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# INTRODUCTION

## Background

13.1 This chapter assesses the landscape and visual impacts arising from the proposed sand and gravel extraction works at Naul townland, Ford de Fine, Co. Meath. The planning application area, hereafter referred to as the application area or the site, is located approximately 700m northwest of Naul village. The access road, which forms part of the application area, follows an existing farm track from the R108 – Regional Road, ca. 500m of the main body of the site, to the east. The R122 is located just under 300m to the south of the site.

13.2 The main body of the application area comprises parts of three existing agricultural fields. It is proposed to extract sand and gravel from these fields in three phases, including phased restoration to agricultural grassland, to reduce the area of disturbed ground at any one time. Further details on the proposed development, including the restoration proposals, are contained in **Chapter 2** of this EIAR.

13.3 This EIAR chapter should be read in conjunction with the following figures, which have been used to inform the assessment:

- **Figure 13-1:** Landscape Baseline and Viewpoint Locations;
- **Figure 13-2:** Zone of Theoretical Visibility (ZTV) Map;
- **Figure 13-3:** Viewpoint & Photomontage A;
- **Figure 13-4:** Viewpoint & Photomontage B;
- **Figure 13-5:** Viewpoints C & D;
- **Figure 13-6:** Viewpoints E & F;
- **Figure 13-7:** Viewpoints G & H; and
- **Figure 13-8:** Viewpoints I & J.

## Scope of Work / Assessment Methodology

13.4 The EPA guidelines in relation to the preparation of an EIAR (May 2022)[1] 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.

13.5 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

[1] Environmental Protection Agency (2022). Guidelines on the Information to be Contained in Environmental Impact Assessment Reports. Published May 2022. Environmental Protection Agency, Johnstown Castle Estate, Co. Wexford

Institute and Institute of Environmental Management and Assessment[2] (hereinafter referred to as 'GLVIA3'). These guidelines are widely accepted as best practice for Landscape and Visual Assessment (LVIA) in Ireland.

13.6 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. 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.

13.7 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.

13.8 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. 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.

13.9 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

13.10 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*[3]. 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. 40˚-110˚) to illustrate the full extent of the development within each photograph presented, as well as the context within which the site is located.

13.11 The Landscape Institute – Technical Guidance Note 02/21 – *Assessing landscape value outside national designations*[4] was taken account of in the preparation of the assessment methodology, as provided in **Appendix 13-A** at the end of this chapter.



[2] Landscape Institute and Institute of Environmental Management & Assessment (2013) *Guidelines for Landscape and Visual Impact Assessment*. Third Edition, Routledge.
[3] The Landscape Institute (2019) Technical Guidance Note 06/19: Visual Representation of Development Proposals, Landscape Institute.
[4] The Landscape Institute (2021) Technical Guidance Note 02/21: Assessing landscape value outside national designations.

## Consultations / Consultees

13.12 In preparing the previous planning application (P. Ref. AA191263), a pre-planning consultation meeting was held between officials of Meath County Council and the applicant on the 2nd August 2019 at the offices of the Planning Authority. As the site is adjacent to the Meath-Dublin border, pre-planning consultation was also carried out with Fingal County Council at the time.

13.13 Although this planning application is for development broadly covering the same development as applied for previously under P. Ref. AA191263, owing to the lapse in time between planning applications, a further formal pre-planning meeting was held with Meath County Council Planning Department via Teams on the 30th May 2024.

13.14 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)

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

## Sources of Information

13.16 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 July 2019 and April 2024. The desktop study and field work were informed by:

- Meath County Development Plan 2021-2027;
- Fingal Development Plan 2023-2029;
- 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

13.17 A study area of 2km surrounding the application area and extending up to 4km to the southwest and southeast was identified during the desktop study, based on the Zone of Theoretical Visibility Map (refer to **Figure 13-2**). This takes account of undulating topography surrounding the site with local ridgelines restricting views from many areas. While the visual envelope is smaller, i.e. the area from where the application area is actually visible, the 2-4km study area is maintained for the purposes of providing landscape context.

## Field Survey

13.18 A detailed site survey was carried out on 23rd July 2019 in partially overcast, warm and bright conditions, but with overall good visibility, as well as a follow-up visit to take additional photos for photomontages on 29th November 2019. A further site visit was carried out on 24th April 2024 to take up-to-date photographs for this planning application. Photographs were taken during all site 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. 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

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

## Significant Risks

13.20 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

13.21 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

13.22 In 2002, Ireland ratified the European Landscape Convention[5], which promotes the protection, management and planning of landscapes. The National Landscape Strategy for Ireland 2015-2025[6] was published *"to ensure compliance with the European Landscape Convention and establish principles for protecting and enhancing the landscape while positively managing its change"*.

13.23 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.

13.24 There is no Irish legislation specifically governing the preparation of landscape and visual impact assessments.

## Planning Policy

13.25 The Meath County Development Plan (Meath CDP) 2021-2027[7] is the statutory plan detailing the development objectives/policies of the authority, covering the application area. The Fingal County Council boundary is located within 50m to the south of the application area, along the Delvin River, and the Fingal Development Plan (FDP) 2023-2029[8] was therefore also checked. Those policies/

[5] European Landscape Convention: https://www.coe.int/en/web/conventions/full-list/-/conventions/rms/0900001680080621
[6] National Landscape Strategy for Ireland 2015-2025: https://www.chg.gov.ie/app/uploads/2015/07/N-Landscape-Strategy-english-Web.pdf
[7] Meath County Development Plan 2021-2027: https://consult.meath.ie/en/consultation/meath-adopted-county-development-plan
[8] Fingal Development Plan 2023-2029: https://www.fingal.ie/development-plan-2023-2029

objectives, with relevance to this assessment, are listed below. Refer to **Figure 13-1** – Landscape Baseline and Viewpoint Locations for an illustration of the location of relevant landscape / visual designations.

### *Co. Meath*

#### Woodlands, Hedgerows and Trees

13.26 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:

13.27 **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."*

13.28 **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

13.29 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:

13.30 **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."*

13.31 **HER POL 53:** *"To discourage proposals necessitating the removal of extensive amount of trees, hedgerows and historic walls or other distinctive boundary treatments."*

13.32 **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."*

13.33 **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

13.34 Section 8.18 of the current Meath CDP places protection on several views and prospects, as set out in the following objective.

13.35 **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."*

13.36 Two such views are located within 2km of the application area, as illustrated on Map 8.6 of the current Meath CDP, as well as **Figure 13-1** of this EIAR chapter.

- Viewpoint 70: R108 between Naul and Mullaghteelin - Extensive view to east and sea from junction of local road with R108.
- Viewpoint 71: County road off R108 at Snowtown – View at gate along hedgerow of extensive tillage landscape, visible settlement and infrastructure.

