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## Introduction

### Background

- 13.1 This chapter of the EIAR assesses the landscape and visual impacts arising from the proposed lateral extension of the existing permitted BD Flood (BDF) Murrens Sand and Gravel Pit within Annagh townland, Oldcastle, Co. Meath (P. Ref. KA/141129 / ABP PL17.245257). The planning application area, hereafter referred to as the application area or the site, is located immediately south-east of the existing pit within the Murrens townland, approximately 6km south of Oldcastle and 7km north-east of Castlepollard. The R195 regional road passes just over 100 m to the east.
- 13.2 The 5.8 ha site will be accessed from the adjoining BDF Murrens Pit to the north-west, the ancillary facilities of which will be used for the processing of the extracted material. A conveyor belt system is in use to transport the extracted material from the southern end of the existing pit to the processing facilities, near its northern end.
- 13.3 The site is substantially screened by the existing vegetation along its boundaries and adjoining vegetation, i.e. forestry plantations to the south and east, as well as topography. Except for along the boundary with the existing BDF Murrens Pit, the existing boundary vegetation will be retained, to provide continued screening. A restoration scheme was prepared, comprising the restoration of the pit floor to agricultural grazing land and natural regeneration on the pit slopes, as well as native hedge planting to break up the large area into smaller compartments and to provide habitat linkage. Further details on the proposed development, including the proposed Restoration Plan (**Figure 2-4**) 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 Baseline 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

### 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 below 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 recently published 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 A pre-planning consultation call was carried out between an official of Meath County Council and a representative of SLR Consulting Ireland on 21<sup>st</sup> October 2024. No specific points relating to landscape and visual issues were raised during this meeting.

- 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 Mierkle, 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. Anne further holds a Technician's Certificate in Arboriculture and is a Technician Member of the Arboricultural Association.

## 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 April 2024. The desktop study and field work were informed by:
- Meath 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

- 13.20 A study area of approximately 3km surrounding the application site was identified following the desktop study, based on the Zone of Theoretical Visibility Map (refer to **Figure 13-2**). As the ZTV mapping did not indicate any visibility of the application site from the Loughcrew Hills, these were not included in this assessment. It should be noted that the visual envelope, i.e. the area from where the application site is visible, is much smaller than the study area, due to intervening vegetation and topography. Nevertheless, the 3km study area is maintained for the purposes of providing landscape context.

## Field Survey

- 13.21 A detailed field survey was carried out on 29<sup>th</sup> January 2025, in partially overcast / sunny conditions, with good visibility. Photographs were taken during the field surveys, 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.
- 13.22 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

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

## Significant Risks

- 13.24 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

- 13.25 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

- 13.26 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”.
- 13.27 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.
- 13.28 There is no Irish legislation specifically governing the preparation of landscape and visual impact assessments.

## Planning Policy and Development Control

- 13.29 The Meath County Development Plan (CDP) 2021-2027 is the statutory plan detailing the development objectives/policies of the authority responsible for the development site. As the boundary with Co. Westmeath is located ca. 1.1 km south of the site, the Westmeath CDP 2021-2027 was taken into account as well.
- 13.30 Those objectives, with relevance to this assessment, are listed below. The location/extent of relevant designations is shown on **Figure 13-1**, at the end of this chapter.

## Meath County Development Plan 2021-2027

### Woodlands, Hedgerows and Trees

- 13.31 Section 8.9.7 of the current Meath CDP lists the following policies and objectives with regard to Woodlands, Hedgerows and Trees, which are of relevance to this assessment:
- 13.32 **HER POL 37:** *“To encourage the retention of hedgerows and other distinctive boundary treatments in rural areas and prevent loss and fragmentation, where practically possible. Where removal of a hedgerow, stone wall or other distinctive boundary treatment is unavoidable, mitigation by provision of the same type of boundary will be required.”*
- 13.33 **HER POL 38:** *“To promote and encourage planting of native hedgerow species in new developments and as part of the Council’s own landscaping works.”*

### Landscape

- 13.34 Section 8.17 of the current Meath CDP lists the following policies and objectives with regard to the landscape of County Meath, which are of relevance to this assessment:
- 13.35 **HER POL 52:** *“To protect and enhance the quality, character, and distinctiveness of the landscapes of the County in accordance with national policy and guidelines and the*

*recommendations of the Meath Landscape Character Assessment (2007) in Appendix 5, to ensure that new development meets high standards of siting and design.”*

- 13.36 **HER POL 53:** *“To discourage proposals necessitating the removal of extensive amount of trees, hedgerows and historic walls or other distinctive boundary treatments.”*
- 13.37 **HER OBJ 49:** *“To ensure that the management of development will have regard to the value of the landscape, its character, importance, sensitivity and capacity to absorb change as outlined in Appendix 5 Meath Landscape Character Assessment and its recommendations.”*
- 13.38 **HER OBJ 50:** *“To require landscape and visual impact assessments prepared by suitably qualified professionals be submitted with planning applications for development which may have significant impact on landscape character areas of medium or high sensitivity.”*

## Views and Prospects

- 13.39 Section 8.18 of the current Meath CDP places protection on several views and prospects, as set out in the following objective.
- 13.40 **HER OBJ 56:** *“To preserve the views and prospects listed in Appendix 10, in Volume 2 and on Map 8.6 and to protect these views from inappropriate development which would interfere unduly with the character and visual amenity of the landscape.”*
- 13.41 One such views is located within the study area, as illustrated on **Figure 13-1** of this EIAR chapter.
- Viewpoint 94: View South East - Moylagh Castle from local road to east of R195.
- 13.42 This viewpoint is not directed towards the application area and will therefore not be considered further in the assessment below.

## Extractive Industry and Building Materials Production

- 13.43 Section 9.11 of the current Meath CDP lists a number of policies with regard to the Extractive Industry and Building Materials Production. Those policies with relevance to the landscape and visual impact chapter are listed below.
- 13.44 **Policy RD POL 22:** *“To facilitate the exploitation of the county’s natural resources and to exercise appropriate control over the types of development taking place in areas containing proven deposits, whilst also ensuring that such developments are carried out in a manner which would not unduly impinge on the visual amenity or environmental quality in the area.”*
- 13.45 **Policy RD POL 23:** *“To support the extractive industry where it would not unduly compromise the environmental quality of the county and where detailed rehabilitation proposals are provided.”*
- 13.46 **Policy RD POL 24:** *“To seek to ensure that the extraction of minerals and aggregates minimise the detraction from the visual quality of the landscape and do not adversely affect the environment or adjoining existing land uses.”*
- 13.47 **Policy RD POL 26:** *“To ensure that all existing workings shall be rehabilitated to suitable land uses and that all future extraction activities will allow for the rehabilitation of pits and proper land use management. The biodiversity value of the site should be considered in the first instance when preparing restoration plans. ...”*
- 13.48 **Policy RD POL 27:** *“To ensure that development for aggregates / mineral extraction, processing and associated processes does not significantly impact in the following areas: ... vi. In the vicinity of a recorded monument, and; Sensitive landscapes. ...”* (note: the site is located within a Landscape Character Area, which is classed as being of high sensitivity, see summary of Meath Landscape Character Assessment below).

## Westmeath County Development Plan 2021-2027

### Rare and Protected Sites

- 13.49 **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

- 13.50 A Landscape Character Assessment 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.”* It *“will inform decision making in relation to the protection of the environment, natural resources and heritage and will be used to guide development”*.

- 13.51 It is a policy 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

- 13.52 **Policy Objective CPO 13.81** (in **section 13.26**) 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.”*

- 13.53 None of the protected views listed in Appendix 5 are located within the 3 km study area. V29 is approximately 4 km to the south-west of the application area and V31 is approximately 4.5 km southeast of the application area (refer to **Figure 13-1**). Also, neither

of these views are directed towards the application area and they are therefore not considered further in this assessment.

## Extractive Industry

13.54 **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 ...”.

13.55 The closest High Amenity Area, i.e. Lough Lene, is located 5km south 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 a number within the 3 km study area (refer to the Landscape Baseline section below). These will be taken into account, as part of the value assessment of the relevant landscape receptors.

## Receiving Environment

### Landscape Baseline

#### Existing Relevant Landscape Character Assessment

##### Co. Meath

13.56 The Meath Landscape Character Assessment can be found in Appendix 5 of the current Meath Development Plan. The Assessment divides the county into 4 Landscape Character Types (LCT's), i.e. “generic areas of distinctive character” and further into 20 “more geographically specific” Landscape Character Areas (LCA's).

13.57 The development site is located within LCT 1 - ‘Hills and Upland Areas’ and LCA 18 - ‘Lough Sheelin Uplands’. The second of the general recommendations made for LCT 1 reads: “To have due regard to the positive contribution that views across adjacent lowland areas and landmarks within the landscape make to the overall landscape character.”

13.58 LCA 18 is classed as being of ‘High’ Landscape Value, i.e. ‘Areas which are considered to be of value by virtue of their positive characteristics, sense of place or local associations. These areas may be of regional or local importance’. In the case of this LCA it has been afforded ‘Regional’ Landscape Importance.

13.59 LCA 18 is further classed as being of a ‘High’ Landscape Sensitivity, i.e. ‘A vulnerable landscape likely to be fragile and susceptible to change. Frequency and sensitivity of users is likely to be high. The introduction of change is likely to significantly alter the character to the extent that it would be difficult or impossible to restore.’

