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Introduction

Background

- 13.1 This chapter of the EIAR assesses the landscape and visual effects arising from the proposed sand and gravel pit at Derryarkin townland, Croghan, Rhode, Co. Offaly. The planning application area, hereafter referred to as the application area or the site, is located ca. 1.2 km to the south-west of the R400 Regional Road, at its closest point. The village of Rhode is located ca. 4.5 km to the south-east and the village of Rochfortbridge, just under 5 km to the north, beyond the M6 Motorway, which passes within 3.3 km of the site.
- 13.2 The planning application area comprises one large flat agricultural field, which has been reclaimed from former cutover bog. This field is divided into three smaller sections by stockproof fencing, with the two northern sections currently under pasture, while the southern section is under tillage. The southern and western site boundaries are bordered by agricultural tracks lined on both sides with stockproof fencing, the northern by a field drain and the eastern by the Yellow River. There are no existing hedgerows along any of the outer boundaries. However, the Yellow River is lined by frequent trees and shrubs on both banks. Agricultural land adjoins the site on all sides except for the east, where the Yellow River is adjoined by an area of woodland / scrub vegetation, which has naturally colonised an area of former cutover bog.
- 13.3 The site is screened in most views from the surrounding landscape, due to a combination of flat topography and intervening vegetation. In order to minimise the visibility of the site in views from close proximity and some elevated locations in the wider landscape, as well as reduce the impact on local landscape character, a detailed landscape and restoration scheme has been prepared. This scheme aims at providing screening along the southern and western boundary, in the form of native hedges, in addition to proposed perimeter berms. As the site will be worked wet, a large open waterbody will be created and remain on completion of the extraction works. To increase the biodiversity value of the site, the proposed restoration measures include the creation of scalloped edges and small peninsulas along the lake edges. These will be left for natural regeneration with locally occurring grass and scrub species. In addition, it is proposed to plant some blocks of native trees along the buffer area with the Yellow River, to create habitat connectivity. Further details on the proposed development, including the proposed Restoration Plan (**Figure 2-5**) are contained in Chapter 2 of this EIAR.
- 13.4 This chapter should be read in conjunction with the following figures, which have been prepared to inform the EIAR chapter:
- **Figure 13-1:** Landscape Designations and Viewpoint Locations;
 - **Figure 13-2:** Zone of Theoretical Visibility (ZTV) Map;
 - **Figure 13-3:** Viewpoints A & B;
 - **Figure 13-4:** Viewpoints C & D; and
 - **Figure 13-5:** Viewpoints E & F.

Scope of Work / EIA Scoping

- 13.5 The EPA guidelines in relation to the preparation of an EIAR (May 2022) suggest the following typical headings that may be included in respect of the prescribed environmental factor 'The Landscape':
- Landscape Appearance and Character;

- Landscape Context;
- Views & Prospects; and
- Historical Landscapes.

- 13.6 These headings are incorporated in the subsequent assessment, as appropriate. However, in the absence of more detailed Irish guidance, the assessment contained within this chapter is based on the Third Edition of the Guidelines for Landscape and Visual Impact Assessment issued by the Landscape Institute and Institute of Environmental Management and Assessment (hereinafter referred to as 'GLVIA3'). These guidelines are widely accepted as best practice for Landscape and Visual Assessment (LVIA) in Ireland.
- 13.7 GLVIA3 emphasises that landscape and visual effects are related but independent issues; landscape effects are changes in the landscape, its character and quality; while visual effects relate to the appearance of these changes and the resulting effect on visual amenity.
- 13.8 The assessment of overall landscape and visual effects and their significance is defined in terms of the relationship between the sensitivity of the landscape/visual receptors and the magnitude of the change.
- 13.9 As GLVIA3 (paragraph 2.23) states, professional judgement is an important part of the LVIA process: whilst there may be some scope for objective measurement of landscape and visual changes, much of the assessment must rely on qualitative judgements. It is critical that these judgements are based upon a clear and transparent method so that the reasoning can be followed and examined by others.
- 13.10 GLVIA3 sets out a framework for making judgements about the level of effects that may result from change or development. It describes a step by step approach in which: judgements about the value and susceptibility of the receptor are combined into a judgement about sensitivity; judgements about the size/scale of the effect, its geographical extent and its duration and reversibility are combined into a judgement about the magnitude of the effect; and finally, the judgements about sensitivity of the receptor and the magnitude of the effect are combined to judge the level of the effect. If the assessment forms part of an EIA, a threshold may then be identified to show which effects are considered to be significant and which are not.
- 13.11 GLVIA3 is not prescriptive about exactly how the various judgments required in this framework should be made. This is a matter for individual practitioners to decide and explain. In this document it has been assessed that Major or Major/Moderate levels of effect are significant.
- 13.12 The full LVIA methodology is described in **Appendix 13-A**. Please note that much of the terminology used in assessing the landscape and visual effects is in accordance with the above-mentioned EPA Guidelines. However, the terminology used in this LVIA to describe the level of effects (= "significance of effects" in the EPA Guidelines) differs slightly from said EPA Guidelines, based on examples provided in GLVIA3.

Technical Standards

- 13.13 Photography and visual representations are based on the principles set out in the Landscape Institute – Technical Guidance Note 06/19 – Visual Representation of Development Proposals. There is no Irish standard/guidance, and in our experience, it is typically considered sufficient to provide two (annotated) viewpoints on one A3-sized sheet, using a range of horizontal angles of view (i.e. 75°-105°) to illustrate the full extent of the development within each photograph presented, as well as the context within which the site is located.

- 13.14 The Landscape Institute – Technical Guidance Note 02/21 – Assessing landscape value outside national designations was taken account of in the preparation of the assessment methodology, as provided in **Appendix 13-A** at the end of this chapter.
- 13.15 The Landscape Institute – Technical Guidance Note LITGN-2024-01 – Notes and Clarifications on aspects of Guidelines for Landscape and Visual Impact Assessment Third edition (GLVIA3) was also taken into account in the preparation of the assessment methodology provided.

Consultations / Consultees

- 13.16 An online pre-planning consultation meeting was held between officials of Offaly County Council and representatives of BD Flood and SLR Consulting Ireland and on 12th September 2024 (pre-planning ref. no. ED2423). Further to this meeting, a pre-planning consultation document was issued to statutory consultees. No specific points relating to landscape and visual issues were raised during the meeting or in the responses received.
- 13.17 Following a review of published development plans and the site survey, it was considered that there was no requirement for a separate formal consultation to be carried out regarding the landscape and visual effects of the proposed development.

Contributors / Author(s)

- 13.18 The LVIA including site work and completion of drawings was carried out by Anne Merkle, a Principal Landscape Architect with SLR Consulting Ireland. Anne graduated from the Nürtingen-Geislingen University (Germany) in Landscape Architecture (Dipl.-Ing. (FH)), in 2002. She has 20+ years' experience working for landscape consultancies in Ireland, specialising in Landscape and Visual Impact Assessments for a wide range of projects, including quarries, waste recovery facilities, wind farms, powerlines and mixed developments. In 2017, Anne completed an MSc in Biodiversity and Land Use Planning at NUI Galway. She is a full member of the Irish Landscape Institute (ILI) since 2005.

Sources of Information

- 13.19 The assessment is based upon a desk top assessment of relevant plans, guidance and landscape character assessments, as well as a thorough site assessment carried out in January 2025. The desktop study and field work were informed by:
- Offaly County Development Plan 2021-2027;
 - Westmeath County Development Plan 2021-2027;
 - digital and paper (Ordnance Survey Ireland) mapping at different scales; and
 - information available on the internet (such as satellite images and information on recreational facilities and nature conservation sites).

Study Area

- 13.1 A study area of approximately 3km surrounding the application area was identified during the desktop study, based on the Zone of Theoretical Visibility Map (ZTV, refer to **Figure 13-2**) and previous experience with mineral extraction sites. While, the ZTV indicates very restricted visibility within this 3km radius, the 3km study area is maintained for the purposes of providing landscape context.

Field Survey

- 13.20 A field survey was carried out on 6th February 2025, in overcast conditions, but with good visibility. Photographs were taken during this field survey, using a Nikon D610 digital SLR full frame camera, with a fixed 50mm lens, mounted on a tripod with a panoramic head. The individual photos were taken in portrait format.
- 13.21 Due to the low elevation of the sun at the time of year of the field survey, some of the photos taken were unsuitable for presentation, as part of this report. Therefore, two repeat visits were undertaken during which photos from three of the viewpoints were re-taken. On 13th March 2025 photos from two viewpoints (i.e. VP E & VP F) were taken, using a mobile phone camera. These were found to be of better quality and therefore used instead of the February photos.
- 13.22 On 8th October 2025 photos were taken from the top of Croghan Hill (i.e. VP C) with a Canon 5D Mark iii digital camera, with a fixed 50 mm lens. The photos were not taken using a tripod and were taken in landscape format, but were found suitable for presentation as part of this report.
- 13.23 In accordance with GLVIA3, the field survey and viewpoint photography concentrated on publicly accessible areas, such as the road and public footpath networks, residential and outdoor recreational areas.

Limitations / Difficulties Encountered

- 13.24 No difficulties were encountered during the desktop study, field survey or in the preparation of this report.

Significant Risks

- 13.25 There are no known significant risks to human health or environmental effects, which may occur in relation to this landscape and visual impact assessment.

Regulatory Background

- 13.26 The following paragraphs set out the regulatory background with regard to LVIA in Ireland and the site-specific planning background relevant to the proposed development.

Legislation

- 13.27 In 2002, Ireland ratified the European Landscape Convention, which promotes the protection, management and planning of landscapes. The National Landscape Strategy for Ireland 2015-2025 was published “to ensure compliance with the European Landscape Convention and establish principles for protecting and enhancing the landscape while positively managing its change”.
- 13.28 Article 1a of the European Landscape Convention defines landscape as “an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors”. This definition has been included in the Planning and Development (Amendment) Act 2010, along with the requirement that objectives relating to landscape shall be included in development plans.
- 13.29 There is no Irish legislation specifically governing the preparation of landscape and visual impact assessments.

Planning Policy and Development Control

- 13.30 The Offaly County Development Plan (OCDP) 2021-2027 is the statutory plan detailing the development objectives of the authority, covering the application area. Since the boundary with Co. Westmeath is located ca. 2km to the north-west, i.e. within the study area, the Westmeath County Development Plan 2021-2027 (WCDP) was also checked, and the relevant policies are listed separately below.
- 13.31 Those policies and objectives with relevance to this assessment are listed below. The location/extent of relevant landscape / visual designations is shown on **Figure 13-1**, at the end of this chapter.

Offaly County Development Plan 2021-2027

Aggregates and Minerals

- 13.32 Chapter 5 of the current OCDP contains the Economic Development Strategy. It includes the following Rural Economic Development Policy (REDP) regarding Aggregates and Minerals.
- 13.33 **REDP-19:** *"It is Council policy to ensure those extractions (quarries / sand and gravel pits) which would result in a reduction of the visual amenity of Areas of High Amenity, eskers, esker landscapes, protected views or damage to designated sites, habitat types or species shall not be permitted. It is Council policy that all such workings should be subjected to landscaping requirements and that worked out quarries should be rehabilitated to a use agreed with the Council which could include recreational, biodiversity, amenity or other end-of-life uses. Planning applications for extraction shall be assessed against section 28 Ministerial Guidelines. The use of these rehabilitated sites shall be limited to wastes such as soil, stone and subsoils and sites shall be authorised under the appropriate waste regulations. Where the Council considers and accepts that in cases where inert material (for example soil, stones and subsoil) cannot be recycled or otherwise sold, such materials may be considered for the phased restoration and landscaping of the site in line with planning conditions imposed."*

Biodiversity and Landscape

- 13.34 Chapter 4 of the current OCDP is entitled 'Biodiversity and Landscape'. Section 4.16 sets out the Biodiversity and Landscape Policies (BLP) and section 4.17 the Biodiversity and Landscape Objectives (BLO) of the council, under a number of headings. Those BLPs and BLOs relevant to this assessment are listed below.

Geology, Eskers and Quarries

- 13.35 **BLP-09:** *"It is Council policy to protect from inappropriate development and maintain the character, integrity and conservation value of features or areas of geological interest as contained in the scheduled list of geological heritage sites identified in Table 4.11 Offaly Geological Sites."*
- 13.36 Please note that none of the geological heritage sites identified in Table 4.11 are located in the vicinity of the application area. One such site, Croghan Hill, is located within the study area, between 2-3 km to the south. The effects of the proposed development on this site are addressed as part of the landscape assessment below.
- 13.37 **BLP-11:** *"It is Council policy to protect and conserve the landscape, natural heritage and biodiversity value of esker systems in the county as identified in the Offaly Esker Study, 2006."*

- 13.38 **BLP-12:** *“It is Council policy to assess the impact of proposals for quarry development on nearby eskers, with reference to their status or relative importance, for example, amenity, landscape and scientific value in the context of the overall esker system.”*
- 13.39 Please note that none of the eskers identified on Figure 4.7 of the OCDP are located within the study area. Eskers will therefore not be considered further, as part of this assessment.
- 13.40 **BLP-13:** *“It is Council policy to recognise the natural heritage value of disused quarries as rich habitats and to encourage landowners to preserve quarries post extraction as habitats rather than levelling or infilling the quarry area where possible subject to health and safety considerations and the protection of the relevant conservation objectives, qualifying interests and integrity of Natura 2000 sites.”*

Trees, Woodlands and Hedgerows

- 13.41 **BLP-24:** *“It is Council policy to support the protection and management of existing networks of woodlands, trees and hedgerows which are of amenity or biodiversity value and/or contribute to landscape character, and to strengthen local networks.”*
- 13.42 **BLP-25:** *“It is Council policy to encourage the planting of native species in all new residential developments (individual and multiple units) and as part of landscaping for commercial and industrial developments.”*
- 13.43 **BLO-18:** *“It is an objective of the Council to encourage the retention, wherever possible, of hedgerows and other distinctive boundary treatment in the county. Where removal of a hedgerow, stone wall or other distinctive boundary treatment is unavoidable, provision of the same type of boundary will be required of similar length and set back within the site in advance of the commencement of construction works on the site (unless otherwise agreed by the Planning Authority)”*
- 13.44 Please note that there are no trees / woodlands / hedgerows present within the application area that will be affected by the proposed development and these objectives will therefore not be addressed further. Further to that please note that all proposed planting consists of native species (refer to Figure 2-5 Proposed Restoration Plan in Chapter 2 of this EIAR.

Areas of High Amenity

- 13.45 Areas of High Amenity (AHA) are defined in section 4.13 of the current OCDP as *“... areas worthy of special protection / enhancement due to their uniqueness and scenic / amenity value”*.
- 13.46 **BLP-35:** *“It is Council policy to protect and preserve the county’s Areas of High Amenity namely ..., Croghan Hill, ... Notwithstanding the location of certain settlements, or parts of, for which there are settlement plans (Towns, Villages, Sráids), within the Areas of High Amenity, it is not the intention of this policy to hinder appropriate sustainable levels of development (as set out in the plans and subject to proper planning). Further, it is policy to facilitate the sustainable extension and expansion of existing visitor, tourist related or other rural enterprises within the Areas of High Amenity, where such development is appropriate and where it can be demonstrated that it gives ‘added value’ to the extending activity and to the immediate area which is the subject of the ‘Area of High Amenity’ designation.”*
- 13.47 **BLP-36:** *“It is Council policy to ensure that issues of scale, siting, design and overall compatibility (including particular regard to environmental sensitivities) with a site’s location within an Area of High Amenity are of paramount importance when assessing any application for planning permission. The merits of each proposal will be examined on a case-by case basis.”*
- 13.48 **BLO-22:** *“It is an objective of the Council to ensure that new development, whether individually or cumulatively, does not impinge in any significant way on the character,*

integrity and distinctiveness of or the scenic value of the Areas of High Amenity listed in Table 4.17. New development in Areas of High Amenity shall not be permitted if it;

- *Causes unacceptable visual harm;*
- *Introduces incongruous landscape elements; and*
- *Causes the disturbance or loss of (i) landscape elements that contribute to local distinctiveness; (ii) historic elements that contribute significantly to landscape character and quality such as field or road patterns; (iii) vegetation which is a characteristic of that landscape type and (iv) the visual condition of landscape elements.”*

- 13.49 The only Area of High Amenity within the 3km study area is Croghan Hill, which lies between 2-3 km south of the application area. Section 4.13.2 of the OCDP states that *“The Council recognises the scenic quality and recreational value of the Croghan Hill area. Croghan Hill, Raheenmore Bog (which is a designated Nature Reserve under the Wildlife Act 2000, as amended) and Cannakill Deserted Medieval Village are the main elements of the Area of High Amenity. The Council, through its development management function, will seek to preserve the scenic amenity and recreational potential of this area and to protect it from development that would damage or diminish its overall attractiveness and character.”*
- 13.50 It should be noted that planning policies BLP-35 and BLP-36 refer to development proposed within AHAs. While the proposed development subject to this EIAR is not located within an AHA, its impact on the nearby Croghan Hill Area of High Amenity will be considered as part of this assessment.