13.37 Neither of these two viewpoints is directed towards the application area and will therefore not be considered further in the assessment below.

### Extractive Industry and Building Materials Production

13.38 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.

13.39 **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."*

13.40 **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."*

13.41 **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."*

13.42 **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. …"*

13.43 **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 Areas, which is classed as being of medium sensitivity, see summary of Meath Landscape Character Assessment below).

## *Co. Fingal*

### Quarries, Aggregate Extraction and Land Reclamation

13.44 Section 7.5.3.4 of the current Fingal CDP lists the following policy and objective with regard to quarries, aggregate extraction and land reclamation, which are of relevance to this assessment.

13.45 **Policy EEP27 – Aggregate Extraction:** *"Protect and safeguard the County's natural aggregate resources from inappropriate development and support the sustainable extraction of aggregate resources at suitable locations within the County subject to appropriate environmental safeguards."*

13.46 **Objective EE074 – Avoidance of Adverse Impacts on the Environment, Residential and Visual Amenities:** *"Ensure that proposals for extraction and land reclamation avoid significant adverse impacts on the environment, residential amenities and the visual amenity of the area through environmental assessment, mitigation and appropriate provision for the restoration of the landscape."*

### Landscape Character Assessment

13.47 Section 9.6.14 of the current Fingal CDP deals with the Landscape Character Assessment of Fingal. As indicated on the Green Infrastructure Maps associated with the CDP, the lands to the south of the application area, across the River Delvin are located within the 'High Lying Agricultural Character Type'. This is classified as having a "High" landscape value and a "High" landscape

sensitivity according to *'Table 9.3: Landscape Character Assessment Summary-Character, Value and Sensitivity'* contained in the Fingal CDP. The following policy and objectives are provided.

13.48 **Policy GINHP25 – Preservation of Landscape Types:** *"Ensure the preservation of the uniqueness of a landscape character type by having regard to the character, value and sensitivity of a landscape when determining a planning application."*

13.49 **Objective GINHO55 – Protection of Skylines:** *"Protect skylines and ridgelines from development."*

13.50 **Objective GINHO56 – Visual Impact Assessments:** *"Require any necessary assessments, including visual impact assessments, to be prepared prior to approving development in highly sensitive areas."*

13.51 **Objective GINHO57 – Development and Landscape:** *"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 such as geology and landform, habitats, scenic quality, settlement pattern, historic heritage, local vernacular heritage, land-use and tranquillity."*

13.52 **Objective GINHO58 – Sensitive Areas:** *"Resist development such as houses, forestry, masts, extractive operations, landfills, caravan parks, and campsites, and large agricultural/horticulture units which would interfere with the character of highly sensitive areas or with a view or prospect of special amenity value, which it is necessary to preserve."*

13.53 **Objective GINHO59 – Development and Sensitive Areas:** *"Ensure that new development does not impinge in any significant way on the character, integrity and distinctiveness of highly sensitive areas and does not detract from the scenic value of the area. …"* (Note: The remainder of Objective GINHO59 refers to *"new development in highly sensitive areas"* in Fingal and is therefore not applicable to the proposed development.)

### Views and Prospects

13.54 Section 9.6.15 of the Fingal CDP deals with views and prospects. It refers to the Green Infrastructure Maps on which the views to be preserved are identified. The following policy and objectives are provided.

13.55 **Policy GINHP26 – Preservation of Views and Prospects:** *"Preserve views and prospects and the amenities of places and features of natural beauty or interest including those located within and outside the County."*

13.56 **Objective GINHO60 – Protection of Views and Prospects:** *"Protect views and prospects that contribute to the character of the landscape, particularly those identified in the Development Plan, from inappropriate development."*

13.57 **Objective GINHO61 – Landscape/Visual Assessment:** *"Require a Landscape/Visual Assessment to accompany all planning applications for significant proposals that are likely to affect views and prospects."*

13.58 Within 3km of the proposed extraction area, the following views requiring protection are identified on Green Infrastructure Map 1 (Sheet No. 14) of the current Fingal CDP. As these views are not numbered or described in writing in the Fingal DP, the below are SLR's numbering and descriptions (also refer to **Figure 13-1**):

- **View 1:** Views from an approximately 3.9km long stretch along the R122, west of Naul. The closest point along this route is located 360m south of the application area. Views are typically

across the Delvin River Valley in a northern/western direction and therefore in the direction of the application area at the northern end of this route.

- **View 2:** Views form an approximately 500m long section of the R122 east of Naul. The closest point along this route is located 870m east of the application area. Views are typically across the Delvin River Valley in a northern-western direction and therefore in the direction of the application area.
- **View 3:** Views from an approximately 3.9km long stretch along the R108, south of Naul. The closest point along this route is located 1,130m southeast of the application area. Views from the northern end of this route (north of a local ridgeline) are typically in a northern direction across Naul and therefore in the direction of the application area.
- **View 4:** Views from an approximately 900m long section of the local road west of the R108 in the townland of Flacketstown. The closest point along this route is located 1,800m south of the application area. As this route is located just south of a ridgeline, views are typically in a southern direction and therefore not in the direction of the application area.
- **View 5:** Views from an approximately 1.2km long section of the local road in the townland of Kitchenstown. The closest point along this route is located 2,300m southeast of the application area. As this route is located on the north-eastern slopes of a local highpoint, views are typically in a north-eastern direction towards the coast and therefore not in the direction of the application area.

13.59 As Views 4 and 5 are not directed towards the application area, only **Views 1-3** will be considered further in the assessment below.

13.60 Green Infrastructure Map 1 (Sheet No. 14) of the current Fingal CDP also contains a number of Green Infrastructure Mapped (GIM) Objectives. **GIM 14** is indicated within the High Amenity Area ca. 1.5km south of the site. It reads *"Protect views from within the Fingal Uplands area and also to protect views of this upland area from outside the area."* Views from this area would be similar to those at the northern end of the route described as View 3, above.

### Land Use Zoning

13.61 The land between 50-1,200m to the southeast of the application area is zoned RU – Rural in the current Fingal CDP (Sheet 2 Fingal North). The zoning objective for this is as follows *"Protect and promote in a balanced way, the development of agriculture and rural-related enterprise, biodiversity, the rural landscape, and the built and cultural heritage"*. The vision for this objective is described as: *"Protect and promote the value of the rural area of the County. This rural value is based on:*

- Agricultural and rural economic resources;
- Visual remoteness from significant and distinctive urban influences; and
- A high level of natural features.

