Immingham Green Energy Terminal

TR030008

Volume 6

6.4 Environmental Statement

Appendix 13.A: Landscape and Visual Assessment Methodology

Planning Act 2008

Regulation 5(2)(a)

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended)

September 2023

Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended)

Immingham Green Energy Terminal

Development Consent Order 2023

6.4 Environmental Statement

Appendix 13.A: Landscape and Visual Assessment Methodology

Regulation Reference	APFP Regulation 5(2)(a)
Planning Inspectorate Case Reference	TR030008
Application Document Reference	TR030008/APP/6.4
Author	Associated British Ports Air Products BR

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Revision 1	21 September 2023	DCO Application

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1. Landscape and Visual Assessment Methodology

1.1. Study Area

1.1.1 A study area of 3km from the Project has been identified for the landscape and visual assessment, as shown on **Figure 13.1 [TR030008/APP/6.3]**.

1.1.2 The extent of the study area has been informed by a review of Schedule 1 of the **draft Development Consent Order** ("DCO") **[TR030008/APP/2.1]** which lists the key buildings and structures contained in the Project and the maximum heights of the permanent built elements dimensions of structures and buildings are set out within Table 2-1 in **Chapter 2: The Project [TR030008/APP/6.2]**. The study area is also informed by the Zone of Theoretical Visibility ("ZTV") mapping, desk-based research, knowledge of the area and professional judgement. It is considered that it is highly unlikely that significant landscape of visual effects will occur beyond 3km from the Project.

1.1.3 An additional viewpoint, Viewpoint 10, was added as requested by North Lincolnshire Council ("NLC") which represents views from the England Coast Path – this viewpoint falls outside the defined study area where the assessment has concluded that no significant effects are likely. The viewpoint is described in Table 13.4 and assessed in Table 13.9 of **Chapter 13: Landscape and Visual Impact [TR030008/APP/6.2]**.

1.1.4 The ZTV (**Figure 13.2 [TR030008/APP/6.3]**) was produced on a worse-case scenario based on the maximum height of the permanent built element of the Project within each of the Project components (Work Numbers).

1.1.5 The information presented in this assessment is based on the design for the Project, and the maximum extents of land and structures required for its construction and operation, as described in **Chapter 2: The Project [TR030008/APP/6.2]**.

1.1.6 Further details on the use and limitations of ZTVs are provided in **Section 1.2** of this appendix.

1.2. Impact Assessment Methodology

1.2.1 The Landscape and Visual Impact Assessment ("LVIA") has been undertaken with due reference to the following guidance documents:

a. Guidelines for Landscape and Visual Impact Assessment ("GLVIA"), Third Edition (Ref 1-1).

b. Natural England (2012). An Approach to Seascape Character Assessment. (Ref 1-2)

c. Visual Representation of Development Proposals, Technical Guidance Note 06/19 (Ref 1-3).

d. Assessing landscape value outside national designations, Technical Guidance Note 02/21 (Ref 1-4).

e. Infrastructure, Technical Guidance Note 04/2020 (Ref 1-5).

1.2.2 GLVIA places a strong emphasis on the importance of professional judgement in identifying and defining the significance of landscape and visual effects. The LVIA is reviewed by Chartered Landscape Architects with experience in the assessment of similar types of project. Professional judgement is used in combination with structured methods and criteria to evaluate landscape and visual value and susceptibility, the resulting sensitivity, magnitude, and significance of effect.

1.2.3 The LVIA recognises that different stages of the Project may result in different levels of landscape and visual effects. In addition, it recognises the potential for landscape and visual effects to change over time, particularly where the Project incorporates mitigation planting. The LVIA therefore includes consideration of effects at the following stages:

a. Construction

b. Operation

c. Decommissioning

1.2.4 The assessment has regard to the Project programme and evaluates the environmental effects of the phased approach to construction and operation summarised in **Chapter 2: The Project [TR030008/APP/6.2]**.

1.2.5 Effects relating to future decommissioning of the Project are expected to be similar to those of construction for landside infrastructure, and as such are not discussed further in the assessment.

1.2.6 The following section provides details of the methodology for the LVIA which builds on the general assessment methodology presented in **Chapter 5: EIA Approach [TR030008/APP/6.2]**. For clarity and in accordance with good practice, the assessment of potential effects on landscape character and visual amenity, although closely related, are undertaken separately.

