e.g., overhead lines and telecommunications masts), are treated as part of the baseline environment, as detailed in section 6.6 of **Application Document 6.6 Chapter 6 Landscape**.

2.2.3 The assessment of cumulative effects for the Project is presented in **Application Document 6.20 Chapter 20 Intra-project Cumulative Effects** and **Application Document 6.21 Chapter 21 Inter-project Cumulative Effects**. These consider the contribution of the Project to the total cumulative landscape effect created by the construction and operation of the relevant developments that are listed in **Application Document 6.21 Chapter 21 Inter-project Cumulative Effects**.

2.3 Study Area

2.3.1 The study area for the landscape assessment is determined by the potential visibility of the Project in the landscape and is proportionate to the size and scale of the Project and the nature of the surrounding landscape.

2.3.2 Paragraph 5.2 of GLVIA3 (Landscape Institute and IEMA, 2013) states that the study area should include *'the full extent of the wider landscape around it which the proposed development may influence in a significant manner'.*

2.3.3 The study area for the assessment extends 5 km from the Limits of Deviation (LoD)[1].

[1] At scoping a 5 km offset from the Project is assumed as a worst-case scenario but as the Project continued to be reviewed during the preliminary assessment (and following receipt of early design information, it became apparent that likely significant effects would only derive from activities and infrastructure within the LoD e.g. operation of the pylons and not from temporary road widening or ProW diversions outside the LoD. Therefore, for proportionality reasons, a more focused study area is adopted. This is based on an offset from the LoD.

2.3.4 To inform the assessment, a ZTV map based on the pylon heights for the proposed overhead line is provided in **Application Document 6.4.A1 Appendix 4.1 Indicative Pylon Schedule** and following the approach set out in this appendix. The ZTV map is shown on **Application Document 6.7.F2 Figure 7.2 Zone of Theoretical Visibility** and indicates the geographical area over which the proposed overhead line could potentially give rise to landscape effects.

2.3.5 A 10 km ZTV is typically prepared when assessing the effects of pylons, even where the detailed 5 km study area is limited to 5 km. This is to ensure that the full theoretical extent of visibility is understood and to avoid artificially truncating visibility patterns at the 5 km study area boundary. The approach allows the wider landscape context to be considered and ensures that any unusually tall elements, such as the pylons at the River Ouse crossing, which may be visible over a wide area, are fully evaluated. However, significant landscape and visual effects are generally unlikely beyond 5 km due to reduced scale and perceptibility with distance. Therefore, the main assessment focuses on the 5 km study area, where significant effects are most likely to occur due to proximity to the Project and/or receptor sensitivity, and where a proportionate level of detail is required in line with best-practice guidance (Landscape Institute and IEMA, 2013). This approach avoids unnecessary assessment of areas where effects are expected to be negligible (such as longer-range views with very limited visibility).

2.3.6 Where sensitive receptors have been identified outside the 5 km study area that warranted consideration, the residual effects have been identified on a case by case basis.

2.3.7 The 10 km ZTV has been used to inform the assessment of potential cumulative effects as presented in **Application Document 6.21 Inter-project Cumulative Effects.**

2.3.8 Further information on the production of the ZTV is provided in **Application Document 6.7.A2 Appendix 7.2 Visual Methodology**.

Approach to Defining the Study Area

2.3.9 The study area for the Project is informed by guidance on the perceived height of pylons when seen at varying distances (Gillespies, 2014). This study uses a mathematical model to calculate the apparent height of a pylon when its true height and the viewer's distance are known.

2.3.10 The apparent height of a pylon is defined as the height that the structure would appear at arm's length (61 cm) from the viewer (i.e. the structure would appear to be the same height as an 'X' cm high object held at arm's length (61 cm) from the viewer). Using this calculation, the apparent height of a 50 m tall pylon is calculated for varying distances from a viewpoint. The results are shown in Table 2.1.