*Agriculture and rural related resources will be employed for the benefit of the local and wider population. Building upon the rural value will require a balanced approach involving the protection and promotion of rural biodiversity, promotion of the integrity of the landscape, and enhancement of the built and cultural heritage."*

13.62 Within the area zoned "RU", ca. 1.2km south of the application area, is an area zoned HA – High Amenity, for which the zoning objective is to *"Protect and enhance high amenity areas"*. The vision for this objective is described as: *"Protect these highly sensitive and scenic locations from*

*inappropriate development and reinforce their character, distinctiveness and sense of place. In recognition of the amenity potential of these areas opportunities to increase public access will be explored."*

# RECEIVING ENVIRONMENT

## Landscape Baseline

### *Existing Relevant Landscape Character Assessments*

13.63 The Meath Landscape Character Assessment is presented in Appendix 05 of the current Meath CDP. It 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). The application area is fully located within the Hills and Uplands Area LCT and LCA 9 – Bellewstown Hills. The nearest other Meath LCA, 150m east of the proposed site entrance is LCA 7 – Coastal Plains, which forms part of the Coastal Landscape LCT.

13.64 To the south of the site, across the Delvin River Meath LCA 9 is adjoined by the Fingal High Lying Agricultural Landscape Character Type (LCT).

#### Meath LCA 9 – Bellewstown Hills

13.65 LCA 9 is classed as being of 'Very High Landscape Value' (i.e. *"Areas which have particularly high value by nature of their dramatic scenic quality, unspoilt beauty, conservation interests, historic, cultural or other associations that influence landscape value."*) and 'Moderate Sensitivity' (i.e. *"A landscape that can accommodate a certain amount of change without affecting the overall character. There are unlikely to be large numbers of people using or viewing this landscape."*). It has been afforded 'Regional' Landscape Importance.

13.66 The landscape description of LCA 9 includes the following: *"The Bellewstown Hills consist of a large remote area of steeply rolling hills to the south east of Duleek, which is intensively managed with well wooded hedgerows. The rolling landscape creates an enclosed environment. Built development consists of scattered detached dwellings in the countryside and ribbon development along rural roads, there is a concentration of dwellings in Bellewstown.*

13.67 *This LCA is a prominent feature of the landscape from the lowlands in the east Meath farmland and provide excellent views over the lowlands and the coastline. The main feature of Bellewstown village is the racecourse and some ribbon development adjacent to the racecourse.*

13.68 *The landscape in the uplands is open and well managed with extensive clipped hedgerows and large pasture and arable fields. In the lowlands and the foot of the upland areas, field patterns are smaller and the hedgerows are more wooded. The landscape is generally in good condition."*

13.69 Recommendation 5 for LCA 9 suggests to *"continue existing management practices to sustain well-managed farmland in this LCA."*

#### Meath LCA 7 – Coastal Plains

13.70 LCA 7 is classed as being of 'Moderate Landscape Value' (i.e. *"Areas which retain a positive character and a sense of place, or are of local interest or importance."*) and 'High 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 a change is likely to significantly alter the character to*

*the extent that it would be difficult or impossible to restore."*). It has been afforded 'Regional' Landscape Importance.

13.71 The landscape description of LCA 9 includes the following: *"The coastal plain is a large area of east coast lowland divided by the River Nanny estuary. It is known as the 'Gold Coast.' The area is characterised by scrubby rolling lowland near the coast interspersed with stands of pine. The River Nanny estuary is a steep sided river plain bound by attractive mixed woodland. … Long distance views are available along the coastline, however due to the flat topography of the landscape and overgrown nature of many hedgerows, views inland from the coast are not readily available."*

### Fingal High Lying LCT

13.72 The current Fingal CDP includes a landscape character assessment (in Chapter 9.6 – Natural Heritage). This divides Fingal into 6 LCTs and each LCT is given a value (exceptional to low) and a rating for its sensitivity to change (high to low). The land to the southeast of the Delvin River, i.e. approximately 50m south of the application area, is located within the Fingal High Lying LCT. This LCT is categorised as having high value and high sensitivity, with highly sensitive landscapes described as "likely to be vulnerable to change". The High Lying LCT is described as follows.

13.73 *"The High Lying Character Type is categorised as having a high value, its importance highlighted by the High Amenity zoning covering substantial parts of the area. This is an area of upland, rising to a high point of 176 metres at Hillfort Mound, to the southeast of the Naul. These hills afford panoramic views of the Mourne Mountains to the north, the coastline to the east and the Wicklow Mountains to the south. There are a number of important visual ridges on these uplands, that can be seen from wide areas of Fingal and Meath. Almost the whole County can be viewed from the more elevated roads. It also has an important ecological value with strong hedgerows and the presence of the 'Bog of the Ring' proposed Natural Heritage Area here. There is little obtrusive or inappropriate development in the area and there is a pronounced absence of any substantial coniferous woodland.*

## *Landscape of the Site and its Context*

13.74 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

13.75 The application area is located on the northern slopes of the Delvin River valley, within an undulating landscape, consisting of a mix of fields under pasture and tillage fields. These fields are bound by generally low-cut hedgerows, which are often lined with mature trees. Small pockets of deciduous woodlands are present in a number of locations, typically associated with former estate lands (e.g. Naul Park House on the northern edge of Naul and Westown House, 1km south of Naul). Also, an elevated small mixed conifer and deciduous plantation just northeast of the application area is prominent in the local landscape.

13.76 The application area itself is made up from parts of three arable fields in an approximate inverted L-shape, as well as an existing farm track to the east of these fields, with access onto the R108. This

will be used as the access road into the site. Two of the fields are located adjoining the Delvin River. The third field is located to the north, adjoining all of the south-easterly field along the river and a small section of the south-westerly field. The western, northern and eastern external boundaries of the three fields are marked with hedgerows, with the western hedgerow containing the most mature trees. Few shrubs/trees are located along the southern external boundary, which is mostly open towards the Delvin River. The internal boundaries are mostly shrubby, with the largest concentration of trees where the three fields meet. There is no hedge along a section at the eastern end of the boundary between the northern and south-eastern field.

13.77 Levels within the three fields range from 65m ordnance datum (OD) along the River Delvin, up to 115m OD along the northernmost boundary. It should however be noted that since the application area only covers parts of the three fields, no development will take place below 70m OD or above 107m OD.

13.78 The topography of the wider area is shaped by the Delvin River Valley and the adjoining upland areas. The river runs in a southwest-northeast direction through the centre of the study area. The upland areas cover approximately 15km$^2$ each to the northwest and southeast of Naul. These form part of a series of prominent ridgelines, including those around Garristown and Bellewstown. As mentioned above levels along the Delvin River are around 65m OD in the vicinity of the study area. To the north of the river the land rises to a highpoint of 155m AOD within 1km of the river and to the south to 143m AOD within 1.3km. Ridgelines across the upland areas with further highpoints ranging from 137m to 176m AOD ensure that the visibility of the application site is restricted to views within/along the river valley.