Landscape

- 13.51 **BLP-38:** *“It is Council policy to protect and enhance the county’s landscape, by ensuring that development retains, protects and where necessary, enhances the appearance and character of the county’s existing landscape.”*
- 13.52 **BLP-39:** *“It is Council policy to seek to ensure that local landscape features, including historic features and buildings, hedgerow, shelter belts and stone walls, are retained, protected and enhanced where appropriate, so as to preserve the local landscape and character of an area, whilst providing for future development.”*
- 13.53 **BLP-40:** *“It is Council policy to ensure that consideration of landscape sensitivity is an important factor in determining development uses.”*
- 13.54 **BLP-41:** *“It is Council policy to require a Landscape/Visual Impact Assessment to accompany significant proposals, located within or adjacent to sensitive landscapes. This assessment will provide details of proposed mitigation measures to address likely negative impacts.”*
- 13.55 **BLO-24:** *“It is an objective of the Council to have regard to the Landscape Sensitivity Areas in Tables 4.18, 4.19 and 4.20 in the consideration of planning applications.”*
- 13.56 Please note that the landscape sensitivities, as set out in the current OCDP, are discussed as part of the landscape baseline description provided in this assessment.
- 13.57 **BLO-25:** *“It is an objective of the Council to protect skylines and ridgelines from development where such developments will create significant visual intrusion.”*
- 13.58 Please note that there are no skylines within or in the immediate vicinity of the site. Also, as the proposed development does not rise much above the ground (i.e. perimeter berms only), impact on more distant ridgelines, such as that associated with Croghan Hill, are unlikely. Skylines/ridgelines will therefore not be considered further as part of this assessment.

Protection of Key Scenic Views, Prospects and Key Amenity Routes

- 13.59 **BLP-43:** *“It is Council policy to require a Landscape/Visual Impact Assessment to accompany significant proposals that are likely to significantly affect Key Scenic Views and Prospects as listed in Table 4.21 and Key Amenity Routes as listed in Table 4.22.”*
- 13.60 **BLO-26:** *“It is an objective of the Council to protect Key Scenic Views and Key Prospects contained in Table 4.21, and Key Amenity Routes as listed in Table 4.22 from inappropriate development.”*
- 13.61 **BLO-27:** *“It is an objective of the Council to ensure that proposed developments take into consideration their effects on views from Key Scenic Views and Prospects and Key Amenity Routes and are designed and located to minimise their impact on this views and prospects.”*
- 13.62 Please note that none of the Key Scenic Views and Prospects or Key Amenity Routes are located within the study area and those located just over 3km to the south-west are not directed at the application area. This includes V07 and V08, illustrated on **Figure 13-1**, which are directed at the Slieve Bloom Mountains and Croghan Hill, respectively. Therefore, these designations will not be considered further as part of this assessment.

Development Management Standards

- 13.63 Chapter 13 of the current OCDP is entitled ‘Development Management Standards’ (DMS). Section 13.9.14 sets out the following DMS with regard to the Extractive Industries.
- 13.64 **DMS-112:** *“When assessing planning applications for quarry and ancillary developments, the Council will have regard to;*
- *Section 261 and Section 261A of the Planning and Development Act, 2000 (as amended);*
 - *the Quarries and Ancillary Activities Guidelines 2004 and any amendments to the Guidelines which may be made, and*
 - *Environmental Protection Agency’s (EPA) publication ‘Environmental Management in the Extractive Industry (non-scheduled minerals)’ 2006.”*

In addition to the above, all planning applications for quarry and ancillary developments, such as batching plants, crushing, screening, shall appropriately detail the environmental baseline of the area in which extraction is proposed, likely impacts and proposed mitigation measures relating to;

- *... Sensitive local receptors such as residences, Areas of High Amenity, Landscape Sensitivity Areas, Key Scenic Views and Prospects, and Key Amenity Routes as outlined in Chapter 4 of this Plan;*
- *Landscaping, berms and screening proposals; ...*

Planning applications shall also include general details on the proposed development such as:

- *... Phasing programme for extraction and rehabilitation;*
- *Restoration and after care proposals for the site (plans and section drawings), including long-term quarry face stability, long-term water pollution potential and control, removal of buildings, plant and machinery, fencing and security and a demonstration of how emerging biodiversity and habitats have been incorporated into proposals. ...”*

Westmeath County Development Plan 2021-2027

Extractive Industry

- 13.65 **Policy Objective CPO 9.62** within **section 9.15** of the current WCDP states that it is a policy objective of Westmeath County Council to *“ensure that development for aggregate extraction, processing and associated concrete production does not significantly impact the following:*
- ... High Amenity Areas ...
 - Sensitive landscape areas”
- 13.66 The closest High Amenity Area, i.e. Lough Ennell, is located ca. 12km north-west of the application area and is therefore not likely to be affected by the proposed development. Sensitive landscape areas are not specifically defined in the current WCDP, but are assumed to include nature conservation areas, of which there are none within the 3 km study area (refer to the Landscape Baseline section below).

Rare and Protected Sites

- 13.67 **Policy Objective CPO 12.13** within **section 12.10** of the current WCDP states that it is a policy objective of Westmeath County Council to *“protect, manage and enhance the natural heritage, biodiversity, landscape and environment of Co. Westmeath, in recognition of its importance as both a non-renewable resource and a natural asset.”*

Landscape Character Assessment

- 13.68 A Landscape Character Assessment (LCA) is included in **section 13.6-17** of the current WCDP. This *“is a tool for identifying the features that give a specific area its ‘sense of place’ and also provides policy recommendations relating to each landscape type. The LCA will inform decision making in relation to the protection of the environment, natural resources and heritage and will be used to guide development”*.
- 13.69 It is a policy objective of Westmeath County Council to:
- **Policy Objective CPO 13.2:** *“Protect the distinctiveness, value and sensitivity of County Westmeath’s landscapes and lakelands by recognising their capacity to sustainably integrate development.”*
 - **Policy Objective CPO 13.6:** *“Require that development is sensitively designed, so as to minimise its visual impact on the landscape, nature conservation, archaeology and groundwater quality.”*
 - **Policy Objective CPO 13.8:** *“Protect the landscapes and natural environments of the County by ensuring that any new developments do not detrimentally impact on the character, integrity, distinctiveness or scenic value of their area. Any development which could unduly impact upon such landscapes will not be permitted.”*
 - **Policy Objective CPO 13.9:** *“Ensure the preservation of the uniqueness of a landscape character type by having regard to the character, value and sensitivity of a landscape in new development proposals.”*
 - **Policy Objective CPO 13.10:** *“Ensure development reflects and, where possible, reinforces the distinctiveness and sense of place of the landscape character types, including the retention of important features or characteristics, taking into account the various elements which contribute to their distinctiveness.”*

- **Policy Objective CPO 13.12:** *“Require a Visual Impact Assessment for proposed developments with the potential to impact on significant landscape features within the County.”*
- **Policy Objective CPO 13.17:** *“Minimise impact on the ecological, archaeological, biodiversity and visual amenity surrounding quarry sites and quarrying of sensitive sites within the Landscape Character Areas including the lake valley landscape, eskers and canal corridor.”*

Views and Prospects

- 13.70 **Policy Objective CPO 13.81** (in section 13.25) states that it is a policy objective of Westmeath County Council to *“protect and sustain the established appearance and character of views listed in Appendix 5 of this plan that contribute to the distinctive quality of the landscape from inappropriate development.”*
- 13.71 Appendix 5 of the current WCDP lists the Amenity Routes and Protected Views, none of which are located within the 3 km study area. While two of the viewpoints are located not far outside the study area (i.e. Viewpoints 13 & 14) and are directed towards the application area, the ZTV Map (refer to **Figure 13-2**) indicates very little likelihood for visibility of the site in any of these views. It was confirmed during field survey that the site is fully screened in these views by intervening vegetation.

Receiving Environment

Landscape Baseline

Existing Relevant Landscape Character Assessment

County Offaly

- 13.72 The OCDP does not contain a comprehensive Landscape Character Assessment. It does however provide a sensitivity classification of the landscapes of County Offaly, which is divided into low, moderate and high sensitivity. The following areas of low, moderate and high sensitivity are located in those parts of the study area within County Offaly.
- **Low Sensitivity Areas: flat agricultural land** – *“Low sensitivity areas are robust landscapes which are tolerant to change, such as the county’s main urban and farming areas, which have the ability to accommodate development.”*

The following characteristics description is provided for low sensitivity areas: *“County Offaly is largely a rural county which comprises of a predominantly flat and undulating agricultural landscape coupled with a peatland landscape. Field boundaries, particularly along roadside verges which are primarily composed of mature hedgerows typify the county’s rural landscape.”*
 - **Moderate Sensitivity Areas: cutaway bog** – *“Moderate sensitivity areas can accommodate development pressure but with limitations in the scale and magnitude. In this category of sensitivity, elements of the landscape can accept some changes while others are more vulnerable to change.”*

The following characteristics description is provided for moderate sensitivity areas: *“Cutaway bogs cover a large part of the landscape of Offaly and in their entirety, are approximately 42,000 hectares. Generally, there are a number of land uses suitable for cutaway bog, not included in High Sensitivity Areas, which include wilderness,*

grassland, forestry and recreation. Some cutaway bog landscapes are more robust and may be considered for other uses.”

- **High Sensitivity Areas: Croghan Hill and its Environs** – “High Sensitivity Areas are vulnerable landscapes with the ability to accommodate limited development pressure. In this category of landscape, landscape elements are highly sensitive to certain types of change. If pressure for development exceeds the landscapes limitations the character of the landscape may change.”

The following characteristics description is provided for the ‘Croghan Hill and its environs’ high sensitivity area:

- “Croghan Hill and its environs including Raheenmore Bog (which was designated a nature reserve under the Wildlife Act 1976) and Cannakill Deserted Medieval Village, are the main elements of this high amenity area.
- Croghan Hill is an extinct volcano which lies 234 meters above sea level and commands views over north and east Offaly and the surrounding counties.”

The following sensitivity description is provided for ‘Croghan Hill and its environs’:

- “This is an area of archaeological and high amenity value and is highly sensitive to new developments.
- Croghan Hill, due to its elevated nature in comparison to its surrounding flat landscape, impacts on the visual quality of the surrounding area and is highly sensitive to developments of any nature, in particular sand and gravel extraction.”

- 13.73 The application area, which comprises an agricultural field, reclaimed from formerly cutover bog, is located partially within a low sensitivity area (south-eastern half) and partially in a moderate sensitivity area (north-western half), as indicated on Figure 4.22 of the OCDP and the Offaly County Council Planning GIS Viewer.

County Westmeath

- 13.74 The Westmeath Landscape Character Assessment (LCA) is provided in Chapter 13 (Landscape and Lake Management) of the current WCDP. It defines 11 Landscape Character Areas (LCAs), as well as a number of Areas of High Amenity (AHA), which are stated as being of High Landscape Value.
- 13.75 The application site is located just over 2km south of **Character Area 10 Lough Ennell & South Eastern Corridor**, which covers the north-western edge of the study area. The description of this area includes the following. “This Character Area comprises pasture land of mixed productivity.... A number of preserved views are listed from the R446 between Tyrrellspass and Rochfortbridge. ... There is also a large tract of bog to the east of Rochfortbridge and Milltownpass along the county boundary. The bog areas in this LCA are mainly exploited but some have been left intact. This area has a large number of old demesnes, which are easily recognisable in the landscape with the existence of fine mature hardwood trees and estate walls in some cases.
- 13.76 Settlements within this landscape have developed mainly along the main road network. These include Kinnegad, Milltownpass, Rochfortbridge, and Tyrrellspass along the former N6. Recreational areas have been developed on the shores of Lough Ennell including Ladestown, Lilliput and Tudenham. The M6 traverses the southern part of the LCA. The N52 By-Pass has also added to the transport corridor around Mullingar.”
- 13.77 As mentioned previously, none of the AHAs listed in the Westmeath LCA are located within the study area. No further information on the sensitivity or value of other areas within the

county are provided, although it can be deduced that these are considered to be of lower landscape value / sensitivity.

Landscape of the Site and its Context

- 13.78 GLVIA3 recommends that a landscape character assessment should be carried out as part of the baseline study (paragraph 5.4). This should consider:
- The elements that make up the landscape (e.g., physical, land cover and the influence of human activity);
 - Aesthetic and perceptual aspects (e.g., scale, complexity, openness, tranquillity or wildness); and
 - The overall character of the area.

Landscape Elements

- 13.79 The planning application area comprises one large flat agricultural field and a narrow section of an agricultural field to the north, which facilitates the site access. The large field, which has been reclaimed from former cutover bog, is divided into three smaller sections by stockproof fencing, with the two northern sections currently under pasture, while the southern section is under tillage. The southern and western site boundaries are bordered by agricultural tracks lined on both sides with stockproof fencing, the northern by a field drain and the eastern by the Yellow River. There are no existing hedgerows along any of the outer boundaries. However, the Yellow River is lined by frequent trees and shrubs on both banks. Agricultural land adjoins the main part of the site on all sides, except for the east, where the Yellow River is adjoined by an area of woodland / scrub vegetation, which has naturally colonised an area of former cutover bog. The access road will be located parallel to the western boundary of the agricultural field north of the main part of the site. This is adjoined by a small area of cutover bog to the west.
- 13.80 Levels within the main part of the site range from 78-79 m above Ordnance Survey (AOD), with a subtle increase to 80 m AOD along the access road and at the site entrance. The topography within the study area and the surrounding wider landscape remains largely flat at levels between 80-85 m AOD. Beyond 1.5km to the south the ground begins to rise steeply towards the widely visible Croghan Hill, with a summit at 234 m AOD, 3 km south of the site. Another perceptible elevation within the study area is a hill with a highpoint of just over 110 m AOD, in the townland of Knockdrin, just over 2 km north-east of the site.
- 13.81 Within 2 km to the north-west, north and east, as well as up to 7 km to the north-east and 4 km to the south-east of the site, the landscape is dominated by cutover bogs, formerly worked at an industrial level. Large areas have been left untouched for years and have been densely colonised by locally occurring scrub species. However, some areas of bare cutover bog or only colonised by low grass species also remain. Some areas have been planted with forestry plantations, including the land beyond 500 m to the south of the site.
- 13.82 Between 1-2 km to the north-west and north and 2-4 km to the northeast of the site there are also several active and disused wet working sand and gravel pits. These have made use of the sand and gravel reserves underlying the remaining peat material, in a similar fashion to the proposed development. Due to the many areas of scrub, in particular along roads, as well as the forestry plantations, combined with the flat topography of the cutover bogs, views within this area are mostly very restricted. This includes views of the existing sand and gravel pits, which area almost invisible in the local landscape
- 13.83 Beyond the boundaries of the site to the south-west and west, including Croghan Hill, the landscape is dominated by agricultural land, with most of the mixed sized fields under pasture. While field boundaries are typically straight, unless following an unmanaged

stream / river, fields are often irregularly shaped, with many boundaries not meeting at right angles. These field boundaries are typically marked by dense, low-cut hedgerows or hedgerows lined with mature trees. In some cases, hedgerows are replaced by post & wire fencing, creating an appearance of very large fields. Due to the many hedgerows in combination with the flat topography, this agricultural landscape has a well-wooded appearance, with views typically restricted to the nearest tree-lined hedgerow.

- 13.84 The R400 – Regional Road is the main transport route within the study area. It passes the application area ca. 1.3 km north-east, running in a straight line across the peatland landscape in a north-west / south-east direction. Just outside the study area, i.e. just over 3 km to the north-west of the site, the R400 meets the M6 – Motorway, beyond which it to the village of Rochfortbridge. Due to the peatland adjoining much of the R400 within the study area, there are few local roads branching off this road. The number of local roads increases in the south-western quarter of the study area, i.e. in those areas where agricultural land becomes dominant.
- 13.85 There is no formal settlement within the study area. The small villages of Rhode, ca. 4.5 km to the southeast, and Rochfortbridge, just under 5 km to the north, are the closest such settlements. There are no residential properties with the peatland areas, but there is frequent one-off housing and ribbon development along the few local roads within the study area.
- 13.86 Although there are the patches of ‘natural vegetation’ in the form of self-seeded scrub on disused cutover bogs, human activity has strongly influenced the land use within the study area. This is evidenced by the large areas of cutover bog, agricultural land, forestry plantations and sand and gravel pits, as well as more recently the Yellow River Wind Farm. The many straight hedgerows marking field boundaries, straight roads and straight edges of forestry plantations emphasize this further. On a smaller scale, human influences are visible in the form of buildings and wooden electricity poles.

Aesthetic and Perceptual Aspects

- 13.87 The application area is simple in form and colour, consisting of parts of two agricultural fields. As there are no hedgerows along the western northern and southern boundaries and no internal hedgerows, the site has a large open character. There is limited enclosure from the scrub vegetation beyond the south-eastern boundary.
- 13.88 The scale of the landscape within the wider study area is small to medium within the flat lowland areas, depending on the proximity to tall vegetation and the size of the field one is located in or can look into. Similarly, along the roads within the study area, there is a constant change between openness and enclosure, depending on the presence, or not, of tall roadside hedgerows / scrub.
- 13.89 In slightly elevated locations and where views over the lowland landscape open up, the scale increases. This is particularly the case on the publicly accessible summit of Croghan Hill, at the southern end of the study area. This provides an experience of complete openness with scenic panoramic views, due to its elevation and lack of trees. The experience is however not one of remoteness or wildness, due to the presence in views of well-tended agricultural land, large areas of mechanically cutover bog, existing sand and gravel pits and built structures, including the Yellow River Wind Farm. This is also the case in other locations within the study area, where there are many signs of human activity.
- 13.90 The levels of tranquillity in the vicinity of the application area are low, due to local farming activities, the nearby existing sand and gravel pits and the existing Yellow River Turbine (T7) at the northern end of the site. Tranquillity increases towards the centres of the large areas of disused cutover bog and towards the summit of Croghan Hill, i.e. the further on gets away from actively worked areas and roads.