Sensitivity of Landscape Receptors

1.2.7 Landscape receptors are described as components of the landscape that are likely to be affected by the Project. These can include overall character and key characteristics, individual elements or features and specific aesthetic or perceptual aspects. It is the interaction between the different components of the Project and these landscape receptors which has potential to result in landscape effects (both adverse and beneficial).

1.2.8 The sensitivity of the landscape receptor is a combination of the value of the landscape (undertaken as part of the baseline study) and the susceptibility to change of the receptor to the specific type of development being assessed.

1.2.9 Landscape value is frequently addressed by reference to international, national, regional, and local designations, determined by statutory bodies and planning agencies. Absence of such a designation does not necessarily imply a lack of quality or value. Factors such as accessibility and local scarcity can render areas of nationally unremarkable quality, highly valuable as a local resource. The evaluation of landscape value is informed by the Landscape Institute TGN 02/21 (Ref 1-4) and undertaken considering the following factors and classified as high, medium, or low with evidence provided as to the basis of the evaluation:

a. *Natural heritage* - landscape with clear evidence of ecological, geological, geomorphological, or physiographic interest which contribute positively to the landscape.

b. *Cultural heritage* - landscape with clear evidence of archaeological, historical or cultural interest which contribute positively to the landscape.

c. *Landscape quality/condition* - the measure of the physical state of the landscape including the intactness of the landscape and the condition of individual elements.

d. *Scenic quality* - the level of visual and sensory appeal of the landscape.

e. *Perceptual aspects* - the extent that the landscape receptor is recognised for its perceptual qualities (e.g. scenic, wildness or tranquillity).

f. *Functional* - landscape which performs a clearly identifiable and valuable function, particularly in the healthy functioning of the landscape.

g. *Rarity* - the presence of unusual elements or features.

h. *Representativeness/distinctiveness*- the presence of particularly characteristic features.

i. *Recreation* - the extent that recreational activities contribute to the landscape receptor.

j. *Association* - extent that cultural or historical associations contribute to the landscape receptor.

1.2.10 Landscape susceptibility relates to the ability of a particular landscape to accommodate the Project. It is appraised through consideration of the baseline characteristics of the landscape, and in particular, the scale or complexity of a given landscape. The evaluation of landscape susceptibility is defined as high, medium, low or very low and is supported by a clear explanation based upon the analysis of the landscape receptor and the extent to which it is able to accommodate the type of change proposed, specific to the Project.

1.2.11 The overall sensitivity assessment of the landscape receptor is made by employing professional judgement to combine and analyse the identified value and susceptibility with overall levels given from high, medium, low to very low.

Table 1: Sensitivity of Landscape Receptors

	Higher Sensitivity		Lower Sensitivity
Value	A designated landscape (National Park, National Scenic Area, World Heritage Site) or a landscape in very good condition, exceptional scenic quality and high recreational opportunities or a high degree of rarity.	⟷	Landscapes containing few if any notable elements/features, of poor condition or containing several detracting features and limited aesthetic qualities. Landscapes which are not formally designated.

	Higher Sensitivity		Lower Sensitivity
Susceptibility	Attributes that make up the character of the landscape which offer very limited opportunities to accommodate change of the type proposed without fundamentally altering key characteristics.	⟷	Attributes that make up the character of the landscape which are tolerant of a large degree of the type of change proposed without fundamentally altering the key characteristics.

Sensitivity of Visual Receptors

1.2.12 Sensitivity of visual receptors is defined through appraisal of the viewing expectation, or value placed on the view as identified in the baseline study, and its susceptibility to change.

1.2.13 The value of the view is an appraisal of the value attached to views and is often informed by the appearance on Ordnance Survey or tourist maps and in guidebooks, literature or art or identified in policy. Value can also be indicated by the provision of parking or services, signage, and interpretation. The nature and composition of the view and its scenic quality is also an indicator. The value of the view is classified as high, medium, or low and is supported by evidenced, professional judgements.