13.79 The main transport routes through the study area are the R108 regional road in a north-south and the R122 in and east-west direction. The two roads meet in Naul. Access to the M1 Motorway, approximately 5km east of Naul can be gained via the R122. A network of local roads provides access into the areas between these higher-class roads. Movement within the local landscape is most evident along the regional roads, particularly in the vicinity of Naul. Traffic/Movement along the smaller roads is infrequent.

13.80 The main settlement within the study area is Naul village, which consists of the historic main street and a number of modern housing estates. One-off housing and ribbon development is common within the wider landscape, due to the proximity to the M1 and easy access to Dublin, Balbriggan and Drogheda.

13.81 Human activity has strongly influenced the land use within the study area, in the form of agriculture. This is further emphasised by the many straight hedgerows marking field boundaries. On a smaller scale, human influences are visible in the form of roads, buildings and wooden electricity poles, as well as the communication mast on the highpoint beside the Fournocks Megalithic Tombs, which is a noticeable feature within the study area. On the whole, while this is an attractive rural landscape, in a good condition, there are few locations from where no man-made structures are visible.

### Aesthetic and Perceptual Aspects

13.82 Due to the sloping topography and many low-cut hedgerows, the scale of the landscape feels quite large in many locations, although typically restricted to the nearest ridgeline. In areas where roadside hedgerows were not recently cut and/or contain many trees and within wooded areas, the scale is locally reduced.

13.83 Due to the dominance of agricultural fields, bound by hedgerows, the colours and textures throughout the study area are generally simple and repetitive, but with no regular pattern. The study area is, however, scattered with patches where the complexity of colours and textures locally increases, e.g. where tillage fields, woodlands or areas of scrub are present. The colour palette is

dominated by multiple shades of green, with the tillage fields contributing some contrasting shades of browns and creams.

13.84 While the study area has an overall natural appearance, there is little sense of wildness or remoteness, due to the many signs of human activity, such as improved grassland, tillage, electricity poles, roads and the numerous residential properties. Also, traffic noise is frequently audible along the roads within the study area, particularly the regional roads, diminishing the sense of tranquility.

### Overall Character

13.85 The site assessment supports the inclusion of the site and its immediate context in the Bellewstown Hills LCA, as set out in the Meath Landscape Character Assessment.

### *Protected Nature Conservation Sites*

13.86 The National Parks and Wildlife Service (NPWS) website[9] 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. Two proposed Natural Heritage Areas (pNHA) are located just outside the study area, as listed in **Table 13-1** and illustrated on **Figure 13-1**.

**Table 13-1**
**Nature Conservation Sites**

| Type | Site Code | Site Name | Distance and Direction from Application Area |
|---|---|---|---|
| pNHA | 001576 | Cromwell's Bush Fen | 3.5 km northwest |
| pNHA | 001204 | Bog Of The Ring | 3.4km east |

## Visual Baseline

### Zone of Theoretical Visibility (ZTV)

13.87 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 section.

13.88 The ZTV, which illustrates the subtended vertical angle of visibility (refer to **Appendix 13-B**), was calculated for the application area, with the exception of the section of the access road, which runs along the existing farm track to the east of the main body of the site. The existing contours of the site were used. Considering that the site levels will be lowered rather than raised as part of the proposed development, there will be no change to the maximum extent of the area from where the application area is theoretically visible.

13.89 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 hedgerows and trees along the site boundaries, were included in the model.

13.90 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

[9] National Parks and Wildlife Service: https://www.npws.ie/

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.

13.91 The resulting ZTV is depicted on **Figure 13-2** and indicates that the proposed extraction works will be most likely visible from an area within 2km to the south and 3.5km to the southeast (i.e. areas marked in yellow, orange and red). Large parts of this area, however, cover the elevated areas of agricultural land southwest and southeast of Naul, which are not publicly accessible. While parts of the site are likely to be visible from this land, only few and infrequent visual receptors are present in those areas (i.e. the owners of the land) and these are therefore not assessed in detail.

13.92 The ZTV further indicates large areas of theoretical visibility up to 2km west and over 4km to the southwest and northeast of the application area, along the Delvin River valley. However, all of these fall within the low range of visibility (i.e. areas marked in grey) and are therefore likely to have no or very little actual visibility, due to intervening vegetation.

### *Outdoor Recreational Facilities within the Study Area*

13.93 The study area was searched for available outdoor recreational facilities, such as walking and cycling routes, as these provide an indication of potential visual receptors. The following facilities were identified:

- The Fournocks Megalithic Tombs are located, approximately 1.2km to the northwest of the application area. One of these tombs can be accessed from the local road to the south. The application area is not visible from this site, due to intervening topography.
- There are no other outdoor recreational facilities, such as long distance walking routes, located within the study area.

### Actual Visibility

13.94 The actual visibility of the application area, from the areas of visibility indicated by the ZTV mapping (**Figure 13-2**), was assessed during the field survey, concentrating on publicly accessible locations. This confirmed that the application area is fully screened in views from most publicly accessible locations, for which visibility is indicated on the ZTV. This is mainly due to intervening vegetation, but also due to built structures in the case of locations within Naul. These areas of no actual visibility include the residential properties along the local road to the west of the application area and the Architectural Conservation Area within the Naul village. As the existing application area (and therefore the proposed development) is not visible from either of these two locations, they are not included in the list of sensitive visual receptors.

13.95 The most open views of the application area can be gained from an 800m long section of the R122, directly across the Delvin River from the site. Partial views of the application area can be gained from a short section of the local road to the southwest of the application area, just north of the R122 and from a number of locations along the R108 to the north of the junction with the R122 and at the southern end of Naul.

13.96 Viewpoint photography was taken during the field surveys from several locations throughout the study area. Ten of these were selected to represent the range of available views, including some viewpoints illustrating how the site is (partially/fully) screened by intervening vegetation / topography. The location of the ten 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-J on Figures 13-3** to **13-8**). 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.

13.97 For two of the viewpoints, photomontages (PM) were prepared, illustrating the proposed development at four different stages throughout its operational life, in addition to the existing views, as described further below (also refer to **Viewpoints / Photomontages A-B** and the photomontage methodology provided in **Appendix 13-C**).