- 13.91 The mix of pasture fields, bound by hedgerows, forestry plantations, scrub vegetation and cutover bog throughout the study area results in large blocks of the same colours and textures, which are generally simple and repetitive, but with no regular pattern. The colour palette is dominated by multiple shades of green, with some dark colours added by the reddish brown bare areas of cutover bog and the dark blue / almost black of the sand and gravel pit lakes.

Overall Character

- 13.92 As alluded to above, the character of the study area is made up from two distinct landscape types, i.e. lowland agricultural land and cutover bog. This is supported by the description of Westmeath Character Area 10 Lough Ennell & South Eastern Corridor.
- 13.93 The agricultural land landscape type forms part of the Offaly Low Sensitivity Areas.
- 13.94 The cutover bog landscape type consists of different types of landcover, i.e. bare cutover bog, scrub, forestry and sand and gravel extraction. It forms part of the Offaly Moderate Sensitivity Areas.
- 13.95 While Croghan Hill is also covered by an agricultural land-use, it forms a separate landscape type, due to its elevation above the surrounding lowland and associated sloping / undulating ground. Also, it is classed as one of the Offaly High Sensitivity Areas and as an AHA.

Outdoor Recreational Facilities within the Study Area

- 13.96 In addition to the description of the landscape character of the site and surrounding area, the study area was searched for available outdoor recreational facilities, as these provide an indication of the recreational value placed on the local landscape (as well as an indication of potential visual receptors present within the study area).
- 13.97 Croghan Hill is located ca. 3km to the south of the application area. The hill, while on private land, is publicly accessible. The 2.5km long Croghan Hill Walk starts in the small village of Croghan to the south.
- 13.98 There are no known outdoor recreational facilities within the study area.

Protected Nature Conservation Sites

- 13.99 Further to the above, the National Parks and Wildlife Service (NPWS) website was reviewed for protected nature conservation sites in proximity to the application area, as these provide an indication of the natural heritage value placed on the local landscape. There are no conservation areas within the study area. The closest such sites are a proposed Natural Heritage Area (pNHA) and a Special Area of Conservation (SAC):
- the Raheenmore Bog pNHA (Site Code: 000582), just over 5km to the south-west; and
 - the Raheenmore Bog SAC (Site Code: 000582), just over 5km to the south-west.

Zone of Theoretical Visibility (ZTV)

- 13.100 The visibility of the application area was initially assessed by a desktop study of OSI Discovery Maps (1:50,000) and available aerial photography. This was followed by 3D computer modelling and calculation of the ZTV, using LSS (McCarthy Taylor) software, in accordance with the methodology provided in **Appendix 13-B** at the end of this chapter.
- 13.101 The ZTV, which illustrates the subtended vertical angle of visibility, was calculated for the existing application area, considering that the levels within the site will not change much, due to the wet workings. It should be noted that the ZTV mapping is based on a bare terrain; that is, the computer model does not include built structures or vegetation. As a result, the

extent of visibility, which is illustrated, is regarded as a worst-case scenario, and would be greatly reduced if buildings and vegetation, such as the existing tree-lined hedgerows and forestry / scrub areas in the surrounding landscape, were included in the model.

- 13.102 In SLR's experience, views from within areas with a visibility of a subtended vertical angle of up to 0.4 degrees tend to be screened by hedgerows and other vegetation (if present) and/or built structures in an urban environment. These areas are coloured in shades of grey on the ZTV mapping, in order to differentiate them from the areas with a higher probability of visibility, which are marked in shades of yellow, orange and red.
- 13.103 The resulting ZTV is depicted on **Figure 13-2**. It indicates that the only areas with a higher probability of visibility of the proposed development are located in the immediate vicinity of the site, as well as from the northern slopes of Croghan Hill, between 1.8-3 km to the south (i.e. the areas of theoretical visibility in yellow, orange and red).
- 13.104 The ZTV further indicates, that there are several other patches of theoretical visibility within a 3 km radius of the site, and up to 6 km to the north-west and south-east. However, all of these have a low probability of actual visibility, as indicated by the shades of grey. As mentioned above, views from within these areas are very likely screened by existing intervening vegetation. This is particularly the case for any areas of visibility indicated throughout the flat lowland landscape surrounding the site, where much intervening vegetation is present. A few locally elevated locations were noted, where views towards the site may reach above the intervening vegetation and these were subsequently checked during the field survey.
- 13.105 It should be noted that most of the theoretical visibility areas cover agricultural land or cutover bog, which are not publicly accessible. While parts of the site may be visible from this land, only few and infrequent visual receptors are present in those areas (e.g. the owners of the land) and these are therefore not assessed in detail. This is with the exception of Croghan Hill, large parts of which are publicly accessible.
- 13.106 The ZTV further illustrates that the application area would not be visible from large sections of the study area, even if there was no vegetation present in the local landscape. It is assumed that this is due to a combination of the flat topography of the site and subtle undulations within the wider landscape.

Actual Visibility

- 13.107 The actual visibility of the application area was assessed during the field survey, concentrating on publicly accessible locations, including the outdoor recreational facilities identified, as appropriate. This survey confirmed that existing roadside and intervening vegetation blocks views towards the site from most locations within the study area, which are indicated as having theoretical visibility, on the ZTV mapping. This is particularly the case for the areas indicated in grey.
- 13.108 It was established that the actual visibility of (parts of) the application area is restricted to:
- The residents of three properties towards the end of a cul-de-sac local road, within 1 km west of the southern boundary of the application area (note: no other road users typically present along this road, except for the residents; open views from the two eastern properties; partial from the westernmost property);
 - a ca. 1 km long elevated section of the local roads between 1.5-2 km to the south of the site, in the townlands of Ballybeg and Ballyfore (intermittent/glimpsed along the road and from ca. 3 adjoining residential properties);
 - the area between 2-3 km on the northern slopes of Croghan Hill (open views from within this area);

- a ca. 50 m long elevated section of the local road in the townland of Knockdrin, just over 2 km north-east of the site (partial views from the road and ca. 4 adjoining properties).
- 13.109 Viewpoint photography was taken on the different field survey dates, as described previously, from several locations throughout the study area. Six of these were selected to represent the range of available views.
- 13.110 The location of the six viewpoints listed as A to F, are illustrated on **Figures 13-1 & 13-2**. For each of the viewpoints, annotated panoramic images showing the existing view are provided (refer to **Viewpoints A-F on Figures 13-3 to 13-5**). The panoramas are made up from 4-6 individual photographic frames, which were merged together using Adobe Photoshop software. It should be noted that photography is a tool to assist in the visualisation process and cannot be expected to replicate the actual view that would be attained on the ground.
- 13.111 **Viewpoint A** represents views from the three residential properties within 1 km west of the application area. Views over flat agricultural land are visible from these properties. The low ridge in the townland of Knockdrin, just over 2 km to the north-east is visible in the background, along the skyline. While views over the nearby agricultural fields are possible due to a relative lack of hedgerows in the local area, views into a wider landscape are limited by hedgerows and areas of forestry and scrub in the surrounding lowland, as well as the aforementioned ridge. The agricultural field within which the proposed extraction area will be located is openly visible in the midground of views from the two properties, close to Viewpoint A. Due to the viewing angle, it is however visible as a narrow band. In views from the more distant property, the site is partially screened by intervening vegetation. The Yellow River Wind Farm Turbine T7 is visible at the northern end of the application area. Further turbines are visible at a greater distance in an eastern direction.
- 13.112 **Viewpoint B** represents views from the local roads between 1.5-2 km south of the site and adjoining properties. Due to the slight elevation of these sections of road, long distance views over the vast lowland landscape of Counties Offaly and Westmeath open up. This landscape appears well-wooded, due to the forestry and scrub areas in the midground and many layers of hedgerows visible in the background. Some areas of agricultural land / pasture area visible amongst this vegetation, where fields are large and/ or there is a relative lack of boundary hedgerows. This is the case in the foreground of the view and in the vicinity of the application area, in the midground of the view in a northern direction. The site is almost fully visible beyond a forestry area, however taking up a small portion of the overall view only. The Yellow River Wind Farm Turbine T7 is visible at the northern end of the application area. Further turbines are visible at a greater distance in a north-western and a north-eastern direction. These tend to draw the eye, in views from this area.
- 13.113 **Viewpoint C** represents views from the publicly accessible area surrounding the summit at Croghan Hill, as well as from its northern slopes between 2-3 km south of the site. 360 degree panoramic long-distance views are available from the areas surrounding the summit. The undulating agricultural fields associated with Croghan Hill are visible in the foreground of views. The lowland area surrounding the hill, containing both large agricultural and bogland areas are visible in the midground and background of views, expanding all the way to the horizon. The agricultural fields of the application area are visible in the midground of views from this area, in a northern direction, beyond a forestry area. Several existing third-party sand and gravel pits, with associated pit lakes are visible beyond the site to the north-west and north-east. Due to the distance of up to 3 km and the panoramic nature of views, the application area takes up a small portion in available views. Also visible in the view are the turbines of the Yellow River Wind Farm , spreading over a

wide area to the west and east of the site, with one turbine (T7) at its northern end. As with Viewpoint B, these turbines tend to draw the eye, in views from this area.

- 13.114 **Viewpoints D & F** both illustrate that the application area is fully screened in views from the R400 between Rhode and the M6, as well as from the lowland area surrounding the site in general (except for close distance views, as is illustrated by Viewpoint A). This is due to the abundant screening from roadside and intervening vegetation within the lowland area. Even in locations where the roadside vegetation is kept low and/or that are locally slightly elevated, views are typically restricted to the nearest hedgerow, forestry or scrub areas to the back of the adjoining fields. In views in a southern direction, Croghan Hill is typically visible along the skyline (refer to Viewpoint F), rising above the lowland landscape. Several of the Yellow River Wind Farm turbines are also typically visible in views from within the lowland area, above the intervening vegetation.
- 13.115 **Viewpoint E** illustrates views from a very short section of the local road within the townland of Knockdrin and adjoining properties, 2 km to the north-east of the site. Similar to Viewpoint B, long distance views over the adjoining vast lowland landscape open up, due to the local elevation of this road. In this case, views in a south-western direction are limited by Croghan Hill, 5 km away. Again, the lowland landscape appears well-wooded, due to a combination of forestry and scrub areas and many layers of hedgerows, although there are also some patches of cutover bog. The application area is partially visible, as a very narrow band, beyond an area of scrub, in the midground of views. The Yellow River Wind Farm Turbine T7 is visible to one side of the application area. Further turbines are visible at a greater distance in a western and more closely in a southern direction. These tend to draw the eye, in views from this area

Sensitive Receptors

Landscape Receptors

- 13.116 The landscape receptors potentially affected by the proposed development and therefore considered as part of the assessment of landscape effects, are:
- Individual elements:
 - flat agricultural fields.
 - Overall Character:
 - agricultural lowland landscape type;
 - cutover bog landscape type; and
 - Croghan Hill AHA.
- 13.117 No distinctive or highly sensitive aesthetic / perceptual aspects were identified in the immediate vicinity of the application area, such as remoteness, wildness or tranquillity. While there is an increased sense of openness and tranquillity on the summit of Croghan Hill, this is unlikely to be affected by the proposed development, considering the distance from the site and that its openness will not be changed by the proposed development.
- 13.118 Also, while the colours within the site will change with the new landuse, they will be similar to the colours in other parts of the study area. Overall, the changes to the blocks of simple colours and textures within the study area are going to be limited and therefore not significant. For these reasons, no aesthetic and perceptual aspects were identified as sensitive landscape receptors to be brought forward to the assessment of landscape effects.

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Visual Receptors

13.119 The visual receptors, potentially affected by the proposed development and therefore considered as part of the assessment of visual effects, are:

- Residents:
 - Three residential properties within 1 km west of the site (represented by **Viewpoint A** on **Figure 13-3**);
 - Ca. three residential properties along the local roads within 1.5-2 km to the south of the site (represented by **Viewpoint B** on **Figures 13-3**); and
 - Ca. four residential properties in the vicinity of the local road just over 2 km to the north-east of the site (represented by **Viewpoint E** on **Figures 13-5**).
- Recreational users:
 - Visitors at Croghan Hill (represented by **Viewpoint C** on **Figure 13-4**).
- Vehicle users:
 - Road users along ca. 1 km long section of the local roads between 1.5-2 km to the south of the site (represented by **Viewpoint B** on **Figures 13-3**); and
 - Road users along a ca. 50 m long elevated section of the local road just over 2 km north-east of the site (represented by **Viewpoint E** on **Figures 13-5**).

Impact Assessment

13.120 This section sets out the effects that the proposed development would have on both landscape and visual receptors (as identified in the previous section), during the operational stage of the sand and gravel pit, including the restoration activities, as well as during the post-operational stage, when all extraction / restoration works are completed. The assessment is based on the detailed project description and layout drawings contained in Chapter 2 of this EIAR, in particular the proposed Landscape and Restoration Plan and the Restoration Sections (**Figures 2-5 & 2-6**).

Aspects of the Development which Have the Potential to Cause Landscape and Visual Effects

Operational Stage (including Construction Stage)

13.121 The operational stage of the proposed development, for the purpose of this assessment, is considered to include the extraction and final restoration works, i.e. a 15-year period. Please note that the proposed development does not comprise a distinct 'construction' stage in landscape and visual terms. This is due to the initial setting up of the access road and site facilities taking little time (c. 3 months) and covering a small section of the application area only. These works comprise the first element of the phased works which will spread out over the entire application area and will therefore be assessed as part of the operational phase.

13.122 The following elements of the proposed development, during the operational stage, are those which are most likely to result in landscape & visual effects:

- Construction of the southern half of the access road and installation of the site facilities;
- Phased stripping of the extraction area, followed by sand and gravel extraction (wet working), resulting in the creation of a large lake; the stripped overburden / clay

material will be used in the construction of perimeter berms, with surplus material temporarily stored to the north of the extraction area, followed by progressive back-filling into the completed sections of the lake, creating undulating, shallow edges;

- Early planting of native hedgerows along the western and southern site boundaries, to augment the screening provided by the proposed perimeter berms; and
- Restoration of the site to natural habitat land use, comprising the retention of the large open waterbody and the planting a number of blocks of native trees along the eastern boundary to increase habitat linkage and biodiversity (refer to the **Figures 2-5 - Proposed Restoration Plan**, in Chapter 2 of this EIAR).

13.123 Some fixed downlights would be installed outside the welfare pod. Other than that, only mobile lighting attached to the machinery used to work the site would be used. All lighting would only be in use for wintertime operations, when darkness has fallen, within the permitted site operating hours. The site is proposed to operate from 07.00 hours until 18.00 hours Monday to Friday and until 14.00 hours on Saturdays. There would therefore be a period where such lighting would be required for up to 1.5 hours in the morning and up to 2.5h in the evening, during the height of winter. Night-time light pollution caused by the proposed development would therefore be of brief duration during winter months, and is not considered significant.

Post-Operational Stage

13.124 The post-operational stage of the proposed development, for the purpose of this assessment, is considered to be the period when all extraction and restoration works are completed.

13.125 The following elements of the proposed development, at the post-operational stage, are those which are most likely to result in landscape & visual effects:

- Large lake and associated scrub vegetation, which will naturally colonise the undulating shores, created by back-filling with stripped clay material during the operational phase.

Operational Stage Landscape Effects

Landscape Sensitivity

13.126 In accordance with GLVIA3, the sensitivity of landscape receptors is determined by combining their value with their susceptibility to the type of development proposed.

13.127 In determining the value of landscapes, GLVIA3 recommends that the starting point should be to consider landscape-related designations. In this context it is important to note that no part of the application area or its immediate context is included within a statutory landscape designation.

13.128 GLVIA3 states that the value of undesignated sites should also be considered. Table 1 of Landscape Institute Technical Guidance Note 2/21 supersedes Box 5.1 of GLVIA3 and provides a helpful guide for assessing these sites. A full assessment against a list of factors set out in the Technical Guidance Note is included in **Table 13-1**, below.