Table 2.1 – Apparent height of 50 m structure when viewed at arm's length

Distance	Apparent Height
100 m	30.50 cm
200 m	15.25 cm
300 m	10.16 cm

Distance	Apparent Height
400 m	7.63 cm
500 m	6.10 cm
1000 m (1 km)	3.05 cm
2000 m (2 km)	1.53 cm
5000 m (5 km)	0.61 cm
10,000 m (10 km)	0.31 cm

2.3.11 At 5 km, which is the extent of the study area for the landscape assessment, the apparent height of a 50 m high pylon is 0.61 cm. At this apparent height, the pylons are highly unlikely to have a significant landscape effect. At 10 km, which is the extent of the study area for the cumulative landscape assessment, the apparent height of a 50 m high pylon is 0.31 cm. At this apparent height, the pylons alone would not give rise to significant landscape effects, but when seen alongside another development, the overall effect of both projects may be considered significant.

2.4 Baseline Data Gathering

2.4.1 The landscape baseline provides a detailed description of the landscape within the study area. In accordance with GLVIA3 (Landscape Institute and IEMA, 2013) which states on page 32, paragraph 3.15:

'its constituent elements and features, its character and the way this varies spatially, its geographic extent, its history (which may require its own specialist study), its condition, the way the landscape is experienced, and the value attached to it'.

2.4.2 The baseline describes the current appearance of the landscape across the study area and includes an assessment of any changes that would occur between the time of undertaking the assessment and the future years in which the Project is planned to be constructed and become operational.

2.4.3 The baseline description and assessment are established using published landscape character assessments, which are then verified through field surveys to ensure accuracy and sufficient detail for the landscape assessment.

Method for Assessing Landscape Effects

2.4.4 Guidance in GLVIA3 (Landscape Institute and IEMA, 2013) states that the sensitivity of landscape receptors should be assessed in terms of the susceptibility of the landscape to change and the value attached to the landscape. The magnitude of change should be assessed in terms of the size and scale, geographical extent, duration and reversibility of the effect.

2.4.5 The exception to this is the National Character Areas (NCAs), which are too large and internally varied to support a single, meaningful judgement of landscape value or susceptibility. Each NCA covers extensive geographic areas that typically include multiple Landscape Character Types (LCTs) and Regional Landscape Character Types (RLCTs), as well as a mix of land uses, settlement patterns, and varying

degrees of landscape condition. Because of this diversity, the same NCA can contain highly contrasting landscapes, such as remote rural areas, intensive agriculture, the urban fringe, industrial infrastructure, and sensitive ecological sites. These components can have varying levels of landscape value and sensitivities to change. As a result, applying a single overall judgement at the NCA level risks oversimplifying this variation and producing conclusions that are neither robust nor locally relevant. The assessment of likely effects is therefore based on professional judgement informed by the outcome of the assessments of effects on the relevant RLCT and LCT.

2.4.6 These aspects are considered together to form a professional judgement regarding the overall significance of landscape effect (GLVIA3 (Landscape Institute and IEMA, 2013) Figure 5.1 page 71). The remainder of this appendix sets out the methodology in more detail.

Landscape Value

2.4.7 The baseline includes a description of the relative value of the landscape, which is unrelated to the nature of the Project. Page 3 of TGN 02-21 (Landscape Institute, 2021) defines 'landscape value' as:

'the relative value or importance attached to different landscapes by society on account of their landscape qualities'.

2.4.8 An area of landscape may be valued for many reasons – for example, its condition, scenic beauty, tranquillity or remoteness, its recreation opportunities, nature conservation, or its historic and cultural associations. Development will not necessarily be incompatible with the valued qualities of a landscape, as this will depend on the nature of the proposal and the characteristics of the landscape.