- **The Existing View** (November 2019; note: an up-to-date photograph from April 2024 is provided as well. However, since the existing landuse and topography has not changed since 2019, the photomontages produced for the previous application (P. Ref. AA191263), based on the 2019 photos, were not updated).
- **Year 4 – On completion of Extraction Phase 1:** The area covered by Phase 1 is fully extracted, but no restoration activities have yet taken place. Overburden and topsoil are stored in grass covered berms to the east of the Phase 1 extraction area.
- **Year 8 – On completion of Extraction Phase 2:** The area covered by Phase 2 is fully extracted and the northern section of Phase 1 is restored (i.e. northern and eastern slopes lowered to 3:1 (H:V), using some of the overburden and topsoil stored from stripping the Phase 1 area and the slopes and pit floor are grass seeded). Overburden and topsoil are stored in a grass covered storage berm to the east of the Phase 2 extraction area. The southern section of Phase 1 has not yet been restored, as the processing plant is located in this area, taking advantage of the screening provided by the ground and hedgerows retained, due to the archaeological buffer zone (note: the processing plant will stay in this location for the duration of the development, in order to minimise its visibility in views from the south/south-east).
- **Year 11 – On completion of Extraction Phase 3:** The area covered by Phase 3 is fully extracted and the south-eastern section of Phase 2 is restored (i.e. southern and eastern slopes lowered to 3:1 (H:V), using the overburden and topsoil stored from stripping the Phase 2 area and the slopes and pit floor grass seeded). Overburden and topsoil are stored in a grass covered berm to the south of the Phase 3 extraction area. The north-western section of Phase 2 has not yet been restored, as this is required to provide access between the processing plant and the Phase 3 extraction area.
- **Year 12 – On completion of all Restoration Works:** All plant and stockpiles are removed from the extraction areas and all slopes (with the exception of the western boundary of the Phase 1 area) are lowered to 3:1 (H:V), using all remaining overburden and topsoil stored from stripping the development area. The pit slopes and pit floor are grass seeded. Native hedgerows are planted to replace those sections of hedgerows removed to facilitate the development and thereby re-connect the retained hedgerows.

13.98 **Viewpoints A, B** & **C** represents views from a ca. 1km long section of the R122, south of the application area, as well as from ca. 8 adjoining residential properties. They are short distance views towards the ridgeline across the Delvin River. Tillage fields and associated hedgerows are visible sloping down towards the river, in the foreground, and further fields sloping up across the river, in the midground. Also, some areas of scrub (one associated with a former sand pit to the west of the site) are visible across the river, in the midground. Pasture fields and a mixed plantation are visible along the skyline, in the background of views. Most of the south-western and the south-eastern field, within which the application area is located, and varying parts of the northern field are visible as a narrow band across much of the midground of the available views.

13.99 **Viewpoint D** represents views from a ca. 200m long stretch of the local road to the southwest of the site and north of the R122. There are no residential receptors along this section of the road

(note: views of the application area from residential properties further north are fully screened by intervening vegetation). The views are short distance views towards the ridgeline across the Delvin River. Tillage fields and associated hedgerows are visible sloping towards the river in the foreground, partially blocking views of the lower slopes across the river. An area of scrub (associated with a former sand pit to the west of the site) is visible in the midground in the western half of the views. Pasture and tillage fields and a mixed plantation visible in front of and along the skyline, in the background of the views. Narrow sections of the most elevated parts of the south-western and the south-eastern field, within which the application area is located, and small parts of the northern field are visible, taking up a small area in the centre of views.

13.100 **Viewpoint E** illustrates how the application area is fully screened in views from the R122, beyond ca. 600m southwest of the site, despite being indicated on the ZTV mapping as having potential visibility. This is due to substantial screening from roadside and other intervening vegetation.

13.101 **Viewpoint F** represents viewpoints from within Naul village. It shows that even from locations where gaps in existing vegetation / in between structures allow views into the wider landscape, the proposed development will be fully screened, due to other intervening vegetation and topography. This is with the exception of a small number of views from elevated locations at the southern end of the village (refer to Viewpoint G).

13.102 **Viewpoint G** represents views from a small number of locations, including residential properties, at the southern end of Naul village. Views towards the site from the R108 (i.e. when driving in a northern direction on the left side of the road) and from the public footpath along the R108 at the southern end of Naul are generally screened by roadside vegetation. However, the most elevated parts of the site can be glimpsed in views from a small number of locations, such as Viewpoint G, at the entrance to a private property. In the available views, the sloping ground down to Naul village, comprising a mix of properties, private gardens, fields and the road are visible in the foreground. The ridgeline above the application area is visible in the background, with the northern field, which forms part of the site, taking up a small part of the slope visible to the front of the ridgeline.

13.103 **Viewpoint H** illustrates how the application area is fully screened in views from the R122, to the east of Naul village and view from locations to the east in general, by intervening topography and vegetation. This includes a section of the R122, from which views are protected in the Fingal CDP.

13.104 **Viewpoint I** & **J** represent glimpsed views along ca. 800m of the R108 to the north of the proposed site entrance, as well as from ca. 9 properties along this part of the road, i.e. where not blocked by roadside/intervening vegetation. Any of the available views (except for those in the vicinity of the site entrance) are short distance views along the undulating northern slopes of the Delvin River valley. Tillage and pasture fields and associated hedgerows are visible in the foreground and midground, blocking views of more distant ridgelines in most views. The eastern halves of the south-eastern and the northern field, within which the application area is located, are visible as a very narrow band along/below the skyline. The southwestern field is fully screened by topography. In the vicinity of the site entrance only said entrance, as well as the entrance to the existing Kilsaran concrete plant on the eastern side of the R108 are visible, while the fields within which the proposed extraction area is located are fully screened.

## IMPACT ASSESSMENT

13.105 This section sets out the effects that the proposed development would have on both landscape and visual receptors (as identified below), during the operational stage of the sand and gravel pit, including all restoration activities, as well as during the post-operational, when all works, including

restoration, are complete. It is based on the detailed project description and layout drawings contained in Chapter 2 of this EIAR.

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

### *Operational Stage*

13.106 The operational stage of the proposed development, for the purpose of this assessment, is considered to include the proposed extraction period (11 years), as well as the proposed final restoration period (1 year), i.e. a total of 12 years.

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

- Phased stripping of soil and overburden from the proposed extraction area and associated construction of temporary storage berms (to be grass seeded) in a number of locations along the boundaries of the extraction area;
- Phased removal of two sections of internal scrubby hedgerows (ca. 180m in total);
- Changes to the landform, due to the proposed extraction works, resulting in lowering of the central parts of the existing fields by up to 15m; and
- Phased restoration of the site to an agricultural land use, including the phased planting of c. 430 m of native hedge. In order to keep the handling/movement of topsoil and overburden to a minimum, the topsoil and overburden stripped from any one area will be used in the restoration of that area. This will provide sufficient topsoil material for each of the areas, which will then be re-used for tillage or seeded with a suitable agricultural grass seed. The phased extraction / restoration will ensure that the areas actively worked will be kept to a minimum at any one time. Refer to **Figure 2-6** - Proposed Final Restoration, in Chapter 2 of this EIAR, for more detail.