13.60 The landscape description of LCA 18 includes the following: “The area has a mix of rural land uses including small pastoral fields and paddocks, outdoor recreational facilities, loughs, clusters of dwellings and forestry. It is well treed - field boundaries comprise of well managed clipped hedgerows with lots of hedgerow trees and there are numerous areas of broadleaved woodland, wet birch and willow carr in low lying areas, areas of coniferous forestry and regenerating heathland. Farmland is generally well-managed pasture enclosed by hedgerows with trees or stone walls which form very distinctive patterns in the landscape, particularly around Ross in the north west. ... The weathering of the hills and past and present quarrying of the underlying limestone has created a complex landform of hills, lakes

*and enclosed valleys that restrict long range views in many instances. ... Built development is distributed evenly across the whole LCA at a low density. Oldcastle is the only major settlement in this area."*

13.61 The key characteristics of LCA 18, as listed in the Meath Landscape Character Assessment, include the following:

- Geology: "Weathering and quarrying has created an interesting topography."
- Geology: "Shallow overlying soils make this area good for grazing but less suitable for arable farming."
- Lands Use: "Mix of rural uses: small scale farmland, forestry and broadleaved woodland."
- Land Use: "Wet area with large and small loughs throughout the area."
- Land Use: "Past and present quarry sites."
- Ecology & Habitat: "2 proposed Special Areas of Conservation ... and 2 proposed Natural Heritage Areas..."
- History & Culture: "Important interrelationship between this LCA and Loughcrew Hills LCA."
- Settlements and Built Structures: "Most dwellings scattered across the areas at a very low density."
- Key Settlements: Oldcastle: "a medium sized, substantially Georgian market town with an attractive compact urban form and a good interface with the countryside. ... The two church spires in the center are landmarks in the wider landscape. ..."

13.62 The recommendations for LCA 18 include:

- "1. Have regard to the importance of this LCA as the setting for the Loughcrew Hills (LCA 19) by conservation of the diverse rural landscape and sensitive location and design of new development.
- 2. Compliment sensitive location of any new development with the preservation of the rich patchwork of historic features that demonstrate longstanding human use of this LCA.
- 3. New development in the countryside should be of low density and small scale and use vernacular materials and styles to fit with the landscape character.
- 4. Have regard to the presence of national and European designated ecological sites along the Westmeath border. ..."

13.63 The Landscape Character Assessment also includes an appraisal of the potential capacity of each of the LCA's to accommodate a number of "likely forms of development". In the absence of an assessment of the potential capacity to accommodate quarrying and mineral extraction, the following was found to have some relevance to this assessment: LCA 18 is regarded as having a "Medium potential capacity to accommodate large farm buildings although they are not typical in this LCA because there is potential to screen them by planting areas of woodland which are a characteristic part of the landscape character".

## Co. Westmeath

13.64 The section of the study area covering Co. Westmeath, i.e. ca. the south-western third of the study area is fully located within Character Area 1 - Northern Hills and Lakes, as set out in the Westmeath Landscape Character Assessment included in the current WCDP. Character Area 1 is described as follows: *"This Landscape Character Area consists of prominent hills topped with chert or cherty limestone with enclosed lakes and areas of peat*

- deposits, mostly fen. A rural landscape of particularly high scenic quality containing a number of lakes with several preserved views, Lough Lene Area of High Amenity and Fore Special Heritage Area.*
- 13.65 *The area is also of high nature conservation value with many NHAs and SACs and there is an extensive beech plantation at Mullaghmeen. Dispersed glacial deposits occur and there are a number of quarries operating in the area.*
- 13.66 *Settlements within this landscape area include Finnea, Castlepollard, Collinstown and Drumcree. The historic settlement of Fore is of high cultural significance due to its monastic origins including many features of built and cultural interest around the site."*

## Landscape of the Site and its Context

- 13.67 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

- 13.68 The application area comprises two elongated, near rectangular agricultural fields, in a north-west to south-east alignment. The fields were previously covered by a forestry plantation, dominated by ash. The trees were severely affected by ash dieback and they have now been largely removed. To the south-east and along part of the south-western boundary, the site is adjoined by further forestry plantations. Along the northern part of the south-western boundary, the site is adjoined by agricultural fields under pasture. All of the south-western boundary is marked by a line / double line of mature trees, most of which are beech. These trees are likely to have been present for a long time, as a band of trees in this location is already visible on the 6 Inch First Edition Ordnance Survey maps, dating from 1829-1834.
- 13.69 Unmanaged / gappy hedgerows mark the boundaries with the adjoining existing BDF Murrens Pit to the north-west and a third-party sand and gravel pit to the north-east. Due to the adjoining pits, there are steep banks with levels dropping by up to 15m, beyond the hedgerows. A c. 15 m wide band of plantation trees was retained along the north-eastern boundary, for screening and as a buffer to the neighbouring third-party pit.
- 13.70 The site is sloping down from 141 m above ordnance datum (AOD) in the vicinity of its northern corner, to 132 m AOD towards its southern end. Immediately south of the site the ground continues to gently slope down. Within 1 km to the north and 2 km to the north-west ground levels have been lowered and flattened out by the presence of the neighbouring sand and gravel pits. A low wooded ridge, which is part of a local esker system, adjoins the south-western boundary of the existing BDF Murrens Pit.
- 13.71 The wider landscape is strongly undulating, with wavelike terrain within individual fields, at levels between 90-130 m AOD within the study area. There are also some distinct hills, rising 50-60 m above the surrounding land, including two forest covered summits within 1 km to the east and south-east of the site (i.e. in the townlands of Greenan, 209 m AOD, and Glenaward, 197 m AOD). Outside the study area there are several taller hills, visible over a wider area, including the summit at Mullaghmeen, 7 km to the north-west (261m AOD) and the Loughcrew Hills, 5-7km to the north-east (up to 276m AOD).

- 13.72 Agricultural fields under pasture cover the majority of the ground within the study, interspersed with several forestry plantations and numerous lakes with associated scrub/woodland vegetation, as well as the existing sand and gravel pits. Field sizes range from small to large and while many of the boundaries are linear, the fields are mostly irregular shaped. Field boundaries are typically marked by hedgerows lined with many mature trees, but are maintained at a low height in a small number of locations. Due to the strongly undulating topography there are no distinct streams or rivers present, with water generally draining towards the low points in the topography, where the aforementioned lakes are situated.
- 13.73 The main transport route through the study area is the R195 - Regional Road (Castlepollard to Oldcastle), just over 100 m to the east of the site. There are no other regional or national roads or any railway lines within the study area. There is however a comprehensive network of local roads.
- 13.74 As indicated in the Meath Landscape Character Assessment (see above), one-off housing is evenly distributed along the roads across the study area, at a low density. The nearest larger settlements are Oldcastle and Castlepollard, 6 km to the north-east and 7 km to the south-west respectively.
- 13.75 Human activity has strongly influenced the land use throughout the study area, in the form of agriculture, forestry and the existing sand and gravel pits. Other human influences are visible in the form of roads, buildings and wooden electricity poles. On the whole, this is an attractive rural landscape, with its undulating topography and lush vegetation cover, including some patches of 'natural vegetation', in the form of scrubby woodlands. However, there are few locations from where no man-made structures are visible.

### Aesthetic and Perceptual Aspects

- 13.76 The scale of the landscape throughout the study area is mostly small to medium, due to the enclosure from (tree-lined) hedgerows and the undulating topography. There are however some locally elevated locations, where distant views open up and the scale increases. In those locations, there are number of hills which provide focal points / a sense of place, e.g. the Loughcrew Hill, to the north-east of the site.
- 13.77 The mix of pasture fields, bound by hedgerows, conifer plantations and scrub/woodland vegetation, throughout the study area, results in some variation of textures and a colour palette made up from multiple shades of green. Overall, these colours and textures are repetitive, but without a regular pattern.
- 13.78 The existing sand and gravel pits cover a large area within the study area and the colours, textures and general appearance of this area contrasts the surrounding landscape. However, due to substantial visual enclosure by topography and vegetation, the pits have little influence on the aesthetic / perceptual aspects of the wider area.
- 13.79 While the landscape within the study area is rural and has a natural appearance, there is little sense of wildness or remoteness, due to the many signs of human activity (e.g. the improved grassland, roads and residential properties). The R195 and nearby local roads bring occasional vehicular movement, but traffic volumes are generally low, allowing for periods of tranquillity.

### Overall Character

- 13.80 The site assessment supports the inclusion of the site and its immediate context in LCA 18 - 'Lough Sheelin Uplands', as set out in the Meath Landscape Character Assessment.

### Protected Nature Conservation Sites

- 13.81 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. The following Special Areas of Conservation (SAC) and proposed Natural Heritage Areas (pNHA) are located within the study area (refer to **Figure 13-1** for the location and extent of these sites):
- Lough Naneagh pNHA (Site code 001814) – 400 m to the west;
  - White Lough, Ben Loughs and Lough Doo SAC & pNHA (Site code 001810) – 700 m to the south-west;
  - Lough Bane and Lough Glass SAC (Site code 002120) – 1,800 m to the south-east; and
  - Lough Glore pNHA (Site code 000686) – 2,900 m to the south-west.