1.2.14 The susceptibility of visual receptors is a function of the occupation or activity of people experiencing the view and the extent to which their attention or interest is focussed on the view and the visual amenity they experience at a particular location. For example, residents in their home, walkers whose interest may tend to be focused on the landscape or a particular view, or visitors at an attraction where views are an important part of the experience, may indicate a higher level of susceptibility. Whereas receptors occupied in outdoor sport where views are not important or at their place of work could be considered less susceptible to change.

1.2.15 Conclusions in relation to the susceptibility of visual receptors are described as high, medium, or low using consistent and reasoned judgements.

1.2.16 The overall sensitivity assessment of the visual receptor is determined by employing professional judgement to combine and analyse the identified value and susceptibility on a scale from high, medium to low. The basis of the assessment is made clear in the evaluation of each visual receptor.

Table 2 Sensitivity of Visual Receptors

	Higher Sensitivity		Lower Sensitivity
Value	Views protected by designation, or nationally recognised, or recorded on maps / guidebooks or with cultural associations. Views that have high scenic qualities	⟷	Views which are not documented or protected with minimal or no cultural associations. Views that exhibit low scenic qualities relating to the content and composition of the view.

	Higher Sensitivity		Lower Sensitivity
	relating to the content and composition of the view.		
Susceptibility	Viewers whose attention or interest is focused on their surroundings.	⟷	People whose attention or interest is not focused on their surroundings and where the view is incidental to their enjoyment.

Landscape Magnitude of Change

1.2.17 Magnitude of landscape change refers to the extent to which the Project would alter the existing characteristics of the landscape. It is an expression of the size or scale of change to the landscape, the geographical extent of the area influenced and its duration and reversibility. The variables involved are described below and in **Table 3** and **Table 4**:

a. The extent of existing landscape elements that would be lost, the proportion of the total extent that this represents and the contribution of that element to the character of the landscape.

b. The extent to which aesthetic or perceptual aspects of the landscape are altered either by removal of existing components of the landscape or by addition of new ones.

c. Whether the change alters the key characteristics of the landscape, which are integral to its distinctive character.

d. The geographic area over which the change will be felt (within the application boundary itself, the immediate setting, at the scale of the landscape character area, on a larger scale influencing several landscape character areas).

e. The duration of the change.

f. Its reversibility (whether it is permanent, temporary, or partially reversible).

Size or Scale

Table 3: Landscape Size/Scale Criteria

Criteria level	Feature/element	Aesthetic /perceptual aspect	Key characteristics/ overall character
Large	Total or substantial loss or large scale damage to landscape features resulting in the integrity of the landscape being compromised.	Change wholly or largely alters an aesthetic/ perceptual aspect, such that it becomes difficult/ impossible to appreciate, when considered against the baseline.	Loss of or changes to the critical key characteristics of the landscape, resulting in a change to the overall landscape character.
Medium	Partial loss or medium scale damage to	Change is such that the development has an	Partial loss or small changes to the key

Criteria level	Feature/element	Aesthetic /perceptual aspect	Key characteristics/ overall character
	landscape features resulting in a partial change to the element/feature which may in some cases diminish its overall integrity.	influence upon an aesthetic/ perceptual aspect, but said aspect remains appreciable.	characteristics of the landscape but not resulting in an obvious change to the overall character of the area.
Small	Slight loss or small scale damage to landscape features with its integrity remaining unchanged.	Change has little tangible effect upon an aesthetic/ perceptual aspect.	Minor changes to key characteristics which result in no or little change to the overall landscape character.

Geographical Extent

Table 4: Geographical Extent Criteria

Criteria level	Description
Large	The effects may influence several landscape types/character areas.
Medium	The effects may influence the landscape type/character area within which the development is located.
Small	The effects may influence the immediate setting of the site.
Negligible	The effects may influence the development site only.

Duration and Reversibility

1.2.18 The duration of an effect and its reversibility are linked but separate consideration of the criteria for defining these are as below in **Table 5** and **Table 6**.

Table 5: Duration Criteria

Criteria level	Description
Temporary	Less than 12 months
Short term	0-5 years
Medium term	5-10 years
Long term	10+ years

1.2.19 The reversibility of an effect relates to the prospects and practicality of an effect being able to be reversed and is determined based on the indicative criteria set out in **Table 6** below.