2.4.9 Nationally and internationally designated landscapes are generally accorded the highest value. The absence of a formal landscape designation, however, does not necessarily mean a landscape is of lower value. Paragraph 5.29 of GLVIA3 (Landscape Institute and IEMA, 2013) describes value as:

'…. the relative value that is attached to different landscapes by society, bearing in mind that a landscape may be valued by different stakeholders for a whole variety of reasons. Considering value at the baseline stage will inform later judgements about the significance of effects. …A review of existing landscape designations is usually the starting point in understanding landscape value, but the value attached to undesignated landscapes also needs to be carefully considered and individual elements of the landscape – such as trees, buildings or hedgerows – may also have value'.

2.4.10 Table 2.3 sets out the indicators that help to define landscapes of international/national, regional/local, community and limited importance.

Table 2.2 - Typical importance of landscape receptors

Category	Indicators
International/ National	Landscapes which are internationally or nationally designated for their landscape value e.g., National Parks and National Landscapes (formerly Areas of Outstanding Natural Beauty (AONB)).
Regional/Local	Regionally or locally designated landscapes such as Important Landscape Areas (ILA), Special Landscape Areas (SLA), and Areas of Great Landscape Value (AGLV).
Community Importance	Everyday landscapes, which may be valued by the local community but have little or no wider recognition of their value.
Limited	Despoiled or degraded landscape with little or no evidence of being valued by a community.

2.4.11 The quality of a valued landscape is often explained in a citation for a designation, but where this isn't available, value can be determined through the application of a criteria-based comparative landscape approach supported by published documentation such as tourist leaflets, art, and literature. The value of a landscape or view can also be informed by consultation feedback from people with local knowledge. The value of a landscape or view can also be informed by consultation feedback from people with local knowledge. This is in line with the latest guidance from Natural England (Natural England, 2019) and the European Landscape Convention (Council of Europe, 2000), which promotes an 'all-landscapes approach', founded on the recognition of value in all landscapes.

2.4.12 The value of the landscape includes consideration of the following factors:

- Landscape character and quality;
- Importance in terms of designations;
- Scenic quality;
- Conservation interests;
- Recreational value;
- Perceptual aspects and tranquillity; and
- Cultural associations.

2.4.13 The value of the landscape is described as very high, high, medium or low by applying the indicators listed in Table 2.3. Professional judgements are supported by narrative description linked back to evidence from the baseline study to explain the conclusions reached.

Table 2.3 - Indicators of landscape value

Category	Indicators
Very High	Landscape of very high scenic quality, with all or most of the scenic/special qualities evident, including its flora, fauna, geological and geographical elements and features. Typically, internationally, or nationally designated, e.g., National Park or National Landscape (formerly AONB)). Very good condition/very well-managed and intact. Historic interest of designated national or international importance, which contributes substantially to landscape character. Mainly characterised by natural components that are rare and distinctive. Very high recreational value, which contributes substantially to recreational/visitor experience. Rich and valued cultural associations. Unique sense of place. No discordant features.
High	Landscape of high scenic quality, with considerable evidence of the scenic/special qualities, including its flora, fauna, geological and geographical elements, and features. Typically designated at a regional or local level, such as ILA, SLA or AGLV. Good condition/well-managed and largely intact. Many natural components. Historic interest which contributes to landscape character. Recreational value which contributes to recreational/visitor experience. Valued cultural associations. Strong sense of place. Occasional discordant features.
Medium	A landscape with some evidence of scenic/special qualities, albeit with a degree of erosion due to the presence of infrastructure and/or inappropriate built development. A commonplace landscape which may be valued by the local community but has little or no wider recognition of its value. Average condition with some intactness, but scope to improve management for land use. Limited historic interest. Some natural components. Limited recreational value and few visitors. No or very few recorded cultural associations. Some features worthy of conservation. Some noticeable discordant features.
Low	A landscape with a greater presence of infrastructure and/or inappropriate built development, which impacts on the scenic/special qualities of the landscape or one of low scenic quality or with many of the scenic/special qualities eroded. Little or no evidence of being valued by a community. Lack of management has resulted in degradation and poor condition. Limited to no historic interest. Limited to no recreational value. No recorded cultural associations. Frequent or dominant discordant features. Disturbed or derelict land requiring treatment.