### Visual Baseline

#### Zone of Theoretical Visibility (ZTV)

- 13.82 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 zone of theoretical visibility (ZTV), using LSS (McCarthy Taylor) software, in accordance with the methodology provided in **Appendix 13-B** at the end of this chapter.
- 13.83 The ZTV, which illustrates the subtended vertical angle of visibility, was calculated for the proposed extraction area. 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 woodland/forestry areas in the surrounding landscape, were included in the model.
- 13.84 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.
- 13.85 The resulting ZTV is depicted on **Figure 13-2**. It indicates that a higher probability of visibility of the proposed development would be from locations within 500 m surrounding the application area and from three small areas within 1.3 km to the east, south-east and south-west (i.e. the areas of theoretical visibility in yellow, orange and red).
- 13.86 While there are several other patches of theoretical visibility within a 5 km to the north-west, south-west, south and south-east of the site, 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.
- 13.87 Also, it should be noted that much of the theoretical visibility areas cover agricultural land, forestry plantations and the neighbouring existing sand and gravel pits, which are not publicly accessible. While parts of the site may be visible from this land, e.g. from elevated locations, 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.
- 13.88 The ZTV further illustrates that the undulating topography surrounding the application area results in large areas with no visibility (even if there was no vegetation present in the local

landscape). This includes all of the areas beyond 500 m to the north, 1 km to the east and the majority of the ground beyond 1.3 km to the south-east and 2.5 km to the west and south-west.

### Outdoor Recreational Facilities within the Study Area

- 13.89 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 potential visual receptors present within the area. No such facilities were identified within the 3 km study area.
- 13.90 The nearest such sites are Fore Abbey and the associated St. Feichin's Way, just over 3 km to the south and the Loughcrew Hills and Loughcrew Gardens, just over 5 km to the north-east (refer to **Figure 13-1**). However, it should be noted that the application site is not visible in any views from these recreational sites.

### Actual Visibility

- 13.91 The actual visibility of the application area was assessed during the field survey, concentrating on publicly accessible locations, i.e. the public road network. This survey confirmed that the forestry plantations to the south and east of the site, fully screen views of the application area in views from these directions, while roadside and intervening vegetation screen views from any other locations along public road, for which theoretical visibility is indicated on the ZTV mapping.
- 13.92 Viewpoint photography was taken during the field survey from several locations throughout the study area. Six of these were selected to represent the range of views available and to illustrate how the application area is screened in these views.
- 13.93 The location of the six viewpoints is 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.
- 13.94 **Viewpoint A** represents views from the R195 Regional Road to the east and south-east of the site, as well as views from nearby residential properties and a section of local road in the townland of Ballany. The application area is fully screened in views from this area, by the forestry plantations to the south and east of the site.
- 13.95 **Viewpoint B** represents views from the R195 and the local roads in the vicinity and up to 1.5 km south of Ballany Cross Roads, as well as adjoining residential properties. As with locations further north along the R195 (refer to Viewpoint A), the forestry plantations to its south and east fully screen the site, even in locations where the roadside vegetation is kept low, such as north of these cross roads, as illustrated by Viewpoint B.
- 13.96 **Viewpoint C** represents views from a section of the local road to the east of Ben Lough and adjoining residential properties. Intervening vegetation screens any potential views of the application area in views from this area.
- 13.97 **Viewpoint D** represents a view from a location along the R195 to the north-east of the application area, at the entrance to the third party sand and gravel pit north of the site. While the ZTV does not indicate visibility in views from this area, this view was chosen to illustrate that while the north-eastern boundary of the application area is visible, the vegetation along this boundary, as well as topography screen the site itself. This viewpoint further illustrates that the existing BDF Murrens Sand and Gravel Pit is not visible in views from the R195.

- 13.98 **Viewpoints E & F** were included to illustrate that even in slightly elevated locations within the study area, where views over a longer distance open up, the area surrounding the site is substantially screened by topography, as well as vegetation.

## Sensitive Receptors

### Landscape Receptors

- 13.99 The landscape receptors potentially affected by the proposed development and therefore considered as part of the assessment of landscape effects, are:
- Individual elements:
    - Two fields, previously covered by a forestry plantation, including a section of unmanaged hedgerow.
  - Overall Character:
    - The section of LCA 18 - 'Lough Sheelin Uplands', located within the study area.
- 13.100 No distinctive or highly sensitive aesthetic / perceptual aspects were identified in the immediate vicinity of the application area, such as remoteness, wildness or tranquillity. Also, the generally small-medium scale of the landscape is unlikely to be affected, by the proposed development, as it is enclosed by existing forestry / tree-lines / hedgerows on all sides, restricting the scale of the site itself. For these reasons no aesthetic and perceptual aspects were identified as sensitive landscape receptors to be brought forward to the assessment of landscape effects.
- 13.101 Due to the visual separation from the site, the Westmeath Northern Hills and Lakes Character Area 1 is highly unlikely to be affected by the proposed development and is therefore also not brought forward as a sensitive landscape receptor.

### Visual Receptors

- 13.102 As there are no views from publicly accessible viewpoints within the study area, no sensitive visual receptors were identified. As mentioned previously, there may be some elevated locations on private land, with limited views of the application area, but due to the low number of visual receptors present in those locations, these are not brought forward for further assessment.

## Impact Assessment

- 13.103 This section sets out the effects that the proposed development would have on the landscape 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. It is based on the detailed project description and layout drawings contained in Chapter 2 of this EIAR, including the proposed Restoration Plan (**Figures 2-4**).
- 13.104 As no sensitive visual receptors were identified, an assessment of visual effects is not carried out.

## Aspects of the Development which Have the Potential to Cause Landscape Effects

### Operational Stage

- 13.105 The proposed development will be commensurate with the life of the existing permission at the Murrens Sand and Gravel Pit (P. Ref. KA14/1129 & ABP PL.17.245257), which is due to expire in December 2036. Therefore, the operational stage of the proposed development, which for the purpose of this assessment is considered to include the extraction and final restoration works, will cover an 11.5-year period, from the time of this application being made.
- 13.106 It should be noted that it is proposed to work the extension area, subject to this application, instead of the southern section of the previously permitted extension area (P. Ref. KA14/1129 & ABP PL.17.245257), which will be left in its current stage, i.e. pasture land.
- 13.107 The following elements of the proposed development, during the operational stage, are those which are most likely to result in landscape effects:
- Progressive stripping of soil and overburden from the proposed extension area and associated construction of c. 2 m high screening berms along the edge of the extension area.
  - Removal of c. 133 m of hedgerow along the north-western boundary.
  - Changes to the landform within the c. 4.2 ha extraction area, i.e. the lowering of the ground levels throughout the extraction area, by up to 17.5 m, resulting in a level pit floor with steeper pit slopes of varying heights around its edges.
  - Restoration of the site to a mix of agricultural and natural habitat land use, including the planting of c. 375 m of native hedge, on completion of all extraction works. The overburden material stripped from the extension area and temporarily stored in screening berms and on the pit floor, will be used to lower the pit slopes to gradients of 1:3 or less. Similarly, the topsoil stripped from the site will be used to cover the pit floor in preparation for grass seeding and the regraded pit slopes, prior to be left for natural regeneration (refer to the **Figures 2-4 - Proposed Restoration Plan**, in Chapter 2 of this EIAR).
- 13.108 Sufficient lighting is provided at the existing entrance and the ancillary processing and plant area to ensure safe operations during winter periods. Where necessary, in wintertime operations, when darkness has fallen within the proposed site operating hours of 06.00 hours until 20.00 hours Monday to Friday and until 14.00 hours on Saturdays there may be a period where mobile lighting on the machinery used within the pit void would be required for up to 2 hours in the morning and up to 4 hours in the evening. Any night-time light pollution caused by the proposed development will therefore be of brief duration during winter months and is not considered significant in landscape / visual terms.

### Post-Operational Stage

- 13.109 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.
- 13.110 The following elements of the proposed development, at the post-operational stage, are those which are most likely to result in landscape effects:
- The final landform, which will have a more regular appearance, due to its straight outlines and flat pit floor, compared with the irregular undulations in the surrounding landscape. It will take some years for the agricultural land to be fully established, for

the proposed hedgerows within the restored site to mature and for the pit slopes to be fully colonised with locally occurring grass and scrub species. Ultimately, this will help soften the appearance and enhance the integration of the extraction area into the surrounding landscape.

## Operational Stage Landscape Effects

### Landscape Sensitivity

- 13.111 In accordance with GLVIA3, the sensitivity of landscape receptors is determined by combining their value with their susceptibility to the type of development proposed.
- 13.112 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.
- 13.113 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
<b>Natural Heritage</b>	COMMUNITY	The site itself is not designated for ecological reasons but is bound by the remnants of former boundary hedgerows and a line of mature beech on one side which are of local habitat value. There are several nature conservation areas within the study area, including a pNHA within 400 m to the west and an SPA & pNHA within 700 m to the south-west.
<b>Cultural Heritage</b>	LOW	No designated heritage assets are located within the site. The closest such asset, listed in the Sites and Monuments Record (SMR), is a ringfort - cashel (site code: ME014-026----) in the townland of Annagh and adjoining house (ME014-0260001-), c. 200 m south-west of the application area.
<b>Landscape condition</b>	LOW	The application area, was previously partially cleared from an ash plantation badly affected by ash dieback, and is therefore currently in a poor condition. Those parts of the neighbouring plantations consisting of ash, are similarly affected by ash dieback. The surrounding agricultural fields are in a good condition with well-tended grassland and hedgerows.
<b>Associations</b>	LOW	No known associations with art, literature or events.
<b>Distinctiveness</b>	LOW	The surrounding rural undulating landscape is attractive, including some conspicuous hills conferring a sense of place. However, the site itself and area immediately surrounding it, has no distinguishing features.
<b>Recreational</b>	LOW	The site is not publicly accessible and there are no outdoor recreational facilities in the area immediately surrounding the site.
<b>Perceptual (Scenic)</b>	LOW	The site / area immediately surrounding it does not have strong aesthetic qualities and there are no memorable or distinctive views which include parts of the site.