Table 6: Reversibility Criteria

Criteria level	Description
Reversible	Change can be wholly or largely reversed. For example the removal of a wind farm development following decommissioning.
Partially reversible	Change is partially reversible. For example the restoration of a quarry to something similar to the baseline.
Irreversible	Change cannot realistically be reversed, *i.e.* it is permanent.

1.2.20 An overall assessment of the magnitude of landscape change resulting from the Project on the landscape receptor is made combining the above judgements using evidence and professional judgement. The levels of magnitude of change are described as being high, medium, low, very low or none, with reference to the criteria descriptions set out in **Table 7** below.

Table 7: Magnitude of Change – Landscape Receptors

Magnitude	Criteria
High	Large alteration to the landscape receptor or may impact an extensive area or unique characteristics at a local level. May be longer term impacts, permanent or reversible.
Medium	Partial alteration to the landscape receptor or may impact a wide area or characteristics at a local level. May be medium term impacts, permanent or reversible.
Low	Slight alteration to the landscape receptor or may impact a restricted area and few key characteristics. May be short to medium term impacts, permanent or reversible.
Very Low	Very slight alteration to the landscape receptor or may impact a limited area or no key characteristics. May be short term impacts, permanent or reversible.
None	No change to the landscape receptor.

Visual Magnitude of Change

1.2.21 Visual magnitude of change relates to the extent to which the Project would alter the existing view and is an expression of the size or scale of change in the view, the geographical extent of the area influenced and its duration and reversibility. The variables involved are described below and in **Table 8**:

a. The scale of the change in the 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 Project.

b. The degree of contrast or integration of any new features or changes in the form, scale, composition, and focal points of the view.

c. The nature of the view of the Project in relation to the amount of time over which it will be experienced and whether views will be full, partial or glimpsed.

d. The angle of view in relation to the main activity of the receptor, distance of the viewpoint from the Project and the extent of the area over which the changes would be visible.

e. The duration of the change.

f. Its reversibility (whether it is permanent, temporary, or partially reversible).

Table 8: Visual Size/Scale Criteria

Criteria level	Description
Large	The Proposed Development may result in extensive changes to the existing view (including the loss of existing characteristic features and/or introduction of new discordant landscape features); and/or A change to an extensive proportion of the view; and/or Views where the Proposed Development would become the dominant landscape feature or contract heavily with the current scene.
Medium	Changes will result in changes to the view but not fundamentally change its characteristics; and/or Changes that would be immediately visible but not be the key features of the view.
Small	Changes which would not result in a change to the composition of the view; and/or Changes that would only affect a small portion of the view or introduce new features that could be screened.

1.2.22 The geographical extent of an effect is determined by the indicative criteria set out in **Table 9** below. It should be noted that whether a view is at short, medium or long- range will vary depending upon the type of development proposed.

Table 9: Geographical Extent Criteria

Criteria level	Description
Large	Changes where the proposed development is located: in the main focus of the view; and/or at close range; and/or over a large area.
Medium	Changes where the proposed development is located: obliquely to the main focus of the view; and/or at medium range; and/or

Criteria level	Description
	over a narrow area.
Small	Changes where the proposed development is located: on the periphery of the main focus of the view; and/or at long range; and/or over a small area.

Duration and Reversibility

1.2.23 The duration of an effect and its reversibility are linked but separate consideration of the criteria for defining these are as below in **Table 10** and **Table 11**.

Table 10: Duration Criteria

Criteria level	Description
Temporary	Less than 12 months
Short-term	1-5 years
Medium-term	5-10 years
Long-term	10+ years

1.2.24 The reversibility of an effect relates to the prospects and practicality of an effect being able to be reversed and is determined based on the indicative criteria set out in **Table 11** below.

Table 11: Reversibility Criteria

Criteria level	Description
Reversible	Change can be wholly or largely reversed. For example the removal of a wind farm development following decommissioning.
Partially reversible	Change is partially reversible. For example the restoration of a quarry to something similar to the baseline.
Irreversible	Change cannot realistically be reversed, *i.e*. it is permanent.

1.2.25 These four factors are then considered together to derive an overall magnitude of change for each receptor, which is determined by use of professional judgement, based on the indicative criteria set out in **Table 12** below.