Table 13-1: Evaluation of the Value of the Site and its Immediate Context

Factor	Assessment	Notes
Natural Heritage	COMMUNITY	The site is not designated for natural heritage reasons. None of the surrounding areas of agricultural land and forestry plantations are of specific natural heritage interest either. There is some local natural

Factor	Assessment	Notes
		heritage value in the naturally colonised scrub areas to the east of the site, although these are not designated.
Cultural Heritage	LOW	The site does not contain designated cultural heritage assets, nor are there any recorded sites within a 500m radius of the site.
Landscape condition	LOW	The site represents a typical Irish agricultural landscape, with regularly grazed fields and areas of tillage. There are no incongruous features present. The field boundaries are marked by post and wire fencing, instead of the more common hedgerows, therefore these boundaries are in a poor condition.
Associations	LOW	No known associations with art, literature or events.
Distinctiveness	LOW	The application area and surrounding land comprise a common Irish lowland agricultural / peatland landscape, with no rare / distinctive features conferring a strong sense of place (within the lowland area).
Recreational	LOW	The site is not publicly accessible and there is no formal recreational access to the land immediately surrounding it.
Perceptual (Scenic)	LOW	The site / local landscape does not have strong aesthetic qualities and there are no memorable or distinctive views which include parts of the site.
Perceptual (Wilderness and tranquillity)	LOW	The site and immediate surrounding area have no strong perceptual value, such as remoteness, wildness or tranquillity, due to the presence of residential and farm buildings, roads / tracks and other human influences (e.g. the farmed land and the Yellow River Wind Farm).
Functional	LOW	Prior to the extraction of peat from the site, it would have had an important function as a carbon sink. In its current state as improved grassland, which requires draining, it does not contribute to the healthy functioning of the landscape.

13.129 Using the factors set out in **Table 13-1**, it has been concluded that the site and its immediate context is generally of low value.

13.130 The susceptibility of each of the sensitive landscape receptors is assessed in **Table 13-2**. This is combined with the previously assessed value and a judgement of the overall sensitivity provided.

Table 13-2: Sensitivity of Landscape Receptors

Landscape Receptors	Value	Susceptibility	Overall Sensitivity
Individual Elements			
Flat agricultural fields	LOW	HIGH The susceptibility of the existing pasture fields within the site to the proposed extraction works is high, as they would be largely removed.	MEDIUM
Overall Character			

Landscape Receptors	Value	Susceptibility	Overall Sensitivity
Agricultural lowland	LOW	<p>LOW</p> <p>Classed as having <i>“the ability to accommodate development”</i> in the OCDP.</p> <p>The proposed development would be contained within an existing open site. Considering the flat topography and other large open fields present in the local landscape, as well as some screening from hedgerows in the surrounding landscape, this landscape type has the ability to accommodate the proposed development without transformational adverse effects to the wider landscape character.</p>	<p>LOW</p>
Cutover bog	LOW	<p>LOW</p> <p>Classed as having the ability <i>“to accommodate development pressure but with limitations in the scale and magnitude”</i> in the OCDP.</p> <p>There are a number of existing sand and gravel pits present within this landscape type and within 2km of the application area, all of which are well screened from the surrounding land. Also considering that the proposed development is not located within this landscape type and that intervisibility would be low, the proposed development would be able to be accommodated without transformational adverse effects to the wider landscape character.</p>	<p>LOW</p>
Croghan Hill AHA	LOCAL AUTHORITY	<p>LOW</p> <p>Classed as a vulnerable landscape in the OCDP <i>“with the ability to accommodate limited development pressure. In this category of landscape, landscape elements are highly sensitive to certain types of change”</i>.</p> <p>However, taking into account the distance to and associated reduced visibility of the site, the presence of existing sand and gravel pits in the surrounding landscape and the lowland characteristics of the surrounding land which are compatible with the low-rise type of the proposed development, the Croghan Hill AHA is considered to have the ability to accommodate the development (located within another landscape type) without transformational adverse effects.</p>	<p>MEDIUM-LOW</p>

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Magnitude of Landscape Change

13.131 **Table 13-3** describes the size & scale, geographical extent and duration/reversibility of the landscape effects for each landscape receptor, all of which contribute to the assessment of the magnitude of these effects.

Table 13-3: Magnitude of Landscape Change

Visual Receptors	Factors	Magnitude of Change
Individual Elements		
Flat agricultural fields	<p>Size & Scale: MEDIUM</p> <p>Geographical Extent: SMALL</p> <p>Duration / Reversibility: MEDIUM -TERM – REVERSIBLE</p> <p>Notes: The proposed development would result in the phased loss of most of the agricultural fields within the site. While the landcover would change from agricultural land to a waterbody, the changes to the landform would be limited, considering the surface of the water would be flat and only at a slightly lower level (ca. 2-5m) compared with the existing ground. The proposed perimeter berms, while up to 3m in height, would have a linear form and would therefore be compatible with the linear / flat character of the existing site. The clay material stripped from the site would be placed along the edges of the water body, in order to create shallow slopes into the water, further reducing the impact of the level changes. The overall balance / composition of the local landscape would not be changed.</p> <p>The changes would be focused on the site and its immediate surrounding, for a medium-term duration (14 years) and are theoretically reversible, although this is not anticipated, considering the proposed restoration to a natural habitat.</p>	MEDIUM - SLIGHT
Overall Character		
Agricultural lowland	<p>Size & Scale: SMALL</p> <p>Geographical Extent: SMALL</p> <p>Duration / Reversibility: MEDIUM-TERM – REVERSIBLE</p> <p>Notes: Considering the presence of a number of existing sand and gravel pits within the study area (albeit within a different landscape type, i.e. cutover bog), the proposed development would not introduce completely new elements into the wider landscape. No widely visible prominent landscape features would be removed, and the changes would affect a localised area only, i.e. would be limited to the site and immediately surrounding area. Overall, the balance / composition of the landscape would not be changed. The agricultural land-use would be replaced by that of a more biodiverse wetland habitat and the proposed hedge and native tree planting would provide landscape elements in character with the surrounding land and further adding to the biodiversity within the site.</p>	SLIGHT
Cutover bog	<p>Size & Scale: NEGLIGIBLE</p> <p>Geographical Extent: NEGLIGIBLE</p> <p>Duration / Reversibility: MEDIUM-TERM – REVERSIBLE</p> <p>Notes: There is little intervisibility between the site and the areas covered by the cutover bog landscape type in the vicinity of the site. This is due to the presence of abundant vegetation (scrub and forestry) in these nearby areas. There are also several existing sand & gravel pits located within this landscape type, which thereby contribute to its key characteristics. For these reasons, there will be little change to the character of the cutover bog landscape type and only a very small geographical area would be affected.</p>	NEGLIGIBLE

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Visual Receptors	Factors	Magnitude of Change
Croghan Hill AHA	<p>Size & Scale: NEGLIGIBLE</p> <p>Geographical Extent: SMALL</p> <p>Duration / Reversibility: MEDIUM-TERM – REVERSIBLE</p> <p>Notes: The change to the character of Croghan Hill, including its sense of openness, would be negligible. This is due to the physical separation (the proposed development will be at a minimum distance of 2 km from the lower slopes of the hill) and because the development will be a small low-rise element in the vast lowland landscape, surrounding the hill.</p> <p>The change affects a small proportion (ca. 20%) of the Croghan Hill AHA, i.e. the area from where the site can be seen.</p>	<p>NEGLIGIBLE</p> <p>(note: the negligible size & scale is judged to outweigh the small extent and medium-term duration)</p>

Assessment of Landscape Effects and Significance

13.132 An assessment of the landscape effects during the operational phase, based on the sensitivity of each of the landscape receptors combined with the magnitude of change experienced by each of them, is provided in **Table 13-4** below. The assessment also includes a judgment of the nature of the effect (i.e. negative/positive/neutral).

Table 13-4: Assessment of Landscape Effects

Landscape Receptor	Sensitivity	Magnitude	Landscape Effects	Nature of Effect
Individual Elements				
Flat agricultural fields	MEDIUM	MEDIUM-SLIGHT	MODERATE	Negative
Overall Character				
Agricultural lowland	LOW	SLIGHT	MINOR	Negative
Cutover bog	LOW	NEGLIGIBLE	NEGLIGIBLE	Neutral
Croghan Hill AHA	MEDIUM - LOW	NEGLIGIBLE	MINOR-NEGLIGIBLE	Negative

13.133 None of these landscape effects are assessed to be significant.

Post – Operational Stage Landscape Effects

13.134 At the post-operational stage, the pit lakes will be retained and would be left to naturally develop into a valuable wetland habitat. Any areas where the backfilled clay material (from the stripping of the site) reaches above the water level will become colonised with naturally occurring grass and scrub species, as is the case at the third-party sand and gravel pits within the study area. Also, all hedge and tree planting along the western, southern and south-eastern site boundaries will continue to mature. Both would support the integration of the site into the local landscape, despite the change of land-use. As an additional benefit, the biodiversity value of the site would increase compared with the existing improved grassland cover. As a result, the effects on all landscape receptors would reduce to **NEGLIGIBLE** over time and become neutral

Operational Stage Visual Effects

Visual Receptor Sensitivity

13.135 The value placed on each of the types of visual receptors identified above is described in **Table 13-5** below. Also, the susceptibility to change of each of the receptor types (as per the LVIA Methodology in **Appendix 13-A**) is described and a judgement of the overall sensitivity made.

Table 13-5: Sensitivity of Visual Receptors

Visual Receptors	Value	Susceptibility	Overall Sensitivity
Residents			
All residential receptors identified.	LOW (No specific designated or locally promoted views)	HIGH (Susceptible to changes in views, particularly from gardens and living rooms)	MEDIUM
Recreational Users			
Visitors to Croghan Hill.	HIGH (While views not specifically designated, Croghan Hill is known / promoted for its panoramic views)	HIGH (As views are an important part of a visit)	HIGH
Vehicle Users			
All vehicle users identified.	LOW (No specific designated or locally promoted views)	LOW (Unlikely to be focused on views)	LOW

Magnitude of Visual Change

13.136 **Table 13-6** describes the size & scale, geographical extent and duration/reversibility of the visual effects for each visual receptor, all of which contribute to the assessment of the magnitude of these effects.

Table 13-6: Magnitude of Visual Change

Visual Receptors	Factors	Magnitude of Change
Residents		
3 properties within 1 km west of the site (Viewpoint A)	Size & Scale: MEDIUM Geographical Extent: NEGLIGIBLE Duration / Reversibility: MEDIUM -TERM – REVERSIBLE Notes: The hedge planting works along the southern and western site boundaries and establishment of the site facilities at the northern end of the site will be the first elements visible of the proposed development. This will be followed by the phased soil stripping and associated berm construction works, which will move across the site from north to south. By the time the last phase area will be stripped (i.e. a narrow strip parallel with the western boundary), the proposed boundary hedges are likely to provide substantial screening of the stripping works and berm construction.	SLIGHT

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Visual Receptors	Factors	Magnitude of Change
	<p>The actual sand & gravel extraction activities will be largely screened by the proposed perimeter berms surrounding each extraction phase. Only any raised parts of the machinery used for the extraction works will be intermittently visible above the berms.</p> <p>All of these changes will be seen within the narrow band occupied by the site in the midground of existing views and even with the berms and hedgerows in place, views of the existing scrub areas and the low ridge 2 km to the north-east of the site are only going to be partially obscured. Also considering the flat / linear appearance of the elements associated with the proposed development, which will be similar to the existing flat site, the composition of the view will be partially altered only.</p> <p>The views would be experienced by the residents of a very limited number of properties.</p> <p>The changes will be experienced over the 15-year operational period, however, will only spread slowly towards the visual receptors. The visual changes are theoretically reversible, although this is not anticipated, considering the proposed restoration to a natural habitat.</p>	
<p>Ca. 3 properties within 1.5-2 km south of the site (Viewpoint B)</p>	<p>Size & Scale: NEGLIGIBLE</p> <p>Geographical Extent: NEGLIGIBLE</p> <p>Duration / Reversibility: MEDIUM -TERM – REVERSIBLE</p> <p>Notes: The hedge planting, establishment of the site facilities and phased soil stripping and associated berm construction works, as well as the sand & gravel extraction activities, will be barely perceptible within the small area occupied by the site in the available views. Also considering the panoramic nature of the available views the composition of these views will be barely altered.</p> <p>The views will be experienced by the residents of a very limited number of properties.</p> <p>The changes will be experienced over the 15-year operational period. The visual changes are theoretically reversible, although this is not anticipated, considering the proposed restoration to a natural habitat.</p>	NEGLIGIBLE
<p>Ca. 4 properties just over 2 km north-east of the site (Viewpoint E)</p>	<p>Size & Scale: NEGLIGIBLE</p> <p>Geographical Extent: NEGLIGIBLE</p> <p>Duration / Reversibility: MEDIUM -TERM – REVERSIBLE</p> <p>Notes: As with Viewpoint B, the hedge planting, establishment of the site facilities and phased soil stripping and associated berm construction works, as well as the sand & gravel extraction activities, will be barely perceptible within the small area occupied by the site in the available views. Also considering the panoramic nature of the available views the composition of these views will be barely altered.</p> <p>The views will be experienced by the residents of a very limited number of properties.</p> <p>The changes will be experienced over the 15-year operational period. The visual changes are theoretically reversible, although this is not anticipated, considering the proposed restoration to a natural habitat.</p>	NEGLIGIBLE

Visual Receptors	Factors	Magnitude of Change
Recreational users		
Visitors to Croghan Hill (Viewpoint C)	Size & Scale: NEGLIGIBLE Geographical Extent: SMALL Duration / Reversibility: MEDIUM -TERM – REVERSIBLE Notes: While the site is visible in views from Croghan Hill, the visual changes, due to the proposed development would be barely perceptible within the small area occupied by the site in the available vastly panoramic views. The overall composition of views will be barely altered. The views will be experienced from a limited area immediately surrounding the summit at Croghan Hill and from parts of its northern slopes, which are regularly visited by recreational walkers and tourists. The changes will be experienced over the 15-year operational period. The visual changes are theoretically reversible, although this is not anticipated, considering the proposed restoration to a natural habitat.	SLIGHT / NEGLIGIBLE
Road users		
Ca. 1 km section of the local roads between 1.5-2 km south of the site (Viewpoint B)	Size & Scale: NEGLIGIBLE Geographical Extent: NEGLIGIBLE Duration / Reversibility: MEDIUM -TERM – REVERSIBLE Notes: The hedge planting, establishment of the site facilities and phased soil stripping and associated berm construction works, as well as the sand & gravel extraction activities, will be barely perceptible within the small area occupied by the site in the available views. Also considering the panoramic nature of the available views the composition of these views will be barely altered. The views will be experienced from a short section of road, and typically by local residents only, as this is not a through road. The changes will be experienced over the 15-year operational period. The visual changes are theoretically reversible, although this is not anticipated, considering the proposed restoration to a natural habitat.	NEGLIGIBLE
Ca. 50 m section of the local road just over 2 km north-east of the site (Viewpoint E)	Size & Scale: NEGLIGIBLE Geographical Extent: NEGLIGIBLE Duration / Reversibility: MEDIUM -TERM – REVERSIBLE Notes: As with Viewpoint B, the hedge planting, establishment of the site facilities and phased soil stripping and associated berm construction works, as well as the sand & gravel extraction activities, will be barely perceptible within the small area occupied by the site in the available views. Also considering the panoramic nature of the available views the composition of these views will be barely altered. The views will be experienced from a very short section of road, and largely by local residents only, due to the presence of other, wider roads nearby. The changes will be experienced over the 15-year operational period. The visual changes are theoretically reversible, although	NEGLIGIBLE

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Visual Receptors	Factors	Magnitude of Change
	this is not anticipated, considering the proposed restoration to a natural habitat.	

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Assessment of Visual Effects and Significance

13.137 An assessment of the visual effects during the operational phase, based on the sensitivity of each of the visual receptors combined with the magnitude of change experienced by each of them, are provided in **Table 13-7** below. The assessment also includes a judgment of the nature of the effect (i.e. negative/positive/neutral).

Table 13-7: Assessment of Visual Effects

Visual Receptor	Sensitivity	Magnitude	Visual Effects	Nature of Effect
Residents				
3 properties within 1 km west of the site (Viewpoint A)	MEDIUM	SLIGHT	MODERATE/ MINOR	Negative
Ca. 3 properties within 1.5-2 km south of the site (Viewpoint B)	MEDIUM	NEGLIGIBLE	MINOR	Negative
Ca. 4 properties just over 2 km north-east of the site (Viewpoint E)	MEDIUM	NEGLIGIBLE	MINOR	Negative
Recreational Users				
Visitors to Croghan Hill (Viewpoint C)	HIGH	SLIGHT / NEGLIGIBLE	MODERATE	Negative
Vehicle Users				
Ca. 1 km section of the local roads between 1.5-2 km south of the site (Viewpoint B)	LOW	NEGLIGIBLE	NEGLIGIBLE	Neutral
Ca. 50 m section of the local road just over 2 km north-east of the site (Viewpoint E)	LOW	NEGLIGIBLE	NEGLIGIBLE	Neutral

13.138 None of these visual effects are assessed to be significant.

Post – Operational Stage Visual Effects

13.139 At the post-operational stage, the hedge planting along the southern and western site boundaries will be retained and continue to screen much of the application area in the available views. At the same time the hedgerows, as well as the native tree planting blocks along the south-eastern boundary will integrate with the tree-lined hedgerows and scrub areas / forestry plantations in the surrounding landscape. As a result, the visual effects for all visual receptors would reduce to **NEGLIGIBLE** (and neutral) at the post-operational stage

Direct/Indirect Effects

- 13.140 All landscape and visual effects described above are direct effects. The proposed development is not considered to have indirect effects in landscape and visual terms, i.e. the proposed development is unlikely to cause consequential changes to the surrounding landscape character areas or to existing views of the landscape surrounding the application area.