Factor	Assessment	Notes
<b>Perceptual (Wilderness and tranquillity)</b>	LOW	The site and immediate surrounding area have no strong perceptual value, such as remoteness, wildness or tranquillity, due to the presence of forestry plantations, farmed land, roads and buildings.
<b>Functional</b>	COMMUNITY	The hedgerows and treelines surrounding the site, have a function as part of the local green infrastructure network and as a carbon sink (on a local scale).

- 13.114 Using the factors set out in **Table 13-1**, it has been concluded that the site and its immediate context is largely of low landscape value. While it has some community value regarding natural heritage and functional values, this is not considered enough to support the elevation of the value of the site / local landscape above the low level.
- 13.115 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
<b>Individual Elements</b>			
Former forestry fields and associated unmanaged hedgerow	LOW	HIGH The susceptibility of the affected fields and associated hedgerows to the proposed works is high, as they would be removed.	<b>MEDIUM</b>
<b>Overall Character</b>			
LCA 18	LOCAL AUTHORITY No national or international landscape designations present. Identified as having importance at the local authority level, by being designated as 'high value' in the Meath Landscape Character Assessment. Note: this is the midpoint of 5 value levels.	MEDIUM LCA 18 classed in the Meath Landscape Character Assessment as " <i>vulnerable landscape likely to be fragile and susceptible to change</i> ". However, within the study area, the susceptibility to the proposed development is considered to be locally reduced. This is due to the presence of the existing sand and gravel pits and abundant existing tree-lined boundary hedgerows and forestry plantations, which means that the local characteristics can accommodate the development without transformational change.	<b>MEDIUM</b>

**Magnitude of Landscape Change**

- 13.116 **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
<b>Individual Elements</b>		
Former forestry fields and associated unmanaged hedgerow	<p>Size &amp; Scale: <b>SMALL</b></p> <p>Geographical Extent: <b>SMALL</b></p> <p>Duration / Reversibility: <b>MEDIUM -TERM – REVERSIBLE</b></p> <p><b>Notes:</b> The proposed development would result in the loss of two fields previously covered with a forestry plantation and one associated unmanaged boundary hedgerow.</p> <p>While the loss of the fields will be large in the context of the site itself, these fields do not contribute to the key characteristics of the local area. Also, the changes within the site would be a continuation of the existing pit and would therefore not result in the introduction of new landscape elements.</p> <p>However, most importantly the proposed extension area would be worked instead of the southern end of the previously permitted extraction area and would therefore result in the retention of parts of two undulating agricultural pasture fields, which align more obviously with the key characteristics of the local area.</p> <p>The loss of the hedgerow comprises a medium proportion of the total length of hedgerows present on site, i.e. a larger section to be retained along the north-eastern boundary. Overall, the composition/balance of the local landscape will not change.</p> <p>The change would influence the landscape at a local level, i.e. would be focused on the site.</p> <p>The extraction area will be restored to a mix of an agricultural and natural habitat land use at the end of the operational period (i.e. in up to 11.5 years). Also, native hedges will be planted across the pit floor, as part of the restoration works, to break up the large area and reinstate former field boundaries.</p>	<b>SLIGHT</b>
<b>Overall Character</b>		
LCA 18	<p>Size &amp; Scale: <b>SMALL</b></p> <p>Geographical Extent: <b>SMALL</b></p> <p>Duration / Reversibility: <b>MEDIUM-TERM – REVERSIBLE</b></p> <p><b>Notes:</b> Due to the presence of the existing sand and gravel pits, the proposed development would not result in the introduction of a new element into the landscape. Also, considering the extension area will be worked instead of the southern end of the previously permitted extraction area, overall the same area of ground would be disturbed, as what was previously permitted.</p> <p>Also, considering the visual enclosure of the application area, the composition / balance of the landscape and therefore its key characteristics would not be changed.</p> <p>The change would influence the landscape at a local level, i.e. would be focused on the site.</p> <p>The extraction area will be restored to a mix of an agricultural and natural habitat land use at the end of the operational period (i.e. in up to 11.5 years). Also, native hedges will be planted across the pit floor, as part of the restoration works, to break up the large area and reinstate former field boundaries. This will result in the partial reversal of effects.</p>	<b>SLIGHT</b>

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**Assessment of Landscape Effects and Significance**

13.117 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
<b>Individual Elements</b>				
Former forestry fields and associated unmanaged hedgerow	MEDIUM	SLIGHT	<b>MODERATE/MINOR</b>	Negative
<b>Overall Character</b>				
LCA 18	MEDIUM	SLIGHT	<b>MODERATE/MINOR</b>	Negative

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

**Post – Operational Stage Landscape Effects**

13.119 At the post-operational stage, the proposed extraction area will have been restored to a mix of agricultural land and natural habitat, including native hedgerows across the former pit floor. It will take some time for the hedgerows to fully establish and mature and the pit slopes to be fully colonised with grass and scrub species. However, over time the landscape elements within the site will more and more merge with and become assimilated into the local landscape character. As a result, the effects on all landscape receptors will eventually reduce to **MINOR** and will become more neutral.

**Direct/Indirect Effects**

13.120 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**

**Meath County Development Plan 2021-2027**

**Woodlands, Hedgerows and Trees**

13.121 The majority of the existing boundary hedgerows / tree lines will be retained as part of the proposed development. C. 133 m of unmanaged hedgerow will have to be removed along the boundary with the neighbouring existing sand and gravel pit to facilitate access into the extension area. This will be compensated by planting a total of 375 m of native hedgerows, as part of the restoration of the site.

13.122 In view of the above, the development is considered to be in compliance with **Policies HER POL 37 & 38** of the current MCDP.

## Landscape

- 13.123 This landscape and visual impact assessment was carried out by a suitably qualified and experienced landscape architect. The Meath Landscape Character Assessment, including its assessment of the value, character, sensitivity, etc. of the relevant LCA was taken into account, as part of the landscape baseline description and the sensitivity assessment of landscape receptors. It was concluded that the effects on all these receptors will be moderate/minor and it can therefore be argued that the quality, character and distinctiveness of the local landscape will be protected.
- 13.124 Also considering that the removal of boundary vegetation was reduced, as part of the extraction design, as far as is possible, the proposed development is considered to be in compliance with **Policies HER POL 52 & 53** and **Objectives HER OBL 49 & 50**.

## Extractive Industry and Building Materials Production

- 13.125 The above assessment has shown that there will be no impact on any sensitive visual receptors and that the impact on the landscape receptors identified, including the relevant LCA, will be moderate/minor. Further to that a restoration scheme is provided which proposes the restoration of the application area to a mix of beneficial agricultural and natural habitat uses.
- 13.126 In view of the above, the development is considered to be in compliance with **Policies HER POL 22-24 & 26-27** of the current MCDP.

## Westmeath County Development Plan 2021-2027

### Rare and Protected Sites & Landscape Character Assessment

- 13.127 The above landscape and visual impact assessment has not identified any sensitive landscape receptors within County Westmeath and there will therefore be no impact on the Westmeath landscape. Further to that no visual receptors were identified, resulting in no visual impact, due to the proposed development.
- 13.128 For these reasons the proposed development is considered to be in compliance with **Policy Objectives CPO 12.13, CPO 13.2, CPO 13.6, CPO 13.8-10, CPO 13.12 & CPO 13.17** of the current WCDP.

### Unplanned Events (i.e. Accidents)

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

### Cumulative / Synergistic Impacts

- 13.130 The proposed development will be an extension to the existing BDF Murrens Sand and Gravel Pit, and will be worked instead of the southern end of the previously granted extension area. Therefore, overall the area of ground affected by mineral extraction works will not be increased. Also considering the low landscape impact predicted and that there will be no visual impacts, due to the proposed extension, the cumulative landscape and visual impacts with the existing BDF pit, as well as the adjoining third party quarry is considered minimal and not significant.
- 13.131 No other existing / permitted developments, or developments currently in the planning process were identified, that would have the potential for such cumulative landscape or visual impacts with the proposed development.

## Transboundary Impacts

13.132 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

13.133 No interactions of the predicted landscape and visual effects with other environmental impacts were identified.

## 'Do-nothing Scenario'

13.134 If the proposed development is not carried out, the site is likely to be returned to an agricultural or forestry land use, which would be a similar result to what is proposed as part of the restoration scheme for this development, only at an earlier point of time. Also, it is likely that the extraction of the southern end of the previously permitted extension area at the BDF Sand and Gravel Pit would proceed instead. This would result in the disturbance of a similar area overall and with potentially slightly higher landscape or visual effects, as locally characteristic undulating agricultural fields would be removed.

## Mitigation Measures

### Operational Stage

13.135 The proposed development will be fully screened in views from the surrounding area, by topography, as well as the adjoining forestry plantations and tree-lined hedgerows. The proposed restoration of the site to a mix of an agricultural and natural habitat use, including diverse native hedge planting, will compensate the loss of some vegetation on site and its integration into the local landscape. These elements comprise the main mitigating features integrated into the development design, ensuring that the landscape and visual effects are kept to a minimum. Considering no visual impacts and no significant landscape impacts were identified, no further mitigation measures are considered necessary during the operational stage of the proposed development.

### Post – Operational Stage

13.136 While the landform will remain altered, the restored site will integrate into the surrounding landscape, in particular as the hedgerows within the site mature and locally occurring grass and scrub species colonise the pit slopes. No further mitigation measures are considered necessary for the post-operational stage of the proposed development.