13.108 It should be noted that lighting present within the site will be headlights on the machinery used for the extraction works. Lighting would only be in use for wintertime operations, when darkness has fallen, within the proposed site operating hours of 08.00 hours until 18.00 hours Monday to Friday and until 14.00 hours on Saturdays. There will therefore be a period where such lighting will be required for up to 1 hour in the morning and up to 2.5 hours in the evening, during periods in winter. 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 & visual effects:

- The final landform, which will have a more regular appearance, compared with the irregular undulations in the surrounding landscape. However, overall, the slopes within the site will not be dissimilar to those present in the vicinity of the site, in particular the steep slopes along the Delvin River. It will take some time for the agricultural land to be fully re-established and for the proposed hedgerows within the restored site to mature. Ultimately, these measures will

help soften the appearance and enhance the integration of the extraction area into the surrounding landscape.

## Sensitive Receptors

### *Landscape Receptors*

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

- Individual elements:
  - Three arable fields and associated hedgerows
- Overall Character:
  - Meath LCA 9 – Bellewstown Hill / Fingal High Lying LCT

13.112 No distinctive or highly sensitive aesthetic / perceptual aspects were identified in the vicinity of the application area, such as remoteness, wildness or tranquillity. Also, the proposed development will have a similar appearance to tillage fields when recently ploughed and therefore will not be in contrast to the colours/textures typically present within the study area. The scale of the landscape within the study area will not be affected. For these reasons no aesthetic and perceptual aspects were identified as sensitive landscape receptors to be brought forward to the assessment of landscape effects.

13.113 As there is a visual separation between the application area and the Meath LCA 7 – Coastal Plain, both due to topography and vegetation, this LCA is not considered a sensitive landscape receptor and therefore not brought forward to the assessment of landscape effects.

### *Visual Receptors*

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

- Residents:
  - Ca. 8 properties in the vicinity of the R122, south of the site (represented by **Viewpoints A, B** & **C** on **Figures 13-3**, **13-4** & **13-5**);
  - Ca. 3-5 properties along the elevated sections of R108, at the southern end of Naul (represented by **Viewpoint G** on **Figure 13-7**); and
  - Ca. 8 properties along the R108, north of the site entrance (represented by **Viewpoints I** & **J** on **Figure 13-8**).
- Vehicle users:
  - Road users along a ca. 1km section of the R122 south of the site (represented by **Viewpoints A, B** & **C** on **Figures 13-3**, **13-4** & **13-5**);
  - Road users along a ca. 200m section of the local road southwest of the site and north of the R 122 (represented by **Viewpoint D** on **Figure 13-5**);
  - Road users along a ca. 200m section of the R108 at the southern end of Naul (represented by **Viewpoint G** on **Figure 13-7**);

- Road users along a ca. 800m section of the R108 north of the site entrance (represented by **Viewpoints I** & **J** on **Figure 13-8**).

## Operational Stage Landscape Effects

### *Landscape Sensitivity*

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

13.116 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.

13.117 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 13-2**, below.

**Table 13-2**
**Evaluation of the Value of the Site and its Immediate Context**

| Factor | Assessment | Notes |
|---|---|---|
| **Natural Heritage** | LOW | The site itself is not designated for ecological reasons. While there are some hedgerows with mature trees and areas of scrub in the local area, the natural heritage value of the site is considered low, due to its main use for tillage. |
| **Cultural Heritage** | COMMUNITY | No designated heritage assets are located within the site. Some potential areas of archaeological interest were found, as part of the site investigation works and were subsequently excluded from the extraction area. |
| **Landscape condition** | COMMUNITY | The agricultural fields within and immediately surrounding the application area are in a good condition with well-tended fields and associated hedgerows and a lack of incongruous features. |
| **Associations** | LOW | No known associations with art, literature or events. |
| **Distinctiveness** | LOW | The application area and surrounding land comprises a common Irish undulating agricultural landscape, with no distinctive features conferring a strong sense of place. |
| **Recreational** | LOW | The site is not publicly accessible and there are no locally promoted recreational walks or scenic routes in its vicinity. |
| **Perceptual (Scenic)** | LOW | The site / local landscape does not have strong aesthetic qualities and there are no memorable or distinctive views which include parts of the site. |
| **Perceptual (Wilderness and tranquillity)** | LOW | The site and immediate surrounding area have no strong perceptual value, such as remoteness, wildness or tranquillity, due to the presence of residential and farm buildings, roads and other human influences (e.g. the farmed land). |
| **Functional** | COMMUNITY | The hedgerows and scrub/woodland areas within and surrounding the site, including some mature trees, have a function as part of the local green infrastructure network and as a carbon sink (on a local scale). |

13.118 Using the factors set out in **Table 13-2**, it has been concluded that the site and its immediate context has some value at the community level, in particular regarding the cultural heritage and

contributions to the green infrastructure network. However, there are no aspects that would support the elevation of the value of the local landscape above the community level.

13.119 The susceptibility of each of the landscape receptors is assessed in **Table 13-3**. This is combined with the previously assessed value and a judgement of the overall sensitivity provided.

**Table 13-3**
**Sensitivity of Landscape Receptors**

| Landscape Receptors | Value | Susceptibility | Overall Sensitivity |
|---|---|---|---|
| **Individual Elements** | | | |
| 3 arable fields and associated hedgerows | **COMMUNITY** | **HIGH**<br>The susceptibility of the affected sections of the pasture fields and associated hedgerows to the proposed works is high, as they would be removed. | **MEDIUM** |
| **Overall Character** | | | |
| Meath LCA 9 / Fingal High Lying LCT | **LOCAL AUTHORITY**<br>(Both described as high value in the respective Landscape Character Assessment, which are therefore of importance at Local Authority Level; i.e. not comparable with the national / international levels of value of national parks or World Heritage Sites) | **MEDIUM**<br>Area to north of Delvin River described as being able to *"accommodate a certain amount of change"* in Meath Landscape Character Assessment. Area to the south of the river described as having *"high sensitivity to development"* in Fingal Landscape Character Assessment (note: the proposed development is not located within this area).<br>The local characteristics of the landscape i.e. worked fields with associated hedgerows, are considered to be able to accommodate some small scale and low-rise development. | **MEDIUM** |