Compliance with relevant Planning Policies

Co. Offaly

Aggregates and Minerals

- 13.141 It was concluded in the above assessment that there will be minor-negligible landscape effects on the character of the Croghan Hill AHA and moderate visual effects on views from the summit, none of which were judged to be significant. Further to that it is proposed to restore the sand & gravel pit to a biodiversity afteruse.
- 13.142 Both elements are considered to be in compliance with **REDP-19** of the current OCDP.

Biodiversity and Landscape

- 13.143 The above LVIA took account of the landscape sensitivity areas, as set out in the current OCDP. It concluded that there will be minor or less landscape effects on the different landscape types present within the study area, including minor-negligible effects on the character of the Croghan Hill AHA, none of which were judged to be significant.
- 13.144 The proposed development will not result in the loss of any local landscape features, such as hedgerows, shelter belts or stone walls. Also, it is proposed to restore the sand & gravel pit to a biodiversity afteruse, rather than levelling or infilling the pit void.
- 13.145 It is therefore considered that the proposed development is in compliance with the following OCDP policies and objectives: **BLP-09, BLP-13, BLP-38, BLP-39, BLP-40, BLP-41, BLO-22** and **BLO-24**.

Development Management Standards

- 13.146 A Landscape and Restoration Plan (refer to Figure 2-5) was prepared for the proposed development, which details the phased landscape / restoration works, which will be carried out in tandem with the phased extraction activities at the site. The proposals include early-stage native hedge planting along the southern and western boundary to augment the screening provided by the proposed perimeter berms, in particular in views from local residential receptors. These hedges will also help the site integrate with the surrounding landscape, as well as provide biodiversity benefits. The water body created by the extraction activities, will be retained on completion of the works. Shallow undulating edge will be created by placing surplus overburden material into the waterbody, which are expected to become colonised by locally occurring grass, scrub and aquatic species, as is the case in third party sand & gravel pits in the vicinity of the site. This proposed natural habitat afteruse has regard to the after uses listed in the *EPA publication 'Environmental Management in the Extractive Industry (non-scheduled minerals)' 2006.*
- 13.147 As mentioned previously, the LVIA has taken account of the Landscape Sensitivity Areas set out in the current OCDP and the likely impacts on the Croghan Hill AHA were assessed.
- 13.148 It is therefore considered that the proposed development is in compliance with **DMS-112** of the current OCDP.

Co. Westmeath

Extractive Industry

- 13.149 None of the High Amenity Areas of Sensitive Landscape Areas as set out in the current WCDP will be affected by the proposed development and it is therefore considered to be in compliance with Policy Objective **CPO 9.62**.

Rare and Protected Sites

- 13.150 The above LVIA concluded that there will be minor or less landscape effects on the different landscape types present within the study area, none of which were judged to be significant. Further to that the proposed restoration of the site to a natural habitat will result in an enhancement of the local biodiversity. The proposed development is therefore considered to be in compliance with Policy Objective **CPO 12.13** of the current WCDP.

Landscape Character Assessment

- 13.151 The above LVIA was carried out with reference to the County Westmeath LCA. The assessment concluded that effects on all landscape character types present within the study area will be minor or less. It can therefore be concluded that the distinctiveness and value of County Westmeath's landscapes will be protected, as well as the uniqueness of all landscape character types.
- 13.152 The ZTV (refer to **Figure 13-2**) illustrates that the likelihood of the proposed development being visible from locations within Co. Westmeath is very low (i.e. some intermittent area of low theoretical visibility). It was confirmed during the field survey that there are no views from public locations within Co. Westmeath and there will therefore be no visual effects for any visual receptors.
- 13.153 The implementation of the proposed Landscape and Restoration Plan (refer to **Figure 2-5**) will result in an enhancement of the local biodiversity.
- 13.154 It is therefore considered that the proposed development is in compliance with the following WCDP policies objectives: **CPO 13.2, CPO 13.6, CPO 13.8, CPO 13.9, CPO 13.10, CPO 13.12 and CPO 13.17**.

Unplanned Events (i.e. Accidents)

- 13.155 It is highly unlikely that any unplanned events within the application area would result in significant landscape or visual impact.

Cumulative / Synergistic Impacts

- 13.156 While there are a number of third-party sand and gravel pits within 2km to the north-west, north and north-east, these are all visually separated from the application area by intervening vegetation. Also, the characteristics of the large open pit lakes and associated flat topography can be compared to the large fields of flat farmland or large open areas of flat cutover bog. All are well established features in the local landscape. The addition of another sand and gravel pit is therefore unlikely to result in significant cumulative landscape or visual impact.
- 13.157 The construction of the Yellow River Wind Farm was recently completed. A total of 29 turbines are now present within 2km to the west and up to 8km to the east of the site. Wind turbines, due to their height and their spread across a large area, result in different types of landscape and visual effects, which will not be modified by the proposed low-rise and small footprint of the proposed sand and gravel pit development. Also, due to the low level of visibility of the application area in the wider landscape, there would be very little intervisibility

between the two developments. The likelihood of significant cumulative landscape and visual effects is therefore low.

Transboundary Impacts

- 13.158 The proposed application area is not located in the vicinity of a national boundary. Therefore, transboundary landscape or visual impacts would not arise.

Interaction with Other Impacts

- 13.159 Some of the local residential receptors may experience a slightly elevated level of impact, due to an interaction of the visibility of extraction activities within the site and the noise and dust associated with these works.

'Do-nothing Scenario'

- 13.160 If the proposed development is not carried out, the current agricultural land use is likely to continue within the application area for the foreseeable future, resulting in no landscape or visual effects and the mineral resource remaining in-situ.

Mitigation Measures

Operational Stage

- 13.161 The main mitigating factor, reducing the landscape and visual effects associated with the proposed development, is the low visibility of the application area, due to the existing flat topography in combination with abundant vegetation in the local landscape. The presence of screening scrub vegetation on the lands to the east, as well as the proposed planting of native hedgerows along the southern and western site boundaries, also contribute to the low levels of landscape and visual effects
- 13.162 The proposed hedge planting, as well as tree planting along the eastern boundary, combined with the proposed restoration of the sand and gravel pit to a natural habitat (i.e., wet working area to be retained as wetland habitat, leaving all parts of the extraction area above the water level for natural regeneration) would help the integration of the site into the local landscape. Should it be found towards the end of the one year restoration period, that there are still large areas along the lake shore which have not been colonised by locally occurring grass and scrub species, some planting of willow and birch would be carried out (note: this is highly unlikely, as natural regeneration is prolific in the surrounding areas of cutover bog and existing third-party sand and gravel pits).
- 13.163 No further landscape or visual mitigation measures are considered necessary at this stage. Please refer to the Landscape and Restoration Plan (**Figure 2-5**), provided in **Chapter 2** of this EIAR, for the landscape and restoration proposals.

Post – Operational Stage

- 13.164 During the post-operational stage, the vegetation surrounding the pit lake area would continue to mature and the site would more and more integrate into the surrounding landscape. Additional landscape or visual mitigation measures at the post-operational stage are therefore not considered necessary.

Residual Impact Assessment

Operational Stage

- 13.165 As no additional mitigation measures are proposed during the operational stage, the residual levels of landscape and visual impact would be as per the assessment above. In summary, the assessment has found that the proposed development would have moderate landscape effects on the site itself and minor or less on the landscape character receptors identified (i.e. levels of impact not considered to be significant), during the operational stage.
- 13.166 The visual effects on views would range from none for the majority of locations within the study area, to moderate for views from Croghan Hill and moderate/minor or minor for a small number of residential receptors, as well as negligible for a small number of road users between 1.5-2km to the south and just over 2 km to the north-east of the site (i.e. all impacts not regarded as significant).

Post – Operational Stage

- 13.167 As no additional mitigation measures are proposed during the post-operational stage, the residual levels of landscape and visual impact would be as per the assessment above. In summary, following the completion of all extraction and restoration works and as the vegetation surrounding the site matures, the predicted landscape and visual effects would in time reduce to negligible for all receptors identified.

Monitoring

- 13.168 Apart from the proposed 2-year aftercare period, as part of each stage of the Landscape and the Restoration Proposals (refer to **EIAR Figures 2-5 & 2-6**), to ensure the successful establishment of the native hedge and tree planting, there are no monitoring requirements, arising from this landscape and visual assessment.

References

- Environmental Protection Agency (May 2022)** Guidelines on the Information to be contained in Environmental Impact Assessment Reports, EPA Ireland
- The Landscape Institute with the Institute of Environmental Management and Assessment (2013)** Guidelines for Landscape and Visual Impact Assessment, Third Edition, Routledge
- The Landscape Institute (2019)** Technical Guidance Note 06/19: Visual Representation of Development Proposals, Landscape Institute
- The Landscape Institute (2021)** Technical Guidance Note 02/21: Assessing landscape value outside national designations, Landscape Institute
- The Landscape Institute (2024)** Technical Guidance Note LITGN-2024-01 Published August 2024: Notes and Clarifications on Aspects of Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVLI A3)

Figures

Figure 13-1 Landscape Designations and Viewpoint Locations

Figure 13-2 Zone of Theoretical Visibility (ZTV) Map

Figure 13-3 Viewpoints A & B

Figure 13-4 Viewpoints C & D

Figure 13-5 Viewpoints E & F

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Legend:

- Applicant's Land Interest Area
- Planning Application Area
- Viewpoint Locations
- Approximate distance from Application Area (excluding access road)



VIEWPOINT A: Local road in Derryarkin townland - Ca. 250m west of the south-western corner of the application area

Grid Coordinates (ITM): **0648497:0736013** Approximate Elevation: **85m AOD** Distance from planning application boundary: **250m** Direction of View: **North-east** Date/time of photograph: **06/02/2025 @ 16:02**

Description: This viewpoint represents views from three residential properties along this cul-de-sac local road, one of them located beside this viewpoint, one visible at the right edge of the photograph and one ca. 600 m further west. The application area is openly visible from the two closer properties, although as a narrow band, due to the viewing angle. Intervening vegetation partially screens views from the more distant property. The proposed works will result in the view of the existing pasture fields change to one of perimeter berms, which will be grass seeded. The extraction works, which will result in an open waterbody, will be largely screened by these berms, as well as a proposed hedgerow along the western boundary. Overall the composition of the view will not change much, as it will still consist of flat, linear elements, similar to the locally present flat ground and linear fencelines / hedgerows.



VIEWPOINT B: Local road along the boundary of the Ballyfore and Ballybeg townlands, south of the application area

Grid Coordinates (ITM): **0648413:0734360** Approximate Elevation: **120m AOD** Distance from planning application boundary: **1,700m** Direction of View: **North** Date/time of photograph: **06/02/2025 @ 16:18**

Description: This viewpoint represents views from a ca. 1 km long, slightly elevated section of the local road on the northern slopes of Croghan Hill, as well as ca. three associated residential properties. The application area is visible as a small area in the midground of views, at a minimum distance of 1.5 km, surrounded by woodland / scrub vegetation. The extraction works will be partially screened by the proposed perimeter berms, however a narrow band of the resultant waterbody is likely to become visible. The dark colour of the water will however blend in with the surrounding dark colours of the woodland / scrub vegetation and will therefore not be conspicuous in views from this area. Also, the recently constructed Yellow River Windfarm is more likely to draw the eye of the viewer, so that small scale changes, such as the proposed, become more inconspicuous.

Rev	Amendments	Date	By	Chk	Auth



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Client
BD Flood Unlimited Company

Project
Proposed Sand and Gravel Development at Derryarkin, Co. Offaly

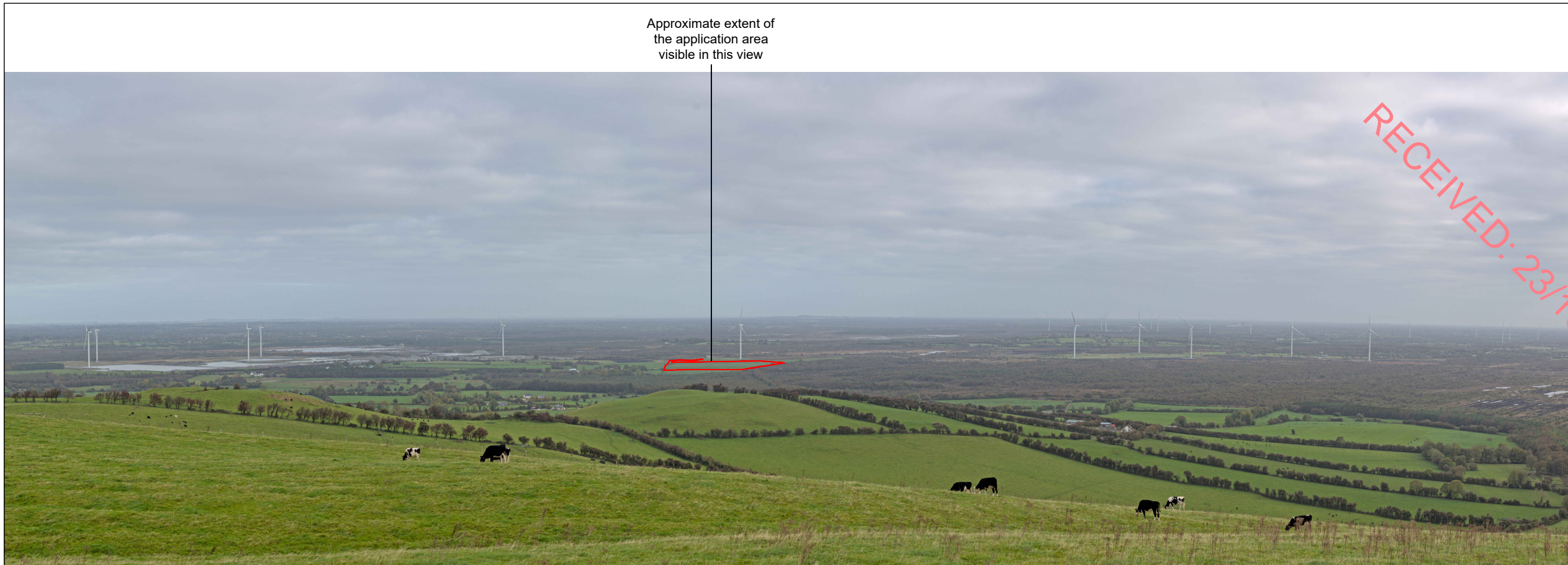
Figure Title
Viewpoints A & B

Scale: **N/A @ A3** SLR Project No. **501.065657.00001**

Designed CN	Drawn CN	Checked AM	Authorised AM
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Date 08/25	Date 08/25	Date 08/25	Date 08/25
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Figure Number Figure 13-3	Rev.
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VIEWPOINT C: Croghan Hill - View north from the summit
 Grid Coordinates (ITM): **648047:733140** Approximate Elevation: **234m AOD** Distance from planning application boundary: **2,900m** Direction of View: **North** Date/time of photograph: **08/10/2025 @ 10:15**
Description: The application area is visible as a small area in the midground of the vast panoramic views available from the top of Croghan Hill. It is discernible as it comprises a pasture field surrounded by woodland / scrub vegetation. The extraction works will be visible within the area indicated on the above photograph, but will be partially screened by the proposed perimeter berms. As the works progress, the resultant waterbody will become visible within this area. The dark colour of the water will blend in with the surrounding darker colours of the woodland / scrub vegetation and will therefore not be conspicuous in views from Croghan Hill. Also, the recently constructed Yellow River Windfarm tends to draw the eye of the viewer, so that small scale changes, such as the proposed, become more inconspicuous. Considering that the two are completely different types of development, with the proposed sand and gravel pit being small scale / low rise, the likely cumulative visual impact of the two is considered low.

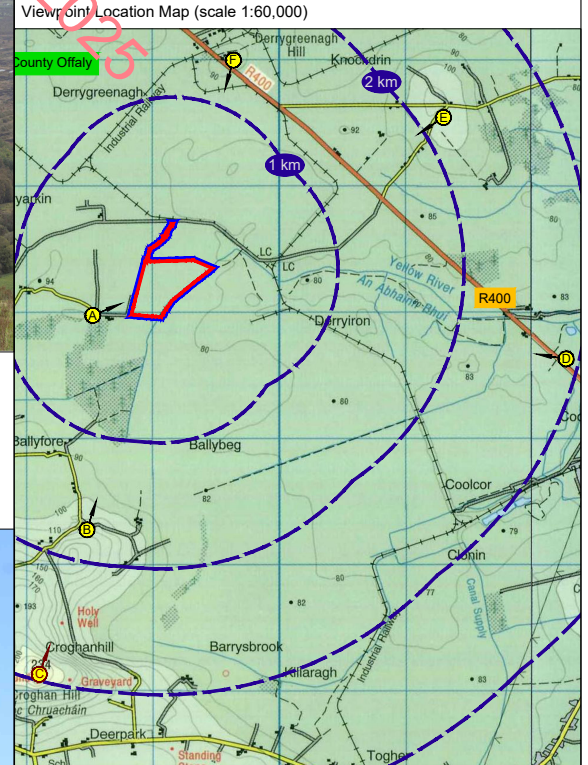


VIEWPOINT D: R400 Regional Road in the townland of Coolcor - ca. 2 km north-west of Rhode
 Grid Coordinates (ITM): **0652138:0735669** Approximate Elevation: **80m AOD** Distance from planning application boundary: **2,800m** Direction of View: **West** Date/time of photograph: **06/02/2025 @ 16:40**
Description: This viewpoint along the R400 represents views from this road (also refer to Viewpoint F), as well as views from the lowland landscape surrounding the application area in general, including residential properties. Intervening tree-lined hedgerows and woodland / scrub areas fully screen the application area, and therefore of the proposed development, in views from the low-lying flat land. This is with the exception of locations in close proximity to the site, as illustrated by Viewpoint A.