## Residual Impact Assessment

### Operational Stage

13.137 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/minor landscape effects on the landscape receptors identified (i.e. levels of impact not considered to be significant), during the operational stage. There will be no visual impacts, as the site is fully screened from any publicly accessible areas, where sensitive visual receptors may be present.

## Post – Operational Stage

13.138 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 the predicted landscape effects would reduce to minor for all receptors identified and there will continue to be no visual effects.

## Monitoring

13.139 Apart from the proposed 2-year aftercare period, as part of the Restoration Proposals (refer to **EIAR Figures 2-4**), to ensure the successful establishment of the native hedge 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 (GLVLIA3)

## Figures

Figure 13-1 Landscape Baseline and Viewpoint Locations

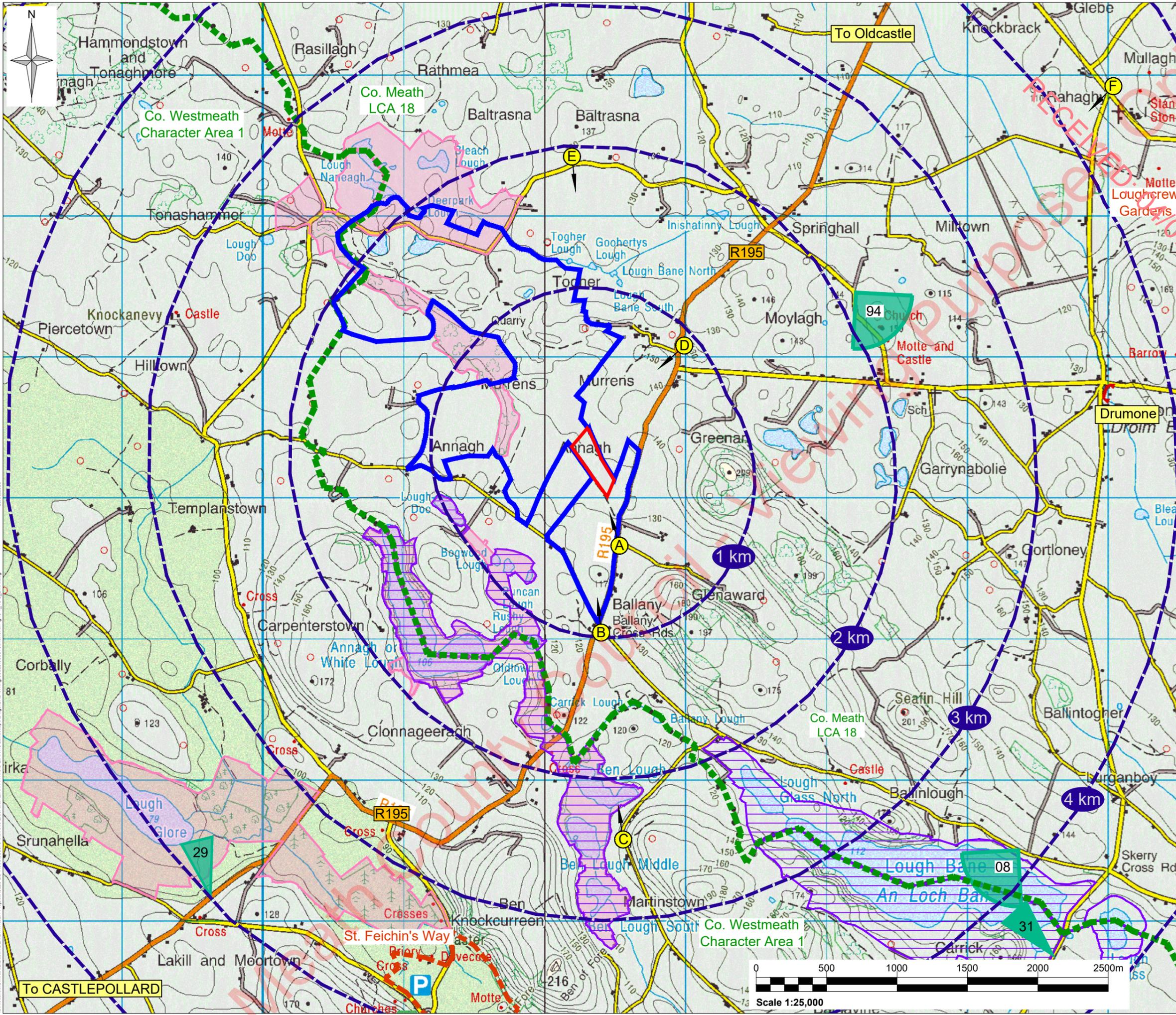
Figure 13-2 Zone of Theoretical Visibility (ZTV) Map

Figure 13-3 Viewpoints A & B

Figure 13-4 Viewpoints C & D

Figure 13-5 Viewpoints E & F

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**Notes:**  
Extract from Ordnance Survey 1:50,000 Discovery Series Maps 41 & 42

**Legend:**

- Planning application area
- Applicants land interest boundary
- Viewpoint location
- Distance from application area boundary

**Landscape / Visual Designations:**

- Landscape Character Area Boundaries (Meath / Westmeath County Development Plans)
- Protected Views (Meath / Westmeath County Development Plans)
- Proposed Natural Heritage Area (pNHA)
- Special Area of Conservation (SAC)

Rev	Amendments	Date	By	Chk	Auth
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Client  
BD Flood Unlimited Company

Project  
Sand & gravel pit extension, Murrens, Co. Meath

Figure Title  
Landscape Baseline and Viewpoint Locations

Scale  
1:25,000 @ A3

SLR Project No.  
501.065670

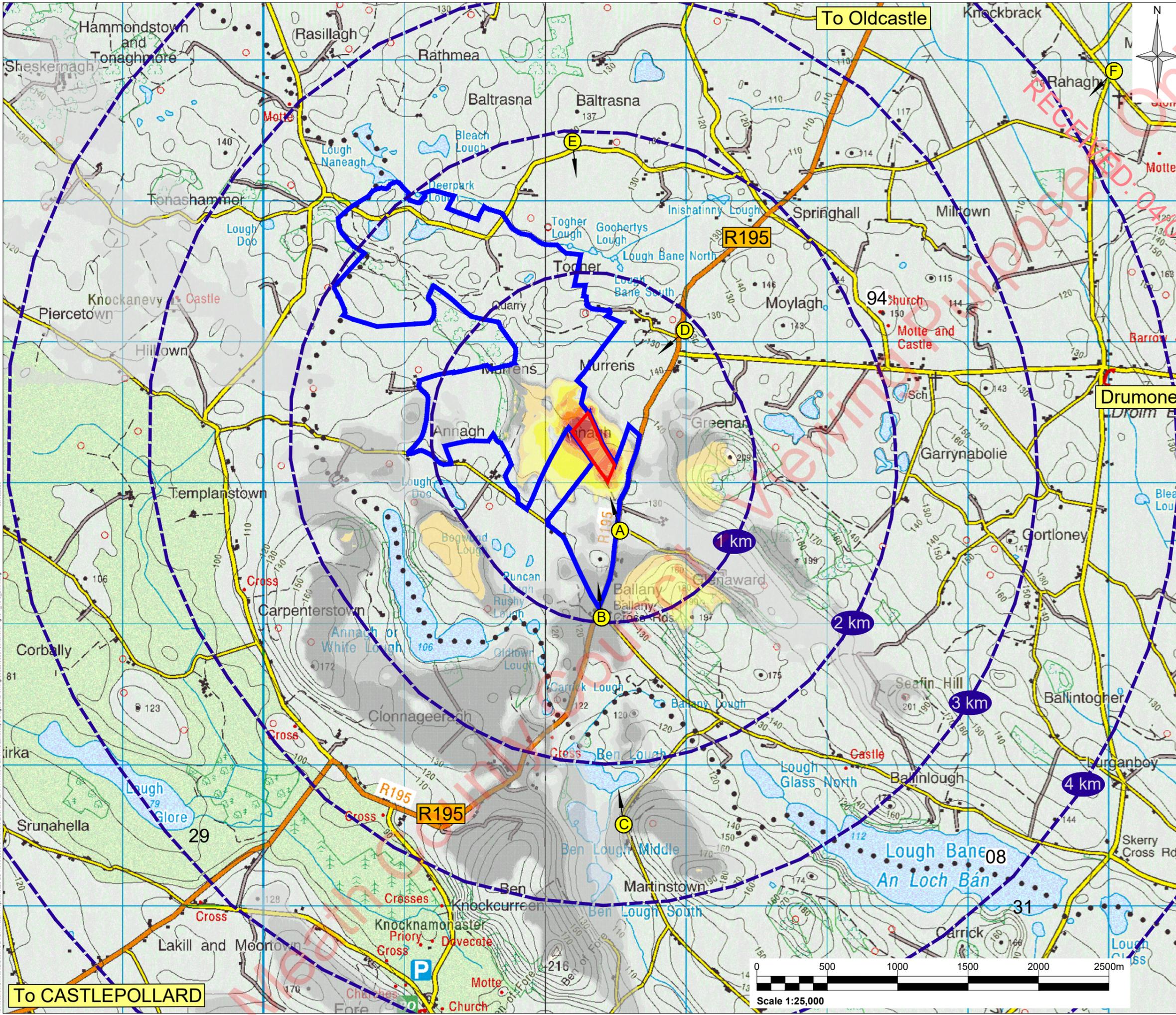
Designed SH	Drawn SH	Checked AM	Authorised AM
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Date 01/25	Date 01/25	Date 06/25	Date 06/25
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Figure Number  
**Figure 13-1**



Scale 1:25,000



**Notes:**  
 Extract from Ordnance Survey 1:50,000 Discovery Series Maps 41 & 42

**Legend:**

- Planning application area
- Applicants land interest boundary
- Viewpoint location
- Distance from application area boundary

**Vertical subtended angles visible (of the proposed extension area)**

- Subtended vertical angle greater than 25.6 degrees
- Subtended vertical angle 12.8 to 25.6 degrees
- Subtended vertical angle 6.4 to 12.8 degrees
- Subtended vertical angle 3.2 to 6.4 degrees
- Subtended vertical angle 1.6 to 3.2 degrees
- Subtended vertical angle 0.8 to 1.6 degrees
- Subtended vertical angle 0.4 to 0.8 degrees
- Subtended vertical angle 0.2 to 0.4 degrees
- Subtended vertical angle 0.1 to 0.2 degrees
- Subtended vertical angle less than 0.1 degrees
- No theoretical visibility

**Note:** Vegetation cover and built structures were not taken into account, as part of the calculation of this ZTV, which therefore represents the worst-case-scenario. In SLR's experience, views from areas in grey (i.e. less than 0.4 degrees) tend to be screened by hedgerows and other intervening vegetation, if locally present. Please refer to Appendix 13-B of the EIAR for the ZTV methodology.