Table 12: Visual Magnitude Criteria (indicative)

Criteria level	Description
High	The development, or a part of it, would become the dominant and contrasting feature or focal point in the view. Little or no scope for adequate mitigation.
Medium	The development, or a part of it, would form a prominent feature or element of the view which is readily apparent to the receptor in the view. Partial mitigation is possible.
Low	The development, or a part of it, would be noticeable but not alter the overall balance of features and elements that comprise the existing view. Partial or full mitigation is possible.
Very Low	Only a very small part of the development would be discernible, or it is at such a distance that it would form a barely noticeable feature or element of the view and/or occupy a negligible proportion of the view. Full mitigation is possible.

Beneficial or Adverse Change

1.2.26 The magnitude also needs to be assessed as to whether it is a beneficial or adverse change. These are defined as follows:

a. For beneficial change the proposed development, or part of it, would appear in keeping with existing landscape character and would make a positive visual and/or physical contribution to key characteristics. Removal of uncharacteristic features would also be a beneficial change.

b. For adverse change the proposed development, or part of it, would be perceived as an alien or intrusive component in the context of existing landscape character and would have a negative visual and/or physical effect.

1.2.27 An overall assessment of the magnitude of visual change resulting from the Project on the visual receptor is made combining the above judgements using evidence and professional judgement. The levels of magnitude of change are described as being high, medium, low, very low or none, with reference to the criteria descriptions set out in **Table 13**, below.

Table 13: Magnitude of Change – Visual Receptors

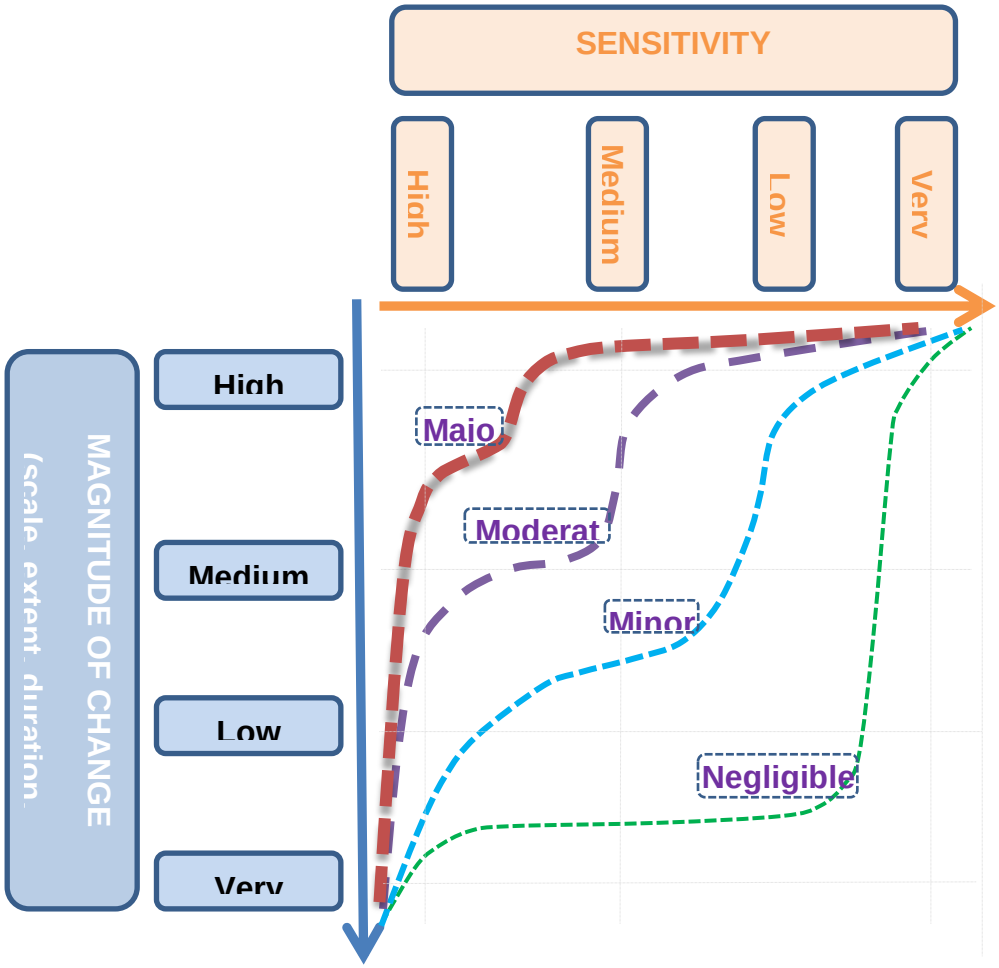
Magnitude	Criteria
High	A pronounced change to the composition of the view or change that may be viewed in the foreground or directly. May be longer term impacts, permanent or reversible.
Medium	A noticeable change to the composition of the view or change that may be viewed in the middle ground or indirectly. May be medium term impacts, permanent or reversible.