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Legend:

- Applicant's Land Interest Area
- Planning Application Area
- Viewpoint Locations
- Approximate distance from Application Area (excluding access road)



Rev	Amendments	Date	By	Chk	Auth



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Project
Proposed Sand and Gravel Development at Derryarkin, Co. Offaly

Figure Title
Viewpoints C & D

Scale N/A @ A3	SLR Project No. 501.065657.00001
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Designed CN	Drawn CN	Checked AM	Authorised AM
Date 08/25	Date 10/25	Date 10/25	Date 10/25

Figure Number Figure 13-4	Rev.
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The application area is partially visible above intervening vegetation

Yellow River Windfarm Turbine T7

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Legend:

- Applicant's Land Interest Area
- Planning Application Area
- A Viewpoint Locations
- 2 km Approximate distance from Application Area (excluding access road)

Viewpoint Location Map (scale 1:60,000)



VIEWPOINT E: Local Road, in the townland of Knockdrin, ca. 800 km north-east of the junction with the R400

Grid Coordinates (ITM): **0651173:0737544** Approximate Elevation: **105m AOD** Distance from planning application boundary: **2,100m** Direction of View: **South-west** Date/time of photograph: **13/03/2025 @ 09:10**

Description: This viewpoint represents views from a short (ca. 50 m) elevated section of this road, as well as ca. 4 residential properties nearby. The application area is partially visible above intervening woodland / scrub vegetation, as a narrow sliver in the midground of the available views. Some of the extraction activities, in particular those in the western half of the site towards the end of the extraction period, are likely to become visible. However, they will be difficult to discern from the agricultural activities currently taking place within the site (e.g. tractor movements). Parts of the resulting waterbody will become visible. The dark colour of the water will however blend in with the surrounding dark colours of the woodland / scrub vegetation and existing waterbodies visible. It will therefore not be conspicuous in views from this area. Also, the recently constructed Yellow River Windfarm is more likely to draw the eye of the viewer, so that small scale changes, such as the proposed, become more inconspicuous



Yellow River Windfarm Turbine T7

The application area is fully screened by intervening vegetation

Rev	Amendments	Date	By	Chk	Auth



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Client
BD Flood Unlimited Company

Project
Proposed Sand and Gravel Development at Derryarkin, Co. Offaly

Figure Title
Viewpoints E & F

Scale: **N/A @ A3** SLR Project No. **501.065657.00001**

Designed CN	Drawn CN	Checked AM	Authorised AM
Date 08/25	Date 08/25	Date 08/25	Date 08/25

Figure Number **Figure 13-5** Rev.

VIEWPOINT F: R400 - approximately 1.3km north of the application area

Grid Coordinates (ITM): **649536:0737974** Approximate Elevation: **95m AOD** Distance from planning application boundary: **1,300m** Direction of View: **South** Date/time of photograph: **13/03/2025 @ 09:20**

Description: Similar to Viewpoint D, this viewpoint represents views from the R400, as well as views from the surrounding lowland area in general. The application and therefore the proposed development is fully screened by intervening vegetation in views from this area. Further to that, Viewpoint F illustrates that the site remains screened in locally elevated locations, such as this on a small rise, ca. 10m above the surrounding land.

Appendices

Appendix 13-A Criteria and Definitions used in Assessing Landscape and Visual Effects

Introduction

Landscape and Visual Impact Assessment (LVIA) is a tool used to identify the effects of development on “*landscape as an environmental resource in its own right and on people’s views and visual amenity*” (GLVIA3, paragraph 1.1). GLVIA3¹ (paragraph 2.22) states that these two elements, although inter-related, should be assessed separately. GLVIA3 is the main source of guidance on LVIA.

Landscape is a definable set of characteristics resulting from the interaction of natural, physical and human factors: it is a resource in its own right. Its assessment is distinct from visual assessment, which considers effects on the views and visual amenity of different groups of people at particular locations. Clear separation of these two topics is recommended in GLVIA3.

“*Notes and Clarifications on aspects of GLVIA3*” (Landscape Institute Technical Guidance Note 2024/01, published August 2024) makes it clear at section 2.0 that Townscape and Seascape assessments should follow the same process as LVIA, and therefore also follow the guidance in GLVIA3.

As GLVIA3 (paragraph 2.23) states, professional judgement is an important part of the LVIA process: whilst there is scope for objective measurement of landscape and visual changes, much of the assessment must rely on qualitative judgements. It is critical that these judgements are based upon a clear and transparent method so that the reasoning can be followed and examined by others.

Impacts can be defined as the action being taken, whereas effects are the changes result from that action. This method of assessment assesses landscape and visual effects.

Landscape and visual effects can be positive, negative or neutral in nature. Positive effects are those which enhance and/or reinforce the characteristics which are valued. Negative effects are those which remove and/or undermine the characteristics which are valued. Neutral effects are changes which are consistent with the characteristics of the landscape or view. LI TGN 2024/01 notes at section 3(7) that the assessment of the level of effect and the nature of effect should be independent of each other.

Landscape and visual effects can result directly from the development itself (direct effects), or may be indirect changes (which are not a direct result of the development but occur as a result of a more complex pathway, such as changes to drainage patterns or perceptual changes further from the proposed development).

Landscape and visual effects can also be cumulative, which are the additional changes caused by a proposed development in conjunction with other developments, particularly those which are recently consented or which have been applied for.

In LVIAs which form part of an EIA, it is necessary for identify significant and non-significant effects. In non-EIA LVIAs, also known as appraisals, the same principles and process as LVIA may be applied but, in so doing, it is not required to establish whether the effects arising are or are

¹ Landscape Institute and Institute of Environmental Management and Assessment ‘Guidelines for Landscape and Visual Impact Assessment’ (Third Edition, April 2013)

not significant given that the exercise is not being undertaken for EIA purposes (see GLVIA3 statement of clarification 1/13 10-06-13, Landscape Institute).

Landscape Effects

Landscape, as defined in the European Landscape Convention, 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”, (Council of Europe, 2000). Landscape does not apply only to special or designated places, nor is it limited to countryside.

GLVIA3 (paragraph 5.34) recommends that the effect of the development on landscape receptors is assessed. Landscape receptors are the components of the landscape that are likely to be affected by the proposed development and can include individual elements (such as hedges or buildings), aesthetic and perceptual characteristics (for example sense of naturalness, tranquillity or openness), or, at a larger scale, the character of a defined character area or landscape type. Designated areas (such as National Parks or Areas of Outstanding Natural Beauty (AONBs)) are also landscape receptors.

This assessment is being undertaken because the proposed development has the potential to remove or add elements to the landscape, to alter aesthetic or perceptual aspects, and to add or remove characteristics and thus potentially change overall character.

Judging landscape effects requires a methodical assessment of the sensitivity of the landscape receptors to the proposed development and the magnitude of effect which would be experienced by each receptor.

Landscape Sensitivity

Sensitivity of landscape receptors is assessed by combining an assessment of the susceptibility of landscape receptors to the type of change which is proposed with the value attached to the landscape. (GLVIA3, paragraph 5.39).

Value Attached to Landscape Receptors

Landscape receptors may be valued at community, local, national or international level. Existing landscape designations provide the starting point for this assessment, as set out in **Table 13A-1** below.

The table sets out the interpretation of landscape designations in terms of the value attached to different landscape receptors. As GLVIA3 (paragraph 5.24) notes, at the local scale of an LVIA study area it may be found that the landscape value of a specific area may be different to that suggested by the formal designation.

Table 13A-1: Interpretation of Landscape Designations

Designation	Description	Value
World Heritage Sites, candidate World Heritage Site	Unique sites, features or areas identified as being of international importance according to UNESCO criteria. Consideration should be given to their settings especially where these contribute to the attributes of outstanding universal value for which such an area of landscape is valued.	International
National Parks	Areas of landscape identified as being of national importance for their natural beauty and the opportunities they offer for outdoor recreation. Consideration should be	National

	given to their settings ² especially where these contribute to the special qualities for which the landscape is valued.	
Local Landscape Designations (such as High Amenity Areas) included in local planning documents.	Areas of landscape identified as having importance at the local authority level.	Local Authority
Undesignated landscapes of community value	Landscapes which do not have any formal designation but which are assessed as having value to local communities, perhaps on the basis of demonstrable physical attributes which elevate it above ordinary countryside.	Local Authority / Community
Landscapes of low value	Landscapes in poor condition or fundamentally altered by presence of intrusive man-made structures. Landscapes with no demonstrable physical attributes which elevate it above ordinary countryside.	Low

Where landscapes are not designated and where no other local authority guidance on value is available, an assessment is made by reference to criteria in the **Table 13A-2** below. This is based on Table 1 of Landscape Institute Technical Guidance Note 2/21. These factors are not fixed and should be reviewed on a case-by-case basis. When assessing landscape value of a site it is important to consider not only the site itself but also its context.

Landscapes may be judged to be of local authority or community value on the basis of one or more of these factors. There may also be occasional circumstances where an undesignated landscape may be judged to be of national value, for example where it has a clear connection with a nationally designated landscape, or is otherwise considered to be of equivalent value to a national designation. Similarly, on occasions there may be areas within designated landscapes that do not meet the designation criteria, or demonstrate the key characteristics/special qualities in a way that is consistent with the rest of the designated area.

An overall assessment is made for each landscape receptor, based on an overview of the above criteria, to determine its value - whether for example it is comparable to a local authority landscape designation or similar, or whether it is of value to local people and communities. For example, an intact landscape in good condition, where scenic quality, tranquillity, and/or conservation interests make a particular contribution to the landscape, or where there are important cultural or historical associations, might be of equivalent value to a local landscape designation. Conversely, a degraded landscape in poor condition, with no particular scenic qualities or natural or cultural heritage interest is likely to be considered of limited landscape value.

Table 13A-2: Factors Considered in Assessing the Value of Non-Designated Landscapes

Factor	Criteria
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² LI TGN 2024/01 states at section 5(13) that the setting of protected landscapes is “generally created in policy and is not a designation (or a receptor) in its own right (unlike the settings of heritage assets). The extent of the setting of a designated landscape for LVIA purposes is not geographically defined and will vary with the nature of the development proposed. In LVIA, the question would remain whether the changes in the setting (i.e the landscape nearby but outside the designated area) would affect the designated landscape in terms of effects on its special qualities and, if so, to what degree”.

Natural Heritage	Landscape with clear evidence of ecological, geological, geomorphological or physiographic interest. Presence of wildlife and habitats that contribute to the sense of place. Landscape which contains valued natural capital assets that contribute to ecosystem services.
Cultural Heritage	Landscape with clear evidence of archaeological, historical or cultural interest. Landscape which contributes to the significance of heritage assets. Landscape which offers a dimension of time depth.
Landscape Condition	Landscape which is in a good physical state both with regard to individual elements and overall landscape structure. Absence of detracting/incongruous features.
Associations	Landscape which is connected with notable people, events and the arts.
Distinctiveness	Landscape that has a strong sense of identity or place. Presence of distinctive features that are characteristic of a place, or presence of rare/unusual features that confer a strong sense of place. Includes landscape that makes an important contribution to the character or identity of a settlement.
Recreational	Landscape offering recreational opportunities where experience of landscape is important. Includes open access areas, common land and rights of way where appreciation of the landscape is an important element of the experience. Landscape that forms part of a view that that is important to the enjoyment of a recreational activity.
Perceptual (Scenic)	Landscape that appeals to the senses, primarily the visual sense. Distinctive features, or distinctive combinations of features. Strong aesthetic qualities. Visual diversity or contrasts. Memorable/distinctive views or landmarks, or landscape that contributes to these.
Perceptual (Wildness and Tranquillity)	Landscape with a strong perceptual value notably remoteness, wildness, tranquillity and/or dark skies.
Functional	Landscape which performs a clearly identifiable and valuable function, particularly in the healthy functioning of the landscape. Natural hydrological systems, important parts of the green infrastructure network, pollinator rich habitats. Landscapes that have strong physical or functional links with an adjacent national landscape designation or are important to the appreciation of the designated landscape and its special qualities.

Susceptibility of Landscape Receptors to Change

As set out in GLVIA3, susceptibility refers to the ability of the landscape receptor to “*accommodate the proposed development without undue adverse consequences for the baseline situation and/or the achievement of landscape planning policies and strategies*”. Judgement of susceptibility is particular to the specific characteristics of the proposed development and the ability of a particular landscape or feature to accommodate the type of change proposed, and makes reference to the criteria set out in **Table 13A-3** below. Aspects of the character of the landscape that may be affected by a particular type of development include landform, skylines, land cover, enclosure, human influences including settlement pattern and aesthetic and perceptual aspects such as the scale of the landscape, its form, line, texture, pattern and grain, complexity, and its sense of movement, remoteness, wildness or tranquillity.

For example, an urban landscape which contains a number of industrial buildings may have a low susceptibility to buildings of a similar scale and character. Conversely a rural landscape containing only remote farmsteads is likely to have a high susceptibility to large scale built development.

Table 13A-3: Landscape Receptor Susceptibility to Change

Susceptibility	Criteria
High	The landscape receptor is highly susceptible to the proposed development because the key characteristics of the landscape have no or very limited ability to accommodate it without transformational adverse effects, taking account of the existing character and quality of the landscape.
Medium	The landscape receptor is moderately susceptible to the proposed development because the relevant characteristics of the landscape have some ability to accommodate it without transformational adverse effects, taking account of the existing character and quality of the landscape.
Low	The landscape receptor has low susceptibility to the proposed development because the relevant characteristics of the landscape are generally able to accommodate it without transformational adverse effects, taking account of the existing character and quality of the landscape.

Defining Sensitivity

As has been noted above, the sensitivity of landscape receptors is defined in terms of the relationship between value and susceptibility to change as indicated in Figure 13A-1 below. This summarises the general nature of the relationship but it is not formulaic and only indicates general categories of sensitivity. Professional judgement is applied on a case by case basis in determining sensitivity of individual receptors with the diagram only serving as a guide.

Table 13A-4 below summarises the nature of the relationship but it is not formulaic and only indicates general categories of sensitivity. Judgements are made about each landscape receptor, with the table serving as a guide.

Where, taking into account the component judgements about the value and susceptibility of the landscape receptor, sensitivity is judged to lie between levels, an intermediate assessment of high/medium or medium/low is adopted. In a few limited cases a category of less than low (very low) may be used where the landscape is of low value and susceptibility is particularly low.

Figure 13A-1: Example Levels of Sensitivity defined by Value and Susceptibility of Landscape Receptors

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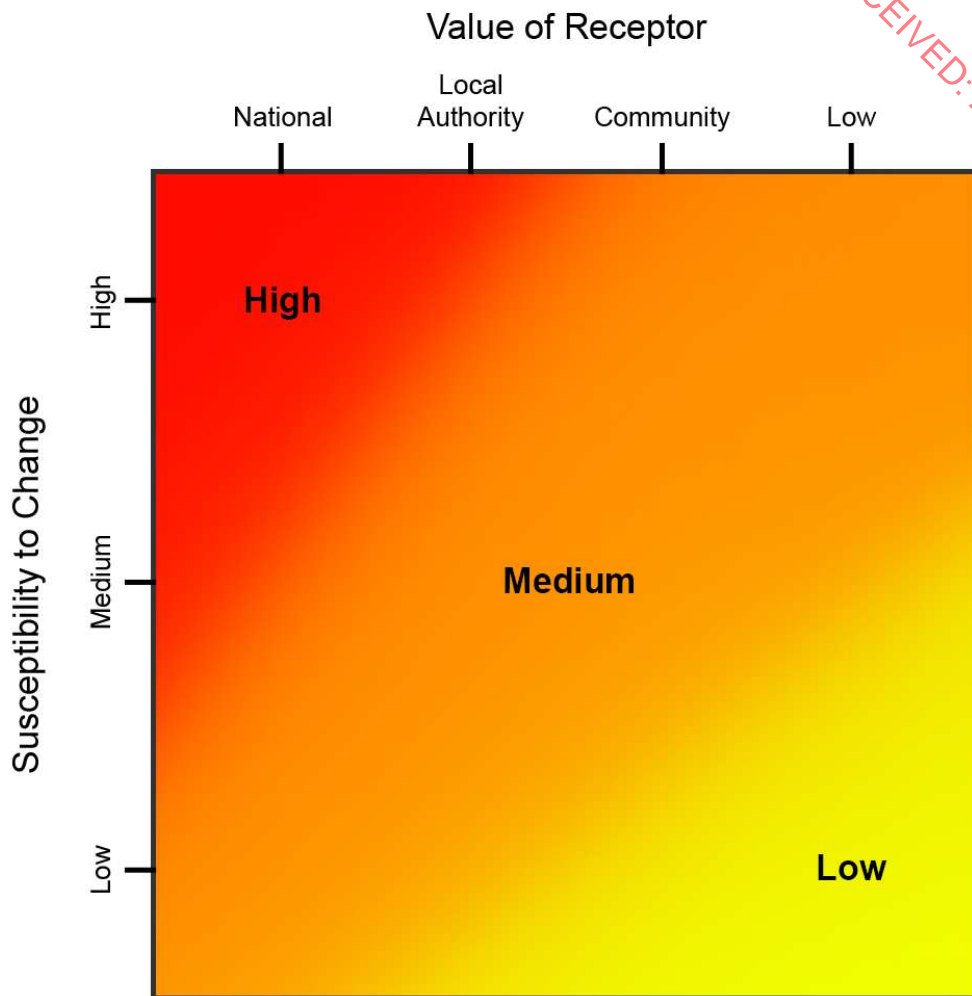


Table 13A-4: Example Levels of Sensitivity defined by Value and Susceptibility of Landscape Receptors

Susceptibility	Criteria
High	<p>The landscape receptor is of international or national value and is considered to have high susceptibility to the effects of the proposed development.</p> <p>OR</p> <p>The landscape receptor is of national value and is considered to have medium susceptibility to the effects of the proposed development.</p>
Medium	<p>The landscape receptor is of international or national value and is considered to have low susceptibility to the effects of the proposed development.</p> <p>OR</p> <p>The landscape receptor is of local authority value and is considered to have high susceptibility to the effects of the proposed development.</p> <p>OR</p>

	<p>The landscape receptor is of local authority value and is considered to have medium susceptibility to the effects of the proposed development.</p> <p>OR</p> <p>The landscape receptor is of community value and is considered to have high susceptibility to the effects of the proposed development.</p>
Low	<p>The landscape receptor is of local authority value and is considered to have low susceptibility to the effects of the proposed development.</p> <p>OR</p> <p>The landscape receptor is of community value and is considered to have medium susceptibility to the effects of the proposed development.</p> <p>OR</p> <p>The landscape receptor is of community value and is considered to have low susceptibility to the effects of the proposed development.</p>

Magnitude of Landscape Change

The magnitude of landscape change is established by assessing the size or scale of change, the geographical extent of the area influenced and the duration and potential reversibility of the change. LI TGN 2024/01 states at section 3(3) that *“it is likely that size/scale of effect will be the most important factor, with geographical extent and duration/reversibility considered as ‘modifiers’”*.