### *Magnitude of Landscape Change*

13.120 **Table 13-4** describes the size and 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 13-4**
**Magnitude of Landscape Change**

| Landscape Receptors | Factors | Magnitude of Change |
|---|---|---|
| **Individual Elements** | | |
| 3 arable fields and associated hedgerows | Size & Scale: **SMALL**<br>Geographical Extent: **SMALL**<br>Duration / Reversibility: **MEDIUM -TERM – REVERSIBLE**<br>**Notes**: The proposed development would result in the loss of parts of three tillage fields and some associated internal hedgerows, which are mostly scrubby with few trees. While the loss of tillage land will be large within the site, this is a small proportion, considering the large areas of such land in the vicinity of the site. The loss of hedgerows comprises a very small proportion | **SLIGHT** |

| Landscape Receptors | Factors | Magnitude of Change |
|---|---|---|
| | of those to be retained along the boundaries of the application area and within the archaeological buffer zones, most of which contain larger / more mature trees. Overall, the composition/balance of local landscape elements will not change. The changes to the landscape elements would influence the landscape at a local level, i.e. would be focused on the site and its immediate vicinity. The extraction area will be restored to an agricultural use at the end of the operational period, which is of a relatively short duration. Also, native hedges will be planted across the pit floor, as part of the restoration works, to reinstate the former field boundaries. | |
| **Overall Character** | | |
| Meath LCA 9 / Fingal High Lying LCT | Size & Scale: **SMALL**<br>Geographical Extent: **SMALL**<br>Duration / Reversibility: **MEDIUM-TERM – REVERSIBLE**<br>**Notes**: The sand and gravel pit will be a new element in the local landscape, albeit another pit was present in a neighbouring field previously and the disturbed ground could be compared to the fields being ploughed. Considering the vast extend of the LCA / LCT, the overall composition / balance of the landscape and therefore its key characteristics would not be changed. The change would influence the landscape at a local level, i.e. within the Delvin River Valley, but not the wider landscape. While the changes to the landform will remain, the land use will be fully restored to agricultural land and associated hedgerows, on a phased basis throughout the operational stage. | **SLIGHT** |

### *Assessment of Landscape Effects and Significance*

13.121 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, are provided in **Table 13-5** below. The assessment also includes a judgment of the nature of the effect (i.e. negative/positive/neutral):

**Table 13-5**
**Assessment of Landscape Effects**

| Landscape Receptors | Sensitivity | Magnitude | Landscape Effects | Nature of Effect |
|---|---|---|---|---|
| **Individual Elements** | | | | |
| 3 arable fields and associated hedgerows | MEDIUM | SLIGHT | **MINOR** | Negative |
| **Overall Character** | | | | |
| Meath LCA 9 / Fingal High Lying LCT | MEDIUM | SLIGHT | **MINOR** | Negative |

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

## Post – Operational Stage Landscape Effects

13.123 At the post-operational stage, the levels within the extraction area will remain permanently changed by up to 15m. However, the agricultural land use will be reinstated for the majority of the application area and the restored landform will tie in smoothly with the surrounding

topography, at this stage. This will have been achieved by re-grading all pit slopes, with the exception of the north-western extraction area boundary, to 1:3 (V:H) as part of the restoration works. The areas in the vicinity of the top and the bottom of the bank will have been rounded to create a natural looking landform.

13.124 The steeper pit slopes, including two benches, will be retained along the western boundary of the northern field, due to the restrictions of space. However, this level change will be masked to some extent by a hedgerow, which will have been planted on the upper bench, at an early stage of the development. The loss of hedgerows will be further compensated by internal hedgerows, in the same locations as those to be removed, as part of the extraction works. As these hedgerows mature the site will more and more merge with the surrounding landscape.

13.125 As a result, the landscape effects on all landscape receptors will reduce to **NEGLIGIBLE** at the post-operational stage.

## Operational Stage Visual Effects

### *Visual Receptor Sensitivity*

13.126 The value placed on each of the types of visual receptors identified above is described in **Table 13-6** below. Also, the susceptibility to change of each of the receptor types (as per the LVIA Methodology in **Appendix 13-A**) is described and a judgement of the overall sensitivity made.

**Table 13-6**
**Sensitivity of Visual Receptors**

| Visual Receptors | Value | Susceptibility | Overall Sensitivity |
|---|---|---|---|
| **Residents** | | | |
| Residential receptors along the R122 west of Naul and along the R108 at the southern end of Naul (represented by **Viewpoints A, B, C** & **G**) | **MEDIUM** (Views along the relevant section of the R122 and R108 are designated for protection in the Fingal CDP, but not promoted by signage, on maps or in tourist literature.) | **HIGH** (Particularly in views from gardens and living rooms) | **MEDIUM-HIGH** |
| Residential receptors along the R108 north of Naul (represented by **Viewpoints I** & **J**) | **LOW** (No designated or locally promoted views) | **HIGH** (Particularly in views from gardens and living rooms) | **MEDIUM** |
| **Road Users** | | | |
| Road users along the R122 west of Naul and along the R108 at the southern end of Naul (represented by **Viewpoints A, B, C** & **G**) | **MEDIUM** (Views along the relevant section of the R122 and R108 are designated for protection in the Fingal CDP, but not promoted by signage, on maps or in tourist literature.) | **MEDIUM** (Views may be briefly focused on landscape, due to openness of views) | **MEDIUM** |
| Road users along the local road southwest of the stie and R108 north of Naul (represented by **Viewpoints D, I** & **J**) | **LOW** (No designated or locally promoted views) | **LOW** (Views unlikely to be focused on landscape) | **LOW** |

### *Magnitude of Visual Change*

13.127 **Table 13-7** describes the size and scale, geographical extent and duration/reversibility of the visual effects for each visual receptor, all of which contribute to the assessment of the magnitude of these effects.

**Table 13-7**
**Magnitude of Visual Change**

| Visual Receptors | Factors | Magnitude of Change |
|---|---|---|
| **Residents & Road users** | | |
| 8 properties & 1km along R122 south of site **(Viewpoints A, B & C)** | Size & Scale: **MEDIUM**<br>Geographical Extent: **SMALL**<br>Duration / Reversibility: **MEDIUM -TERM – REVERSIBLE**<br>**Notes:** The changes in views (i.e. the phased stripping, extraction and restoration of the different parts of the site) will take place at a close distance, within a horizontal strip below the skyline, taking up approximately a quarter in height of the ground visible in the views. The skyline will not be affected by any of the works.<br>For more than half of the extraction period (i.e. up to Year 7), the works will be contained within the eastern half of the site, with the southwestern field unaffected. By the time the extraction area expands in a western direction, the northern section of the site and part of the south-eastern field will already have been restored, thereby minimising the overall area of actively worked ground. The visible work area will be in scale with the fields present in the surrounding landscape at any one time (refer to Viewpoint/Photomontage A & B).<br>The sections of hedgerow lost are a small proportion of the total hedgerows/vegetation visible in the views.<br>The colour and texture of the extraction area will be similar to when the agricultural fields are freshly ploughed and will therefore not be a stark contrast to the existing features in the views.<br>The overall composition of the views will be slightly altered, as the landform changes and the existing internal hedgerows will be removed and replaced at the new lower site levels.<br>The views would be experienced by the residents of a limited number of properties and by road users along a 1km section of this road. While this is a busy road and views are mostly open, the number of viewers will be restricted, as road users usually travel at speed along this section of road.<br>The changes will be experienced for the duration of the 12-year operational period. While the changes to the landform will remain, the site will be restored to an agricultural use, including associated hedgerows, by the end of the operational period, which will support its integration into the available views. | **SLIGHT** |
| 3-5 properties & 200m along R108 south of Naul **(Viewpoint G)** | Size & Scale: **NEGLIGIBLE**<br>Geographical Extent: **NEGLIGIBLE**<br>Duration / Reversibility: **TEMPORARY/SHORT-TERM – REVERSIBLE**<br>**Notes:** The proposed development will be largely screened in views from these properties, due to existing vegetation along the boundaries of these | **NEGLIGIBLE** |