Magnitude	Criteria
Low	An unobtrusive change in the composition of the view or change that may be viewed in the background or obliquely. May be short to medium term impacts, permanent or reversible.
Very Low	A barely perceptible change in the composition of the view or change that may be viewed in the background and/or very obliquely. May be short term impacts, permanent or reversible.
None	No change to the view.

Significance of Effects

1.2.28 Determination of the significance of landscape and visual effects has been undertaken by employing professional judgement and experience to combine and analyse the magnitude of change against the identified sensitivity of the receptor. **Plate 1** gives an indication of how sensitivity and magnitude are considered together to inform determination of the level and significance of effects.

Plate 1: Classification of Landscape and Visual Effects



1.2.29 The assessments have taken account of direct and indirect change on existing landscape elements, features, key characteristics and evaluates the extent to which these would be lost or modified, in the context of their importance in determining the existing baseline character. The visual assessment considers likely changes to the visual composition, including the extent to which new features would distract or screen existing elements in the view or disrupt the scale, structure, or focus of the existing view.

1.2.30 The levels of landscape and visual effects are described with reference to the criteria outlined in **Table 8**. For the purposes of this assessment, effects of **moderate or major** are generally considered to be significant.

Table 14: Significance of Effects

Significance of Effect Rating	Landscape Criteria	Views and Visual Amenity Criteria
Major Beneficial	Alterations that result in a considerable improvement of the existing landscape resource. Valued characteristic features would be restored or reintroduced.	Alterations that typically result in a pronounced improvement in the existing view.
Moderate Beneficial	Alterations that result in a partial improvement of the existing landscape resource. Valued characteristic features would be largely restored or reintroduced.	Alterations that typically result in a noticeable improvement in the existing view.
Minor Beneficial	Alterations that result in a slight improvement of the existing landscape resource. Characteristic features would be partially restored.	Alterations that typically result in a limited improvement in the existing view.
Negligible Beneficial	Alterations that result in a very slight improvement to the existing landscape resource, not uncharacteristic within the receiving landscape.	Alterations that typically result in a barely perceptible improvement in the existing view.
Neutral	No alteration to any of the components that contribute to the existing landscape resource.	No change to the existing view.
Negligible Adverse	Alterations that result in a very slight deterioration to the existing landscape resource, not uncharacteristic within the receiving landscape.	Alterations that typically result in a barely perceptible deterioration in the existing view.
Minor Adverse	Alterations that result in a slight deterioration of the existing landscape resource. Characteristic features would be partially lost.	Alterations that typically result in a limited deterioration in the existing view.
Moderate Adverse	Alterations that result in a partial deterioration of the existing landscape resource. Valued characteristic features would be largely lost.	Alterations that typically result in a noticeable deterioration in the existing view.

Significance of Effect Rating	Landscape Criteria	Views and Visual Amenity Criteria
Major Adverse	Alterations that result in a considerable deterioration of the existing landscape resource. Valued characteristic features would be wholly lost.	Alterations that typically result in a pronounced deterioration in the existing view.

2. References

Ref 1-1 The Landscape Institute and Institute of Environmental Management and Assessment (2013). Guidelines for Landscape and Visual Impact Assessment (GLVIA), Third Edition

Ref 1-2 Natural England (2012). An Approach to Seascape Character Assessment. (REF)

Ref 1-3 Landscape Institute (2019). Visual Representation of Development Proposals, Technical Guidance Note 06/19.

Ref 1-4 Landscape Institute (2021). Assessing landscape value outside national designations, Technical Guidance Note 02/21.

Ref 1-5 Landscape Institute (2020). Infrastructure, Technical Guidance Note 04/2020.