Size and Scale of Change

The size and/or scale of change in the landscape takes into consideration the following factors:

- the extent/proportion of landscape elements lost or added; and/or
- the degree to which aesthetic/perceptual aspects are altered; and
- whether this is likely to change the key characteristics of the landscape.

The criteria used to assess the size and scale of landscape change are based upon the amount of change that will occur as a result of the proposed development, as described in **Table 13A-5** below.

Table 13A-5: Magnitude of Landscape Change: Size/Scale of Change

Category	Description
Large level of landscape change	<p>There would be a large level of change in landscape character, and especially to the key characteristics if, for example, the proposed development:</p> <ul style="list-style-type: none"> • becomes a dominant feature in the landscape, changing the balance of landscape characteristics; and/or • would dominate important visual connections with other landscape types, where this is a key characteristic of the area.
Medium level of landscape change	<p>There would be a medium level of change in landscape character, and especially to the key characteristics if, for example:</p> <ul style="list-style-type: none"> • the proposed development would be more prominent but would not change the overall balance or composition of the landscape; and/or

	<ul style="list-style-type: none"> key visual connections to other landscape types may be interrupted intermittently by the proposed development, but these connections would not be dominated by them.
Small level of landscape change	<p>There would be a small level of change in landscape character, and especially to the key characteristics if, for example:</p> <ul style="list-style-type: none"> there would be no introduction of new elements into the landscape and the proposed development would not significantly change the composition/balance of the landscape.
Negligible level of landscape change/ No change	<p>There would be a negligible or no level of change in landscape character, and especially to the key characteristics if, for example, the proposed development would be a small element and/or would be a considerable distance from the receptor.</p>

Geographical Extent of Change

The geographical extent of landscape change is assessed by determining the area over which the changes will influence the landscape, as set out in **Table 13A-6**. For example, this could be at the site level, in the immediate setting of the site, or over some or all of the landscape character types or areas affected.

Table 13A-6: Magnitude of Landscape Change: Geographical Extent

Category	Description
Large extent of landscape change	Affects a wider area, far from the site itself.
Medium extent of landscape change	Landscape change extends beyond the site boundaries.
Small extent of landscape change	Change affecting a localised area, often focused on the site itself.
Negligible extent of landscape change	The change will affect only a negligible extent of the landscape receptor under consideration.

Duration and Reversibility of Change

The duration of the landscape change is categorised in **Table 13A-7** below, which considers whether the change will be permanent and irreversible or temporary and reversible. The levels of duration are based on the EPA Guidelines on the information to be contained in Environmental Impact Assessment Reports (2022).

Table 13A-7: Magnitude of Landscape Change: Duration and Reversibility

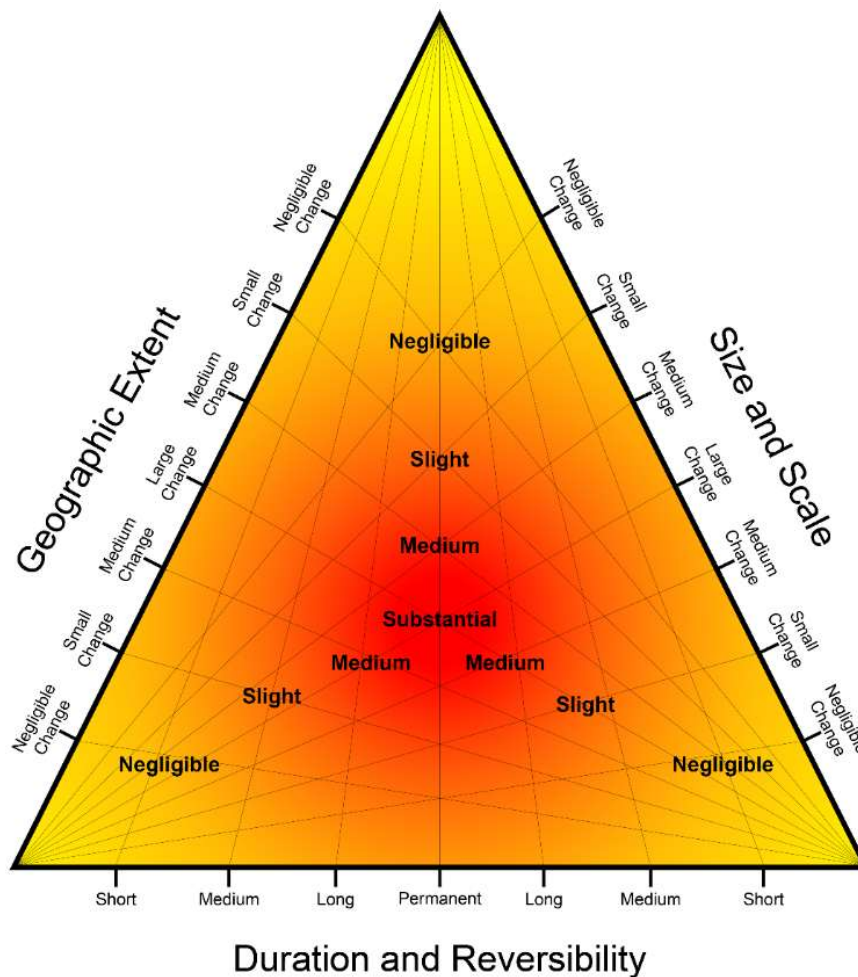
Category	Description
Permanent/ Irreversible	Effects that will last for over 60 years and is deemed irreversible.

Long-term reversible	Effects that will last between 15 and 60 years and are theoretically reversible.
Medium-term reversible	Effects that will last between 7 and 15 years and are wholly or partially reversible.
Temporary/ Short-term reversible	Effects that will last from 0 to 7 years and is reversible - includes construction effects.

Deciding on Overall Magnitude of Landscape Change

The relationships between the three factors that contribute to assessment of the magnitude of landscape effects are illustrated graphically, as a guide, in **Figure 13A-2** below. Various combinations are possible and the overall magnitude of each effect is determined using professional judgement rather than by formulaic application of the relationships in the diagram.

Figure 13A-2: Determining the Magnitude of Landscape Change

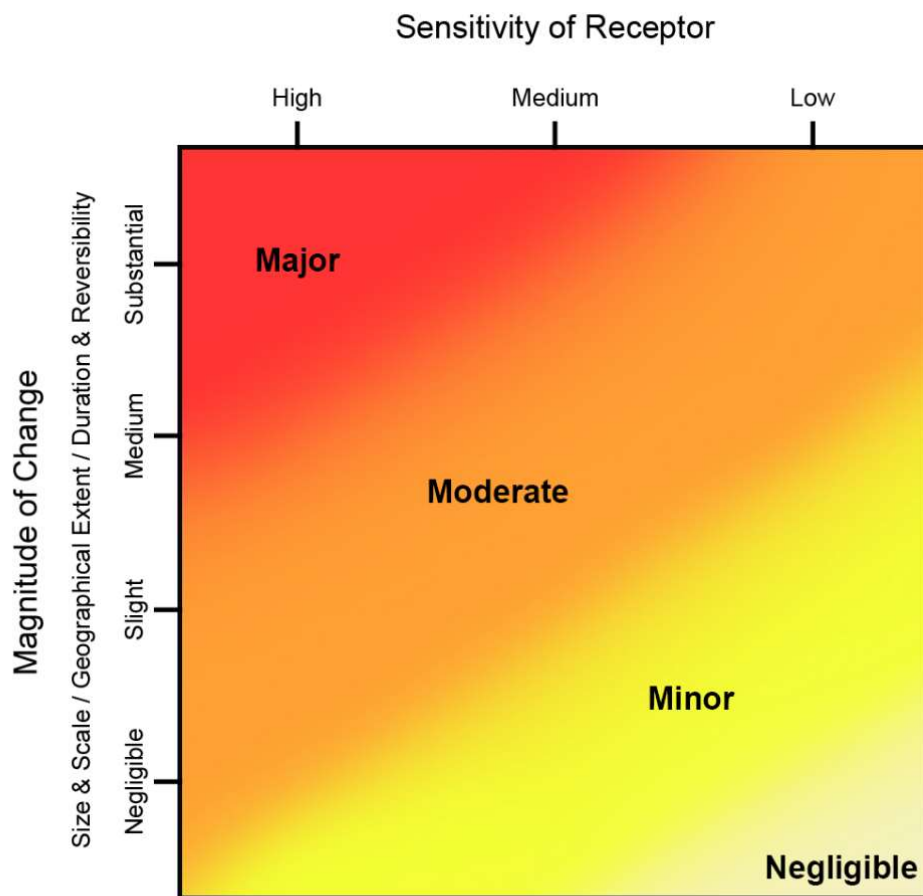


Assessment of Landscape Effects

The assessment of overall landscape effects is defined in terms of the relationship between the sensitivity of the landscape receptors and the magnitude of the change. The diagram below (**Figure 13A-3**) summarises the nature of the relationship but it is not formulaic. Judgements are made about each landscape effect using this diagram as a guide.

Major and Major/Moderate effects are regarded as important planning considerations in landscape and visual appraisals (or significant effects in landscape and visual impact assessments). Moderate effects are not generally considered to be important planning considerations/significant effects, although the assessor may conclude that some moderate effects could constitute significant effects in certain circumstances: for example, there may be a concentration of several moderate effects in one location, or a moderate effect may occur for a particularly sensitive receptor or be of a particularly high magnitude.

Figure 13A-3: Assessment of Landscape Effects



Visual Effects

Visual effects are the effects of change and development on the views available to people and their visual amenity. Visual receptors are the people whose views may be affected by the proposed development. They generally include users of walking trails or other recreational facilities or attractions; travellers who may pass through the study area because they are visiting, living or

working there; residents living in the study area, either as individuals or, more often, as a community; and people at their place of work:

- Communities within settlements (i.e. towns and villages);
- Residents of individual properties and clusters of properties;
- People using nationally designated or regionally promoted footpaths and cycle routes;
- Visitors at publicly accessible sites including, for example, gardens and designed landscapes, historic sites, and other visitor attractions or outdoor recreational facilities where the landscape or seascape is an important part of the experience;
- Users of outdoor sport and recreation facilities;
- Visitors staying at caravan parks or camp sites;
- Road users on recognised scenic or promoted tourist routes;
- Users of other roads;
- Rail passengers;
- People at their place of work.

LI TGN 2024/01 states at section 6(1) that visual assessment should focus on the way that communities experience views from public locations. It notes that “*views from houses and individual properties are a matter of private amenity, noting that it is an established planning principle that there is no right to a view*”.

Judging visual effects requires a methodical assessment of the sensitivity of the visual receptors to the proposed development and the magnitude of effect which would be experienced by each receptor.

Viewpoints are chosen, in discussion with the competent authority and other stakeholders and interested parties, for a variety of reasons but most commonly because they represent views experienced by relevant groups of people.

Visual Sensitivity

Sensitivity of visual receptors is assessed by combining an assessment of the susceptibility of visual receptors to the type of change which is proposed with the value attached to the views. (GLVIA3, paragraph 6.30).

Value Attached to Views

Different levels of value are attached to the views experienced by particular groups of people at particular viewpoints. Assessment of value takes account of a number of factors, including:

- Recognition of the view through some form of planning designation or by its association with particular heritage assets; and
- The popularity of the viewpoint, in part denoted by its appearance in guidebooks, literature or art, or on tourist maps, by information from stakeholders and by the evidence of use including facilities provided for its enjoyment (seating, signage, parking places, etc.); and
- Other evidence of the value attached to views by people including consultation with local planning authorities, some of whom have carried out assessments of valued views, and professional assessment of the quality of views.

The assessment of the value of views is summarised in **Table 13A-8** below. These criteria are provided for guidance only.

Table 13A-8: Examples of Factors Considered in assessing the Value Attached to Views

Value	Description
High	<p>Views from nationally (and in some cases internationally) known viewpoints, which:</p> <ul style="list-style-type: none"> • have some form of planning designation; or • are associated with internationally or nationally designated landscapes or important heritage assets; or • are promoted in sources such as maps and tourist literature; or • are linked with important and popular visitor attractions where the view forms a recognised part of the visitor experience; or • have important cultural associations. <p>Also, may include views judged by assessors to be of high value.</p>
Medium	<p>Views from viewpoints of some importance at regional or local levels, which:</p> <ul style="list-style-type: none"> • have some form of local planning designation associated with locally designated landscapes or areas of equivalent landscape quality; or • are promoted in local sources; or • are linked with locally important and popular visitor attractions where the view forms a recognised part of the visitor experience; or • have important local cultural associations. <p>Also, may include views judged by the assessors to be of medium value.</p>
Low	<p>Views from viewpoints which, although they may have value to local people:</p> <ul style="list-style-type: none"> • have no formal planning status; or • are not associated with designated or otherwise high-quality landscapes; or • are not linked with popular visitor attractions; or • have no known cultural associations. <p>Also, may include views judged by the assessors to be of low value.</p>

Susceptibility of Visual Receptors to Change

The susceptibility of different types of people to changes in views is mainly a function of:

- The occupation or activity of the viewer at a given viewpoint; and
- The extent to which the viewer's attention or interest be focussed on a particular view and the visual amenity experienced at a given view.

As LI TGN 2024/01 states at section 6(2), “*visual susceptibility is not influenced by the development type, which would be assessed as part of the magnitude of effect*”.

The susceptibility of different groups of viewers is assessed with reference to the guidance in **Table 13A-9** below. However, as noted in GLVIA3 “this division is not black and white and, in reality, there will be a gradation in susceptibility to change”. Therefore, the susceptibility of each group of people affected is considered for each project and assessments are included in the relevant text in the report.