Establishing Landscape Sensitivity

2.4.14 The sensitivity of landscape receptors to the Project is assessed through two separate considerations:

- Value - established and reported as part of the baseline assessment, as explained above.
- Susceptibility to change - determined through informed professional judgement, guided by the indicators set out in Table .

2.4.15 This approach involved separating sensitivity into value and susceptibility, which differs slightly from the general assessment methodology presented in **Application Document 6.5 Chapter 5 Environmental Impact Assessment Approach and Methodology**. However, it aligns with guidance in GLVIA3 (Landscape Institute and IEMA, 2013) and associated Notes and Clarifications (Landscape Institute, 2024).

2.4.16 Susceptibility varies depending on the character of the landscape and the nature of the development. Therefore, it is tailored to a specific project. Determining the susceptibility of the landscape receptor involves:

- Evaluating how the receptor's characteristics and qualities either align or conflict with the changes introduced by the Project.
- Assessing the ability of the landscape to absorb or adapt to these changes, while maintaining its baseline conditions and complying with relevant planning policies.

2.4.17 Components of the landscape that typically inform the susceptibility of the landscape to a 400 kV overhead line are:

- Landform
  - Steep, dramatic, or elevated landforms are generally more susceptible to the visual impact of 400 kV overhead lines. These landforms are often prominent and distinctive, which can result in skylining of pylons and conductors. Single and narrow ridges are especially vulnerable, particularly when the ridgeline is well-defined or steep, or when there are rock outcrops. More complex landforms might offer some screening or opportunities for backdropping[2], but caution is needed to avoid overwhelming intricate landforms.
  - Broad valleys with smooth and regular lines tend to be less susceptible to 400 kV overhead lines. These landforms have a greater potential to provide backgrounding and enclosure, which can mitigate the visual impact of the proposed overhead lines.
- Landcover Pattern
  - The character of the landscape as shaped by its landscape pattern, including the distribution of vegetation, rather than the material susceptibility of specific landcover types.
  - Landscapes with a variety or mosaic of characteristic or susceptible features, such as trees and woodlands, hedgerows, or traditional/historic field patterns, are generally more vulnerable to 400 kV overhead lines. In contrast, simpler,

[2] In landscape assessment, 'backdropping' (also described as 'backclothing') refers to the visual role played by background elements, such as landform, vegetation or built development, in highlighting or minimising a particular feature in this case the pylons.

less cluttered landscapes with few distinctive features, or where such patterns have been obscured over time, are less susceptible.

  - Landscapes with past or ongoing commercial or industrial activities tend to have lower susceptibility. The presence of vertical elements, such as high-voltage electricity infrastructure, wind turbines, communication masts, or other large infrastructure, can make the landscape less susceptible to 400 kV overhead lines. This is because the rural character and scenic quality of the landscape may already have been altered. New overhead lines may be perceived as less intrusive because they blend with existing elements and don't introduce an entirely new visual feature.
  - Depending on their scale and distribution, trees and woodland can reduce a landscape's susceptibility to 400 kV overhead lines, especially when combined with landform.