Rev	Amendments	Date	By	Chk	Auth
 SLR Consulting Ireland 7 Dundrum Business Park, Windy Arbour, Dublin, Ireland, D14 N2Y7					
<a href="http://www.slrconsulting.com">www.slrconsulting.com</a>					
Client BD Flood Unlimited Company					
Project Sand & gravel pit extension, Murrens, Co. Meath					
Figure Title Zone of Theoretical Visibility (ZTV) Map					
Scale 1:25,000 @ A3		SLR Project No. 501.065670			
Designed SH	Drawn SH	Checked AM	Authorised AM		
Date 04/25	Date 04/25	Date 06/25	Date 06/25		
Figure Number Figure 13-2					Rev.



The extension site is screened by intervening vegetation

**Viewpoint A: R195, ca. 600m north of Ballany Cross Roads**

Grid Coordinates (ITM): **652455:773741**      Approximate Elevation: **125m AOD**      Distance from planning application boundary: **300m**      Direction of View: **North-west**      Date/time of photograph: **29/01/2025 @ 13:30**

**Description:** The existing BD Flood Murrens sand and gravel pit, as well as the proposed extension site are fully screened by intervening vegetation in views from the R195 to the east and south of the site (also refer to Viewpoint B), as well as from adjoining local roads and residential properties in this area.

23/06/2025



The extension site is screened by intervening vegetation

**Viewpoint B: R195, at Ballany Cross Roads**

Grid Coordinates (ITM): **652323:773124**      Approximate Elevation: **125m AOD**      Distance from planning application boundary: **900m**      Direction of View: **North**      Date/time of photograph: **29/01/2025 @ 14:10**

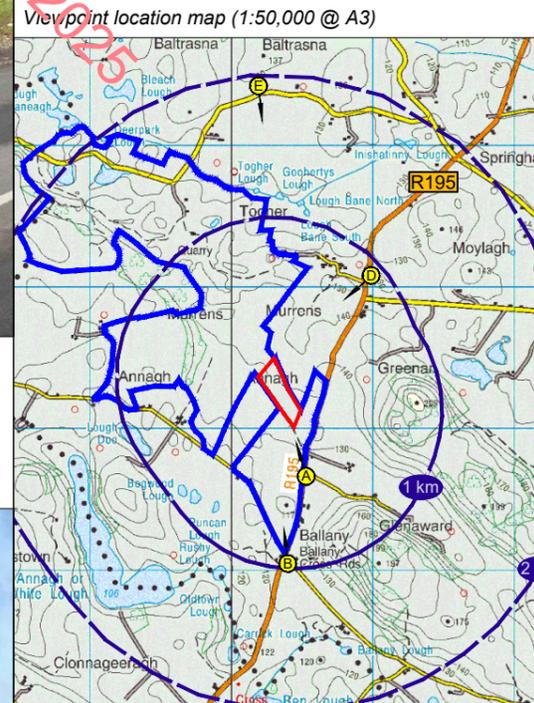
**Description:** The existing BD Flood Murrens sand and gravel pit, as well as the proposed extension site are fully screened in views from the R195 to the south of the site and generally in views from locations to the south, south-west and south-east, by intervening vegetation and topography.

01/02/2025

**Notes:**  
Extract from Ordnance Survey 1:50,000 Discovery Series Maps 41 & 42

**Legend:**

- Planning application area
- Applicants land interest boundary
- Viewpoint location
- Distance from application area boundary



Rev	Amendments	Date	By	Chk	Auth
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**Client:** BD Flood Unlimited Company

**Project:** Sand & gravel pit extension, Murrens, Co. Meath

**Figure Title:** Viewpoints A & B

Scale	NTS @ A3	SLR Project No.	501.065670
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Designed	Drawn	Checked	Authorised
CN	CN	AM	AM
Date	Date	Date	Date
02/25	02/25	02/25	02/25

Figure Number	Rev.
<b>Figure 13-3</b>	



The extension site is fully screened by topography and intervening vegetation

**Notes:**  
 Extract from Ordnance Survey 1:50,000 Discovery Series Maps 41 & 42

**Legend:**

- Planning application area
- Applicants land interest boundary
- Viewpoint location
- Distance from application area boundary



**Viewpoint C: Local road to the east of Ben Lough, approximately 1.5km south of Ballany Cross roads**  
 Grid Coordinates (ITM): **652481:771656**      Approximate Elevation: **125m AOD**      Distance from planning application boundary: **2300m**      Direction of View: **North-west**      Date/time of photograph: **29/01/2025 @ 13:50**  
 Description: The proposed extension site is fully screened in this view and generally in views from locations to the south and south-east, by intervening vegetation and topography (also refer to Viewpoints A & B).



The extension site is screened by this vegetation along its north-eastern boundary

Third party sand and gravel pit

The existing Murrens sand and gravel pit is located beyond this ridge

Rev	Amendments	Date	By	Chk	Auth

SLR Consulting Ireland  
 7 Dundrum Business Park,  
 Windy Arbour,  
 Dublin,  
 Ireland,  
 D14 N2Y7

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Client  
 BD Flood Unlimited Company

Project  
 Sand & gravel pit extension, Murrens, Co. Meath

Figure Title  
 Viewpoints C & D

Scale NTS @ A3	SLR Project No. 501.065670		
Designed CN	Drawn CN	Checked AM	Authorised AM
Date 02/25	Date 02/25	Date 02/25	Date 02/25

Figure Number  
**Figure 13-4**

**Viewpoint D: R195, at junction with L68185 (access road to JJ Flood & Sons Murrens Quarry)**  
 Grid Coordinates (ITM): **652889:775062**      Approximate Elevation: **135m AOD**      Distance from planning application boundary: **800m**      Direction of View: **South-west**      Date/time of photograph: **29/01/2025 @ 11:00**  
 Description: The vegetation along the north-eastern boundary of the proposed extension site, which will be retained, is visible in the background of this view. The site itself is and the proposed extraction works will be screened by this vegetation, as well as topography, as the site slopes away gently from its north-eastern boundary. In views from locations further east and north the site is also screened by intervening vegetation and topography.



**Viewpoint E: Local road at Baltrasna, approximately 1.2km north-east of the entrance to the existing Murrens sand and gravel pit**  
 Grid Coordinates (ITM): **652130:776385**      Approximate Elevation: **125m AOD**      Distance from planning application boundary: **1800m**      Direction of View: **South**      Date/time of photograph: **29/01/2025 @ 14:25**  
 Description: The existing BD Flood sand and gravel pit and the proposed extension site are fully screened in this view and generally in views from locations to the north and west, by intervening vegetation and topography.

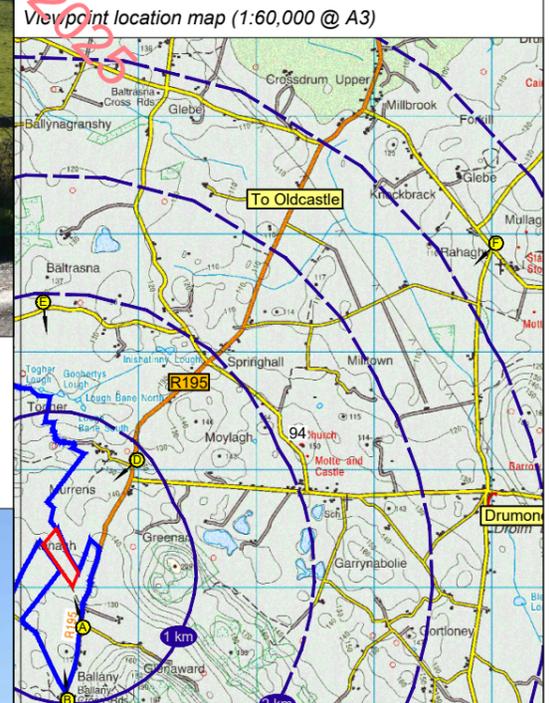


**Viewpoint F: Local road in the townland of Rahaghy, ca. 1.6 km south-east of the junction with the R195.**  
 Grid Coordinates (ITM): **655938:776902**      Approximate Elevation: **130m AOD**      Distance from planning application boundary: **4,400m**      Direction of View: **South-west**      Date/time of photograph: **29/01/2025 @ 10:40**  
 Description: The existing BD Flood sand and gravel pit and the proposed extension site are fully screened in this view and generally in views from locations to the north-east, by intervening vegetation and topography. The boundary vegetation surrounding the extension site is likely to be distantly visible from the top of the Loughcrew Hills, due to the elevated viewing location. However, the proposed extraction works will be screened by the boundary vegetation and would be difficult to discern at this distance, even if no vegetation was present.