Table 13A-9: Visual Receptor Susceptibility to Change

Susceptibility	Description
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High	<p>Residents;</p> <p>People engaged in outdoor recreation where their attention is likely to be focused on the landscape and on particular views;</p> <p>Visitors to heritage assets or other attractions where views of the surroundings are an important part of the experience;</p> <p>Communities where views contribute to the landscape setting enjoyed by the residents.</p>
Medium	<p>Travellers on scenic routes where the attention of drivers and passengers is likely to be focused on the landscape and on particular views.</p> <p>People engaged in outdoor sport or recreation, which may involve appreciation of views e.g. users of golf courses.</p>
Low	<p>People engaged in outdoor sport or recreation, which does not involve appreciation of views;</p> <p>People at their place of work whose attention is focused on their work; where the setting is not important to quality of working life;</p> <p>Travellers, where the view is incidental to the journey.</p>

Defining Sensitivity

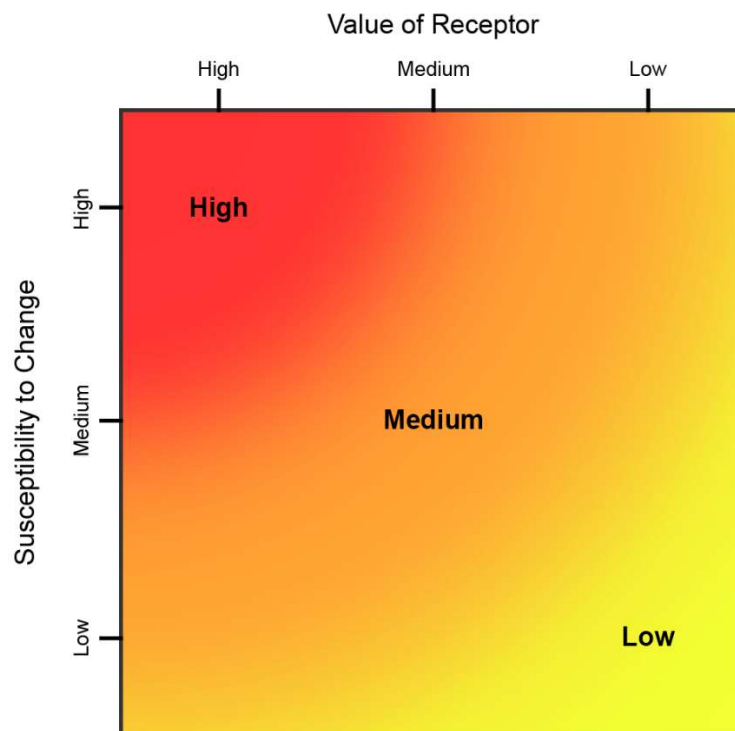
The sensitivity of visual receptors is defined in terms of the relationship between the value of views and the susceptibility of the different receptors to the proposed change. **Figure 13A-4** below summarises the nature of the relationship; it is not formulaic and only indicates general categories of sensitivity. Judgements are made on merit about each visual receptor, with the table below only serving as a guide. **Table 13A-10** sets down the main categories that may occur but again it is not comprehensive and other combinations may occur.

Table 13A-10: Example Levels of Sensitivity defined by Value and Susceptibility of Visual Receptors

Sensitivity	Criteria
High	<p>The visual receptor group is highly susceptible to changes in views and visual amenity and relevant views are of high value.</p> <p>OR</p> <p>The visual receptor group has a medium level of susceptibility to changes in views and visual amenity and relevant views are of high value.</p> <p>OR</p> <p>The visual receptor group is highly susceptible to changes in views and visual amenity and relevant views are of value at the medium level.</p>
Medium	<p>The visual receptor group is highly susceptible to changes in views and visual amenity and relevant views are of value at the low level.</p> <p>OR</p> <p>The visual receptor group has a medium level of susceptibility to changes in views and visual amenity and relevant views are of value at the medium level.</p> <p>OR</p>

	The visual receptor group has a low level of susceptibility to changes in views and visual amenity and relevant views are of value at the high level.
Low	<p>The visual receptor group has a medium level of susceptibility to changes in views and visual amenity and relevant views are of value at the low level.</p> <p>OR</p> <p>The visual receptor group has a low level of susceptibility to changes in views and visual amenity and relevant views are of value at the medium level.</p> <p>OR</p> <p>The visual receptor group has a low level of susceptibility to changes in views and visual amenity and relevant views are of value at the low level.</p>

Figure 13A-4: Levels of Sensitivity Defined by Value and Susceptibility of Visual Receptor Groups



Magnitude of Visual Change

The magnitude of visual change is established by assessing the size or scale of change, the geographical extent of the area influenced and the duration and potential reversibility of the change.

Size and Scale of Change

The criteria used to assess the size/scale of visual change are as follows:

- the scale of the change in the view with respect to the loss or addition of features in the view, changes in its composition, including the proportion of the view occupied by the proposed development and distance of view;
- 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 factors such as form, scale and mass, line, height, colour and texture; and
- the nature of the view of the proposed development, for example whether views will be full, partial or glimpses or sequential views while passing through the landscape.

The above criteria are summarised in the **Table 13A-11** below:

Table 13A-11: Magnitude of Visual Change: Size/Scale of Change

Sensitivity	Criteria
Large visual change	The proposed development will cause a complete or large change in the view, resulting from the loss of important features in or the addition of important new ones, to the extent that this will substantially alter the composition of the view and the visual amenity it offers.
Medium visual change	The proposed development will cause a clearly noticeable change in the view, resulting from the loss of features or the addition of new ones, to the extent that this will alter to a moderate degree the composition of the view and the visual amenity it offers. Views may be partial/intermittent.
Small visual change	The proposed development will cause a perceptible change in the view, resulting from the loss of features or the addition of new ones, to the extent that this will partially alter the composition of the view and the visual amenity it offers. Views may be partial only.
Negligible visual change	The proposed development will cause a barely perceptible change in the view, resulting from the loss of features or the addition of new ones, to the extent that this will barely alter the composition of the view and the visual amenity it offers. Views may be glimpsed only.
No change	The proposed development will cause no change to the view.

Geographical Extent of Change

The geographical extent of the visual change identified at representative viewpoints is assessed by reference to a combination of the Zone of Theoretical Visibility (ZTV), where this has been prepared, and field work, and consideration of the criteria in **Table 13A-12** below. Representative viewpoints are used as 'sample' points to assess the typical change experienced by different groups of visual receptors at different distances and directions from the proposed development. The geographical extent of the visual change is judged for each group of receptors: for example, people using a particular route or public amenity, drawing on the viewpoint assessments, plus information about the distribution of that particular group of people in the Study Area.

LI TGN 2024/01 states at section 6(8) that geographic extent should primarily refer to the extent of the viewing area that is affected (for example the length of a footpath or the proportion of a community).

Thus, low levels of change identified at representative viewpoints may be extensive or limited in terms of the geographical area they are apparent from: for example, a view of the proposed development from elevated Access Land may be widely visible from much or all of the accessible area, or may be confined to a small proportion of the area. Similarly, a view from a public footpath may be visible from a single isolated viewpoint, or over a prolonged stretch of the route. Community views may be experienced from a small number of dwellings, or affect numerous residential properties.

Table 13A-12: Magnitude of Visual Change: Geographical Extent of Change

Category	Description
Large extent of visual change	The proposed development is seen by the group of receptors in many locations across the Study Area or from the majority of a linear route and/or by large numbers of viewers; or the effect on the specific view(s) is extensive.
Medium extent of visual change	The proposed development is seen by the group of receptors from a medium number of locations across the Study Area or from a medium part of a linear route and/or by a medium number of viewers; or the effect on the specific view is moderately extensive.
Small extent of visual change	The proposed development is seen by the group of receptors at a small number of locations across the Study Area or from only limited sections of a linear route and/or by a small number of viewers; or the effect on a specific view is small.
Negligible extent of visual change	The proposed development is either not visible in the Study Area or is seen by the receptor group at only one or two locations or from a very limited section of a linear route and/or by a very small number of viewers; or the effect on the specific view is barely discernible.

Duration and Reversibility

The duration of the visual change at viewpoints is categorised in **Table 13A-13** below, which considers whether views will be permanent and irreversible or temporary and reversible. The levels of duration are based on the EPA Guidelines on the information to be contained in EIA Reports (2022).

Table 13A-13: Magnitude of Visual Change: Duration and Reversibility

Category	Description
Permanent/ Irreversible	Effects that will last for over 60 years and is deemed irreversible.
Long-term reversible	Effects that will last between 15 and 60 years and are theoretically reversible.

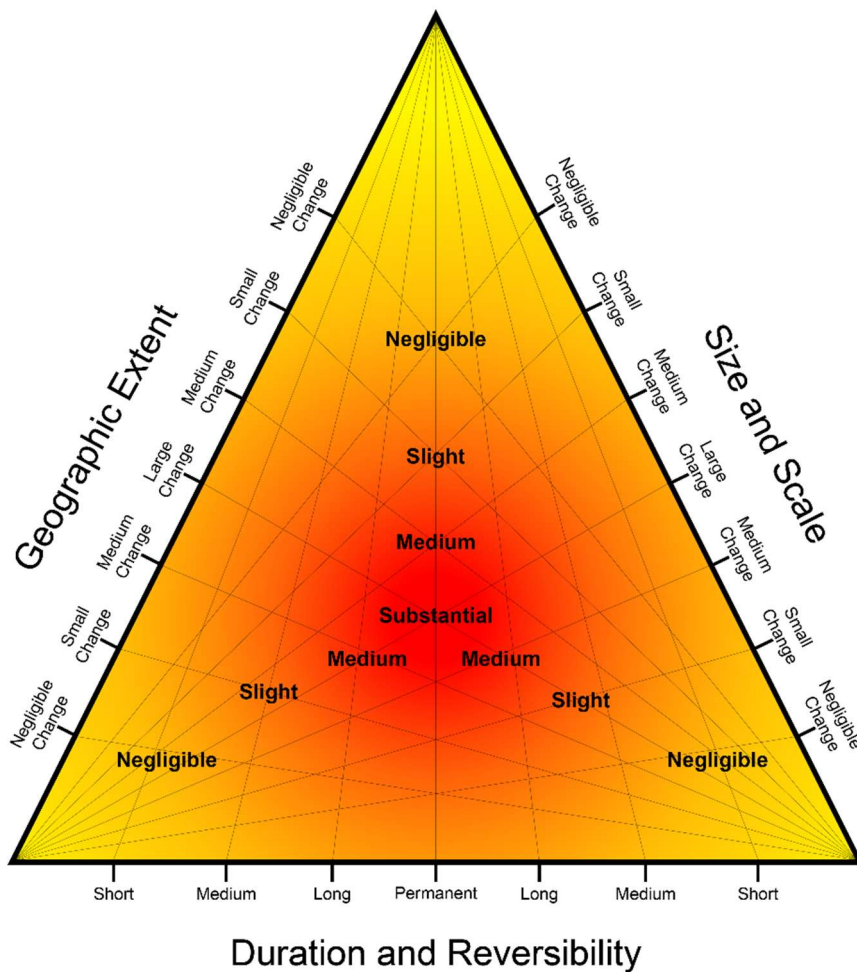
Medium-term reversible	Effects that will last between 7 and 15 years and are wholly or partially reversible.
Temporary / Short-term reversible	Effects that will last from 0 to 7 years and is reversible - includes construction effects.

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Deciding on Overall Magnitude of Visual Change

The relationships between the three factors that contribute to assessment of the magnitude of visual effects are illustrated graphically, as a guide, in **Figure 13A-5** below. Various combinations are possible and the overall magnitude of each effect is made using professional judgement rather than by formulaic application of the relationships in the diagram.

Figure 13A-5: Determining the Magnitude of Visual Change



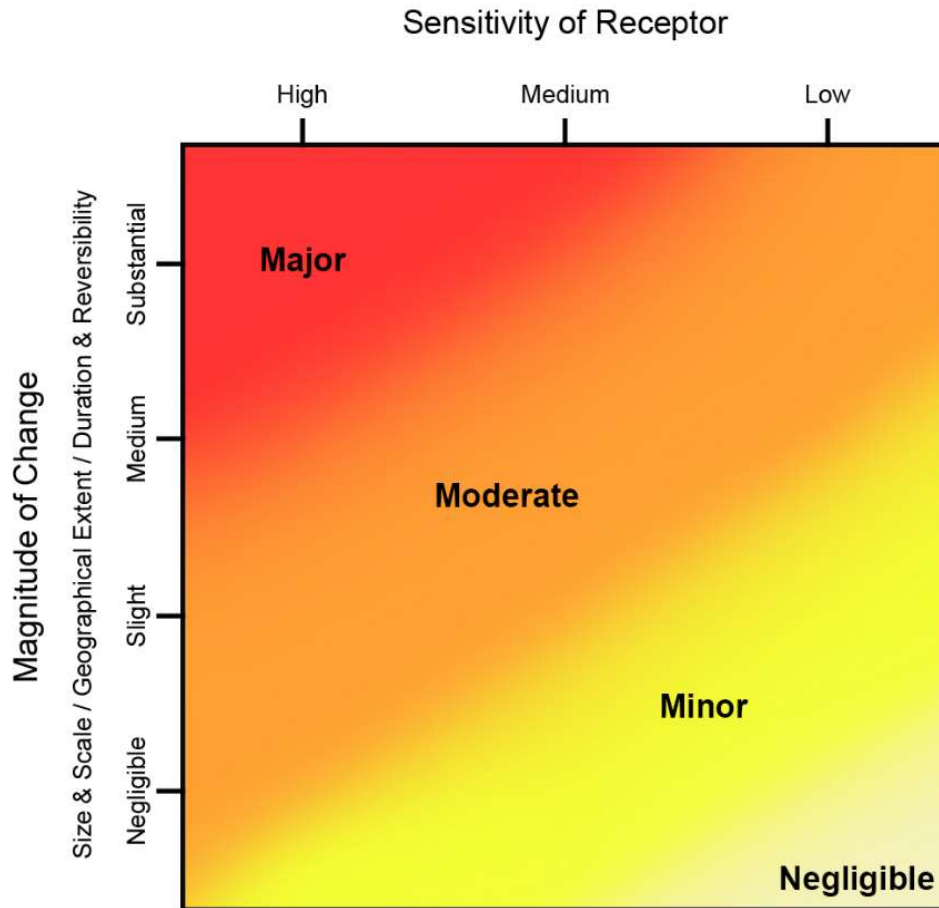
Assessment of Visual Effects and Significance

The assessment of visual effects is defined in terms of the relationship between the sensitivity of the visual receptors (value and susceptibility) and the magnitude of the change. The diagram below (**Figure 13A-6**) summarises the nature of the relationship but it is not formulaic and only indicates broad levels of effect. Judgements are made about each visual effect using this diagram as a guide.

Major and Major/Moderate effects are regarded as important planning considerations in landscape and visual appraisals (or significant effects in landscape and visual impact

assessments). Moderate effects are not generally considered to be important planning considerations/significant effects, although the assessor may conclude that some moderate effects could constitute significant effects in certain circumstances: for example, there may be a concentration of several moderate effects in one location, or a moderate effect may occur for a particularly sensitive receptor or be of a particularly high magnitude.

Figure 13A-6: Assessment of Visual Effects and Overall Significance



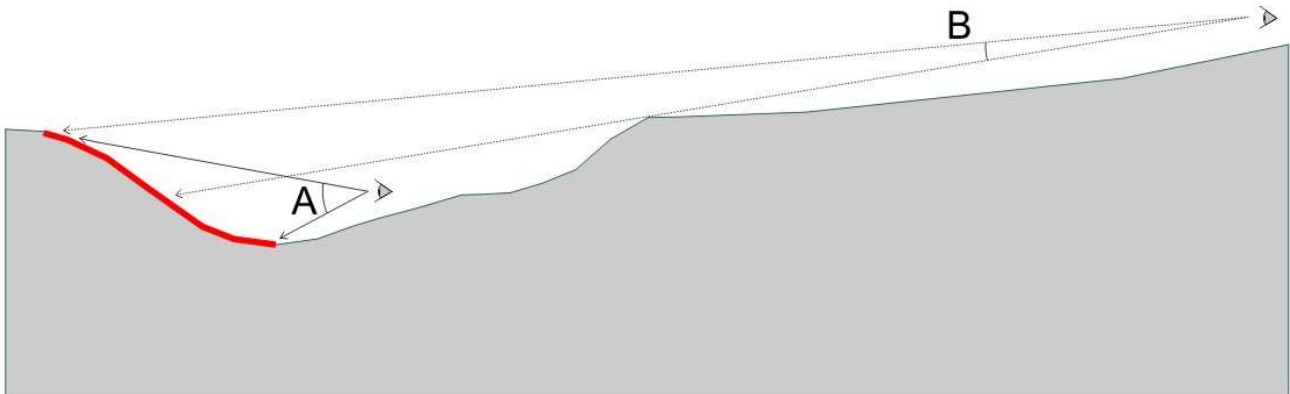
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Appendix 13-B – Zone of Theoretical Visibility (ZTV) Methodology

A Zone of Theoretical Visibility (ZTV) Study was conducted for the proposed development (i.e. for the existing ground levels within the area covered by the proposed extraction area, as the levels within the site will only be minimally lowered, due to the wet working of the site) to help identify areas sensitive to visual impacts. This study used the measurement of the vertical subtended angle for its methodology. This method is explained below and illustrated by Figure A, below.

When a Target Area (red) is observed from a Viewpoint (A or B) its apparent height can be measured in the form of degrees, to give a Subtended Vertical Angle.

Figure A:



The use of the Subtended Vertical Angle in formulating a ZTV has the benefit of automatically reducing values to reflect the distance from the Target Area, and partial screening by intervening landforms. Generally, the further the viewpoint is from the Target Area the smaller the Subtended Vertical Angle, reflecting the effect of distance on visual impacts.

Thus, in the example section above Viewpoint A experiences a higher subtended angle due to proximity to the red target area. Viewpoint B has a lower subtended angle due to greater distance from the target area and partial screening by intervening landform.

If the Subtended Vertical Angle is measured from a series of grid points for a particular Target Area, the resultant data can then be used to generate contours. Each contour level representing a certain vertical angle, and thus potential level of visibility.

The subtended vertical angle method of calculating ZTVs using LSS digital terrain modelling software has been proven by field investigation on numerous sites to be an accurate method of predicting areas of potential visibility for on-site investigation.

However, the computer generated ZTV study is undertaken using a bare earth landform to give the worst case scenario. In reality any built structures (settlements, walls etc) or areas of vegetation (woodlands, scrub and hedgerows) will reduce the actual visibility of the target area. Therefore, it is necessary to carry out fieldwork to validate the results of the ZTV.