- Landscape Scale
  - Scale is typically related to landform and/or landcover.
  - Landscapes with a larger scale are typically less susceptible to 400 kV overhead lines because pylons generally appear more in proportion to expansive surroundings. In contrast, small scale or intimate landscapes can be more vulnerable, as pylons tend to be more prominent in these settings.
  - Depending on the height differential between valley floors and hilltops, the susceptibility of a landscape to 400 kV overhead lines can either increase or decrease. This is because the perceived size of the pylons may be altered.
  - The size and scale of pylons may be further emphasised when compared with landscape features such as field patterns, landform, individual trees, and buildings. This comparison can highlight the scale and prominence of the pylons within the landscape, potentially making them appear more intrusive in relation to these features.
- Prominent Landscape Features and Skylines
  - Landscapes with distinctive ridges or prominent skylines are likely to be more susceptible to 400 kV overhead lines compared to skylines that are less prominent or have already been affected by visually intrusive structures.
  - The presence of distinctive or historic landscape features, such as hilltop monuments, church towers, vernacular villages, country houses, mansions, or other historic features increases the susceptibility of a landscape as overhead lines can detract from or conflict with the landscape setting of these features.
  - Skylines that provide a prominent setting for settlements are also more susceptible. Overhead lines can disrupt the relationship between these settlements and their landscape settings, affecting the visual coherence and setting of the landscape.
- Settlement Pattern
  - This relates to the settlement pattern and how it contributes to landscape character, rather than to visibility and views, which is discussed separately.
  - A settlement pattern that is closely integrated with the pattern and form of the landscape, especially where traditional patterns remain intact, is likely to be

more sensitive to 400 kV overhead lines. This is because overhead lines can disrupt the visual harmony between settlements and their surrounding landscape.

- Conversely, a settlement pattern that is less closely related to the landscape, such as larger scale developments that rise over ridgelines or obscure field patterns, is generally less susceptible. This is because such developments may already have altered the natural landscape, reducing the potential impact of new overhead lines.

2.4.18 Designated landscapes are typically highly susceptible to new development of the type proposed. This susceptibility is influenced by the special qualities and purposes of designation, as well as the valued elements, qualities, or characteristics of the landscape. The degree to which these aspects may be unduly affected by the Project is an important consideration in assessing the overall impact.

2.4.19 The susceptibility of the landscape to change is categorised as very high, high, medium, or low by applying the indicators listed in Table 2.4. Professional judgements are supported by narrative descriptions linked back to evidence from the baseline study to explain the conclusions reached.

Table 2.4 - Indicators of landscape receptor susceptibility

Category	Indicators
Very High	The landscape receptor is extremely susceptible, as it cannot accommodate the Project without substantial adverse effects. Attributes that define the landscape offer very few opportunities to accommodate change without fundamentally altering or permanently losing key characteristics and elements, leading to a different landscape character.
High	The landscape receptor is highly susceptible because it cannot accommodate the Project without adverse effects. Attributes that define the landscape's character offer limited opportunities to accommodate change without fundamentally altering its key characteristics, leading to a different landscape character.
Medium	The landscape receptor has some ability to accommodate the Project without adverse effects. Attributes that define the character of the landscape offer opportunities to accommodate change without key characteristics being fundamentally altered.
Low	The landscape receptor is more able to accommodate the Project without adverse effects. Attributes that define the character of the landscape are more resilient to change from the proposed development. Only individual elements and/or features, or a particular aesthetic and perceptual aspect may be affected.

2.4.20 In accordance with paragraph 5.5 of GLVIA3 (Landscape Institute and IEMA, 2013) and note 5(9) of the Clarification Notes (Landscape Institute, 2024), professional judgements on landscape value and susceptibility are not combined to arrive at a professional judgement on sensitivity, but separately influence the assessment as part of the overall profile approach, which is explained later in this appendix.

2.5 Predicting Magnitude of Change

2.5.1 Paragraph 5.48 of GLVIA3 (Landscape Institute and IEMA, 2013) sets out the criteria which should be considered in reaching a professional judgement on the magnitude of landscape change[3]. These include *'its size or scale, the geographical extent of the area influenced, and its duration and reversibility'*.

Size and Scale of Effect

2.5.2 For landscape elements or features, this depends on the extent of existing landscape elements or features that would be lost or changed, the proportion of the total extent that this represents, and the contribution of that element or feature to the character of the landscape.

2.5.3 In terms of landscape character, this reflects the degree to which the character of the landscape would change because of the removal or addition of landscape elements or features, and how the changes would affect its key characteristics and overall character.