**Notes:**  
 Extract from Ordnance Survey 1:50,000 Discovery Series Maps 41 & 42

**Legend:**

-  Planning application area
-  Applicants land interest boundary
-  Viewpoint location
-  Distance from application area boundary



Rev	Amendments	Date	By	Chk	Auth



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Client  
 BD Flood Unlimited Company

Project  
 Sand & gravel pit extension, Murrens, Co. Meath

Figure Title  
 Viewpoints E & F

Scale NTS @ A3	SLR Project No. 501.065670		
Designed CN	Drawn CN	Checked AM	Authorised AM
Date 02/25	Date 02/25	Date 02/25	Date 02/25

Figure Number <b>Figure 13-5</b>	Rev.
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## 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). GLVIA3<sup>1</sup> (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 Seascapes 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 not

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

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 <sup>2</sup> 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.

<sup>2</sup> 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”.

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

Factor	Criteria
<b>Natural Heritage</b>	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.
<b>Cultural Heritage</b>	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.
<b>Landscape Condition</b>	Landscape which is in a good physical state both with regard to individual elements and overall landscape structure. Absence of detracting/incongruous features.
<b>Associations</b>	Landscape which is connected with notable people, events and the arts.
<b>Distinctiveness</b>	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.
<b>Recreational</b>	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.
<b>Perceptual (Scenic)</b>	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.
<b>Perceptual (Wildness and Tranquillity)</b>	Landscape with a strong perceptual value notably remoteness, wildness, tranquillity and/or dark skies.
<b>Functional</b>	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

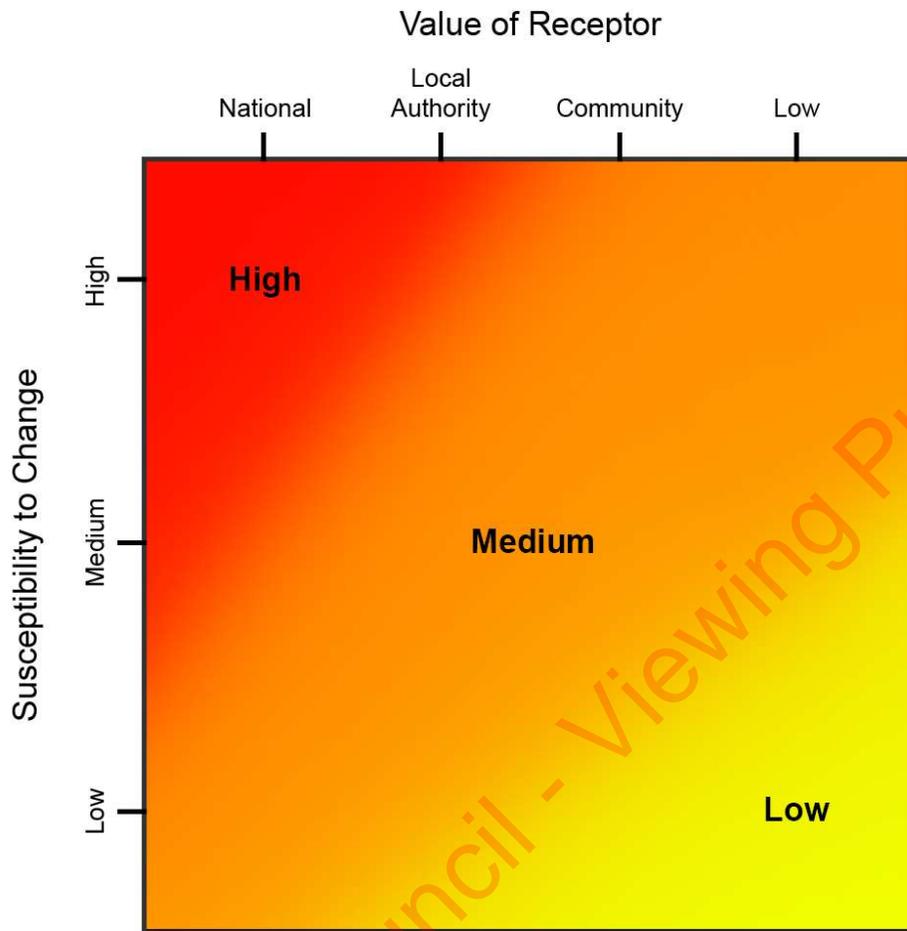


Table 13A-4: Example Levels of Sensitivity defined by Value and Susceptibility of Landscape Receptors

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"> <li>• becomes a dominant feature in the landscape, changing the balance of landscape characteristics; and/or</li> <li>• would dominate important visual connections with other landscape types, where this is a key characteristic of the area.</li> </ul>
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"> <li>• the proposed development would be more prominent but would not change the overall balance or composition of the landscape; and/or</li> </ul>

	<ul style="list-style-type: none"> <li>key visual connections to other landscape types may be interrupted intermittently by the proposed development, but these connections would not be dominated by them.</li> </ul>
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"> <li>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.</li> </ul>
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**

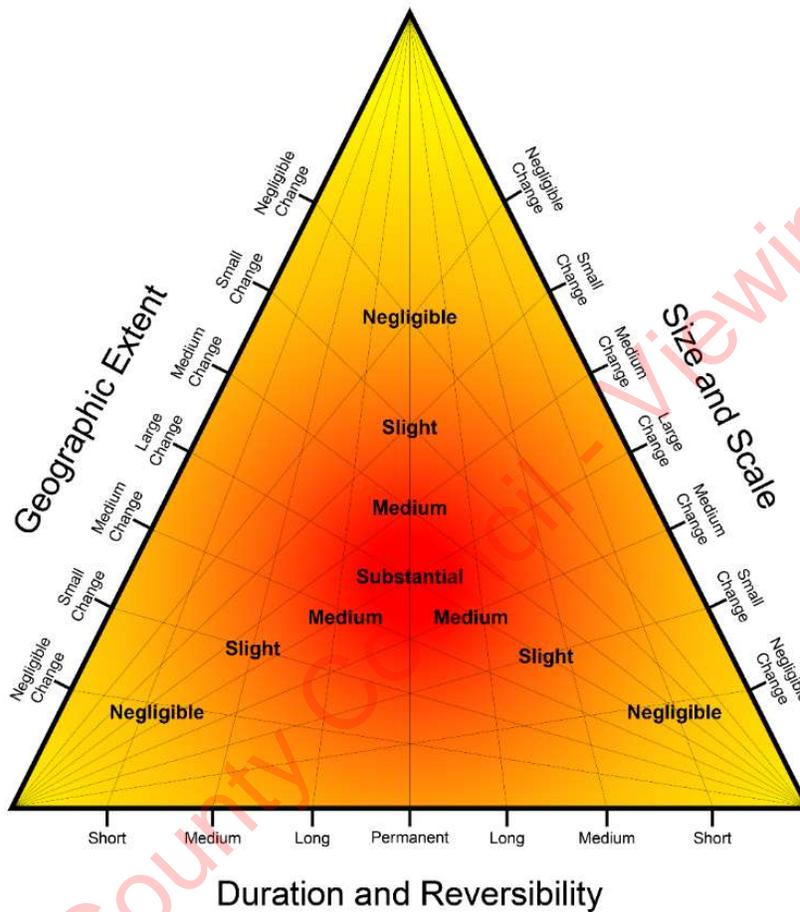
Category	Description
Permanent/ Irreversible	Effects that will last for over 60 years and is deemed irreversible.
Long-term reversible	Effects that will last between 15 and 60 years and are theoretically reversible.

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**



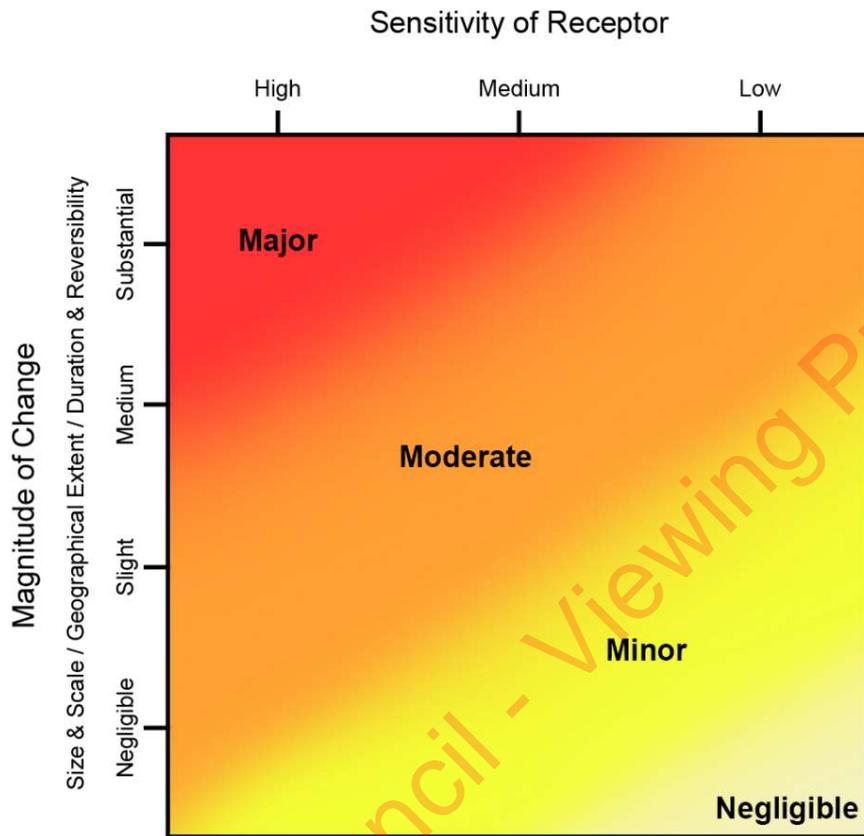
**Assessment of Landscape Effects**

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	Views from nationally (and in some cases internationally) known viewpoints, which: <ul style="list-style-type: none"> <li>• have some form of planning designation; or</li> <li>• are associated with internationally or nationally designated landscapes or important heritage assets; or</li> <li>• are promoted in sources such as maps and tourist literature; or</li> <li>• are linked with important and popular visitor attractions where the view forms a recognised part of the visitor experience; or</li> <li>• have important cultural associations.</li> </ul>

	Also, may include views judged by assessors to be of high value.
Medium	Views from viewpoints of some importance at regional or local levels, which: <ul style="list-style-type: none"> <li>• have some form of local planning designation associated with locally designated landscapes or areas of equivalent landscape quality; or</li> <li>• are promoted in local sources; or</li> <li>• are linked with locally important and popular visitor attractions where the view forms a recognised part of the visitor experience; or</li> <li>• have important local cultural associations.</li> </ul> <p>Also, may include views judged by the assessors to be of medium value.</p>
Low	Views from viewpoints which, although they may have value to local people: <ul style="list-style-type: none"> <li>• have no formal planning status; or</li> <li>• are not associated with designated or otherwise high-quality landscapes; or</li> <li>• are not linked with popular visitor attractions; or</li> <li>• have no known cultural associations.</li> </ul> <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 focused 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
High	Residents; People engaged in outdoor recreation where their attention is likely to be focused on the landscape and on particular views; Visitors to heritage assets or other attractions where views of the surroundings are an important part of the experience; Communities where views contribute to the landscape setting enjoyed by the residents.
Medium	Travellers on scenic routes where the attention of drivers and passengers is likely to be focused on the landscape and on particular views. People engaged in outdoor sport or recreation, which may involve appreciation of views e.g. users of golf courses.

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>
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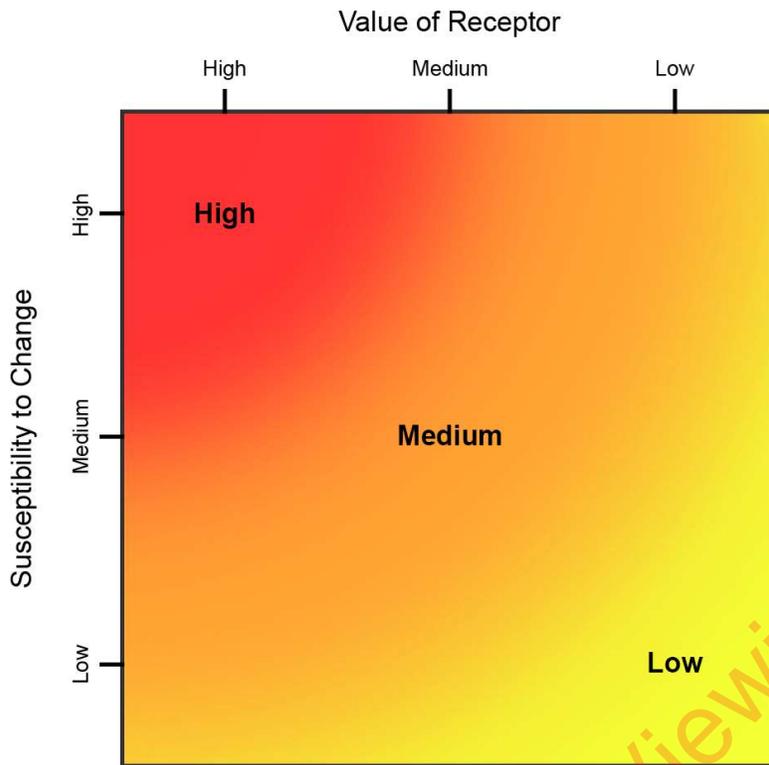
**Defining Sensitivity**

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> <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.</p>
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).

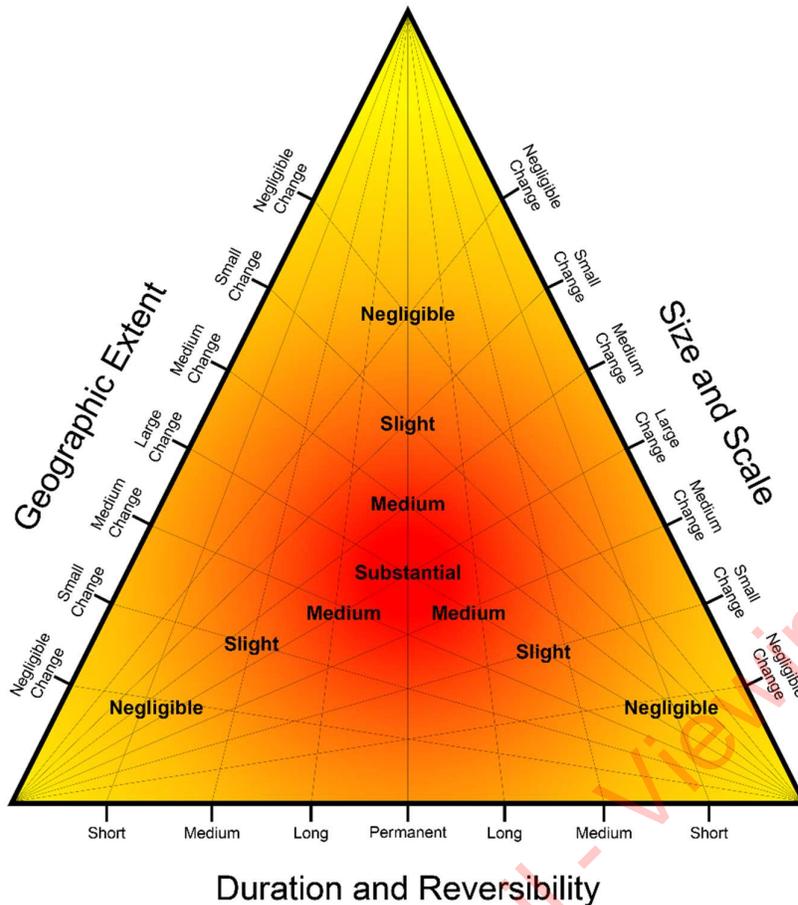
**Table 13A-13: Magnitude of Visual Change: Duration and Reversibility**

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.

**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

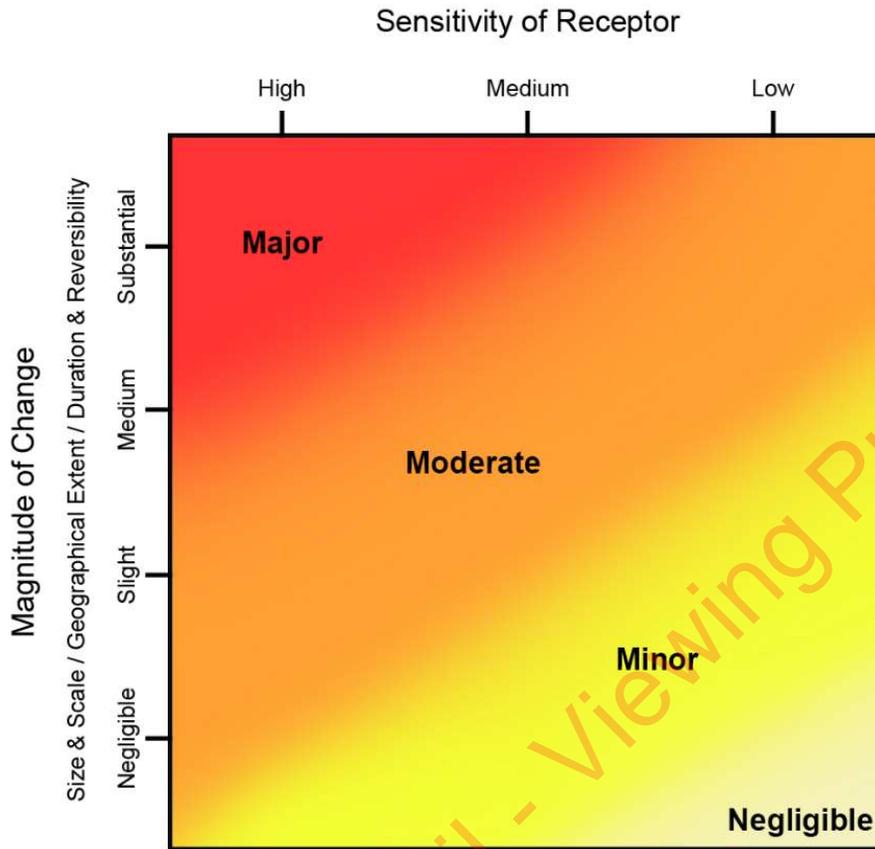


**Assessment of Visual Effects and Significance**

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



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

A Zone of Theoretical Visibility (ZTV) Study was conducted for the proposed development (i.e. the proposed extraction area) 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.