2.5.4 The size/scale of effect is described as large, medium, small, or very small. Professional judgements are supported by narrative description linked back to evidence from the baseline study to explain the conclusions reached.

Geographical Extent of Effect

2.5.5 The geographical extent over which the landscape effect would arise is described as small, medium or large based on the definitions set out on page 91 of GLVIA3 (Landscape Institute and IEMA, 2013) and the published landscape character areas/types, as described below:

- Small - the site level or its immediate setting.
- Medium - at the scale of the landscape; type/character area within which the Project lies.
- Large - influencing several landscape character types/areas.

Duration and Reversibility

2.5.6 The design life of the Project is at least 80 years but with regular maintenance is likely to extend further.

2.5.7 Paragraph 5.51 of GLVIA3 (Landscape Institute and IEMA, 2013) states that duration *'can usually be simply judged on a scale such as short term, medium term or long term'*. For the purposes of the assessment, duration is determined in relation to the phases of the Project, as follows:

- **Short term** – assumed to cover construction plus one-year reinstatement.
- **Medium term** – assumed to be 2-15 years post construction and includes the effects of permanent vegetation loss on the baseline environment.

[3] It is noted that GLVIA3 (Landscape Institute, 2024) uses the term *'magnitude of effect'*, however, the word effect in this methodology is reserved for use when discussing overall levels of effect and significance.

- **Long term** – assumed to be of a duration that extends longer than 15 years post construction, once any committed mitigation planting has achieved its design intention.

2.5.8 The duration of the effect can also be described as temporary, transient (whether continuous or intermittent) or seasonal (views which would be subject to seasonal leaf cover).

2.5.9 In relation to reversibility, GLVIA3 (Landscape Institute and IEMA, 2013) requires consideration of whether effects are likely to be reversible or irreversible (permanent). This is related to whether the change can be reversed – for example following the completion of construction activities – or at the end of the operational lifespan of the Project.

2.5.10 As noted in **Application Document 6.5 Chapter 5 Environmental Impact Assessment Approach and Methodology**, the decommissioning phase of the Project has been scoped out of the EIA on the basis that the Project will remain in place and be operational for an indeterminate timescale. Accordingly, the landscape assessment adopts a worst-case assumption that all reported operational effects of the Project will be irreversible (i.e. permanent).

Making Judgements

2.5.11 The evaluations of individual aspects described above (value, susceptibility, size and scale, geographical extent, duration, and reversibility) are considered together to build an overall profile for each identified effect. The magnitude of landscape change is then categorised as large, medium, small, or very small by applying the indicators listed in Table 2.5. Professional judgements are supported by narrative descriptions linked back to evidence from the baseline study to explain the conclusions reached.

Table 2.5 - Indicators of magnitude of landscape change

Category	Indicators
Large	The Project (or works to facilitate it) would result in a considerable change to the landscape, with undesirable consequences for the elements, character and quality of the baseline landscape. The Project would form a prominent landscape element and post-development the baseline situation would be substantially changed. There would be physical loss of landscape features that are not replaceable or are replaceable only in the long term. The duration/reversibility of effect is likely to be long-term and irreversible.
Medium	The Project (or works to facilitate it) would result in a noticeable change to the landscape over a wide area or conspicuous change over a limited area, with some undesirable consequences for the elements, character and quality of the baseline landscape. The Project would form a conspicuous landscape element and post development the baseline situation may be noticeably changed. There would be physical loss of landscape features that are replaceable in the medium term. The duration/reversibility of effect is likely to be long-term but may be reversible.
Small	The Project (or works to facilitate it) would result in a slight change to the landscape with few undesirable consequences for the elements, character and quality of the baseline landscape. The Project would be perceptible, but

Category	Indicators
	post development, the baseline landscape may exhibit some differences but would be largely unchanged. There would be physical loss of landscape features that are replaceable in the medium term. The duration/reversibility of effect is likely to be medium-term and reversible.
Very small	The Project (or works to facilitate it) would result in an inconspicuous change to the landscape over a wide area or slight change over a limited area, with no undesirable consequences for elements, character and quality of the baseline landscape. The Project would be just perceptible and post-development, the baseline landscape would appear unchanged. There would be physical loss of landscape features that are replaceable in the short term. The duration/reversibility of effect is likely to be short-term and reversible.

2.6 Judging Levels of Landscape Effect

2.6.1 The final step in the assessment involves combining professional judgements on sensitivity and magnitude of change to arrive at an informed, professional evaluation of the significance of each landscape effect.

2.6.2 In accordance with GLVIA3 (Landscape Institute and IEMA, 2013) and associated Notes and Clarifications (Landscape Institute, 2024), a rigid matrix approach, where effect levels are determined solely by combining sensitivity (nature of receptor) with magnitude of change (nature of effect), has not been applied.

2.6.3 Instead, the evaluations of individual aspects described above (value, susceptibility, size and scale, geographical extent, duration, and reversibility) are considered together to build an overall profile for each identified effect. An overview of the distribution of professional judgements for these aspects is then taken, allowing for a more comprehensive understanding of how various factors collectively contribute to the overall landscape effect. This process draws on good practice principles outlined in GLVIA3 (Landscape Institute and IEMA, 2013) and is guided by the indicators in Table 2.6.

2.6.4 Levels of effect are categorised as major, moderate, minor or negligible, in accordance with the indicators in Table 2.6. Effects judged to be moderate or major are considered significant under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (HM Government, 2017).

2.6.5 Given the nature of the Project, the direction of change is considered adverse unless otherwise stated.

Table 2.6 - Categories and indicators of significance

Category	Indicators	Significant effect
Major	The Project would lead to an obvious change in landscape characteristics and character, likely affecting a landscape with high or medium susceptibility to that type of change. This level of significance may also occur when a medium scale of effect acts on a nationally valued landscape. The effect is likely to be long-term and affect a relatively large area. If designated, it is likely to affect the reasons for the designation.	**Yes**
Moderate	The Project would lead to a noticeable change in landscape characteristics and character, likely affecting a landscape with a medium susceptibility to that type of change. This level of significance may also occur when a smaller scale of effect acts on a more widely valued landscape, or a larger scale of effect acting on a landscape valued at a more local level. This level of significance may also occur when a large scale of effect occurs over a relatively short period or over a small area. If designated, it may affect the reasons for the designation.	**Yes**
Minor	The Project would result in a small change in landscape characteristics and character over a long-term duration. This level of significance may also occur when a larger scale of effect is of short-term duration or confined to the site. If designated, it is unlikely to affect the reasons for the designation.	No
Negligible	The Project would result in a barely perceptible change in landscape characteristics and character. If designated, it would not affect the reasons for the designation.	No

2.6.6 The assessment considers the effects at construction, in year 1 operation, and year 15 operation (by which time any new planting will be established and fulfilling its intended function).

2.7 Mitigation and Residual Effects

2.7.1 The design has been developed iteratively alongside the assessment process, taking account of predicted effects and feedback from stakeholders and landowners on mitigation siting. This approach has enabled potentially significant adverse effects to be avoided or reduced where possible.

2.7.2 The most effective mitigation measures are those that are integral to the Project. A distinction is therefore made between measures designed as an intrinsic part of the Project (embedded mitigation measures) and those which are intended to specifically counteract any potentially significant residual adverse effects of the Project (additional mitigation measures).

2.7.3 Significant residual landscape effects remaining after proposed mitigation are summarised as the final step in the assessment process. Each significance category encompasses a broad range of effects and represents a continuum or sliding scale. If an effect falls at the upper or lower end of the category, this is noted and explained in the detailed assessment presented in **Application Document 6.6, Chapter 6, Landscape**.

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