| Visual Receptors | Factors | Magnitude of Change |
|---|---|---|
| | properties, as well as intervening topography and vegetation. Only the most elevated section of the site; i.e. part of the northern field, is visible in the background as a small portion of the overall view. Considering the distance to the site, the activities within the site will have a similar appearance to agricultural works and will therefore not become a distinctive feature.<br>Overall, the composition of the views will be barely altered.<br>The views would be experienced by the residents of a very limited number of properties and along a very limited section of this road.<br>The northern section of the site will be restored by year 7 thereby reducing the period within which the changes will be most noticeable. While the changes to the landform will remain, the site will be restored to an agricultural use, including associated hedgerows, which will support its integration into the available views. | |
| 8 properties and 800m along R108 north of Naul **(Viewpoints I & J)** | Size & Scale: **NEGLIGIBLE**<br>Geographical Extent: **SMALL**<br>Duration / Reversibility: **MEDIUM -TERM – REVERSIBLE**<br>**Notes:** The changes in views (i.e. HGV movements along the access road, topsoil/overburden storage berm and some of the soil stripping activities) will take place at a close distance, within a narrow strip, just below the skyline, taking up a small portion of the overall views.<br>The visible elements of the proposed development will be of a similar mass and scale than other existing elements within the views (e.g. the storage berms will have a low linear shape, similar to the hedgerows and narrow strips of fields visible). The extraction void will not be visible in these views.<br>The colour and texture of the topsoil/overburden storage berms will be similar to the fields visible, in particular when grass seeded and will therefore not be a stark contrast to the existing features in the views.<br>The changes will barely alter the composition of the views.<br>The changes will be glimpsed through gaps in the vegetation surrounding local properties and would be experienced by the residents of a limited number of properties. They would also be experienced along a limited section of this road, glimpsed through gaps in the roadside hedgerows and by road users usually travelling at speed along this section of road.<br>The changes will be experienced for the duration of the 12-year operational period. The visible sections of the site will be restored to an agricultural use, by the end of the operational period, which will support its integration into the available views. | **SLIGHT / NEGLIGIBLE** |
| **Road Users** | | |
| 200m along local road southwest of site **(Viewpoint D)** | Size & Scale: **NEGLIGIBLE**<br>Geographical Extent: **NEGLIGIBLE**<br>Duration / Reversibility: **MEDIUM -TERM – REVERSIBLE**<br>**Notes:** The changes in views from this section of road (i.e. the phased stripping, extraction and restoration of the northern section of the site) will take place at a close distance, within a small area below the skyline, taking up a small portion of the overall views. | **NEGLIGIBLE** |

| Visual Receptors | Factors | Magnitude of Change |
|---|---|---|
| | The visible sections of the site are smaller than other elements within the views (e.g. the fields in the foreground and background) and the visible works will therefore be of a small scale.<br>The sections of hedgerow lost are a minute proportion of the total hedgerows/vegetation visible in the views.<br>The colour and texture of the extraction area will be similar to when the agricultural fields are freshly ploughed and will therefore not be a stark contrast to the existing features in the views.<br>The changes will barely alter the composition of the views.<br>The changes will be glimpsed above the roadside vegetation and will be experienced along a very limited section of this road, which is typically used by local residents only.<br>The changes will be experienced for the duration of the 12-year operational period. While the changes to the landform will remain, the site will be restored to an agricultural use, including associated hedgerows, by the end of the operational period. | |

### *Assessment of Visual Effects and Significance*

13.128 An assessment of the visual effects during the operational phase, based on the sensitivity of each of the visual receptors combined with the magnitude of change experienced by each of them, are provided in **Table 13-8** below. The assessment also includes a judgment of the nature of the effect (i.e. negative/positive/neutral):

**Table 13-8**
**Assessment of Visual Effects**

| Visual Receptor | Sensitivity | Magnitude | Visual Effects | Nature of Effect |
|---|---|---|---|---|
| **Residents** | | | | |
| 8 properties south of site **(Viewpoints A, B & C)** | MEDIUM / HIGH | SLIGHT | MODERATE | Negative |
| 3-5 properties along R108 south of Naul **(Viewpoint G)** | MEDIUM / HIGH | NEGLIGIBLE | MINOR | Negative |
| 8 properties along R108 north of Naul **(Viewpoints I & J)** | MEDIUM | SLIGHT / NEGLIGIBLE | MINOR | Negative |
| **Road Users** | | | | |
| 1km of R122 south of site **(Viewpoints A, B & C)** | MEDIUM | SLIGHT | MINOR | Negative |
| 200m along local road southwest of site **(Viewpoint D)** | LOW | NEGLIGIBLE | NEGLIGIBLE | Negative |
| 200m along R108 south of Naul **(Viewpoint G)** | MEDIUM | NEGLIGIBLE | MINOR / NEGLIGIBLE | Negative |
| 800m along R108 north of Naul **(Viewpoints I & J)** | LOW | SLIGHT / NEGLIGIBLE | NEGLIGIBLE | Negative |

13.129 None of these visual effects are assessed to be significant, including the moderate effect on residential properties to the south of the site, due to the small group of receptors affected by these moderate effects.

## Post – Operational Stage Visual Effects

13.130 At the post-operational stage, with the majority of the pit slopes re-graded to 1:3 (H:V) and the majority of the site restored to an agricultural land use, as well as the new hedgerows within the site and along the north-western boundary maturing, the changes within all existing views will have been softened and the restored site will integrate into existing views.

13.131 In views from the properties and R122 to the south of the site the changes to the landform will become less noticeable, the more often the site is ploughed and with different crops being grown within. The new hedges will become more prominent features, as they mature, further softening the appearance of the site. As a result, the visual effects on these views will be reduced to **MINOR / NEGLIGIBLE**, as the post-operational stage progresses.

13.132 In all other views, the changes within the application area, once restored will be almost imperceptible, in particular as the new hedges mature. As a result the visual effects on all remaining views will be reduced to **NEGLIGIBLE / NONE**, as the post-operational stage progresses.

## Direct/Indirect Effects

13.133 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 areas surrounding the application site.

## Compliance with relevant Planning Policies

### *Co. Meath*

#### Woodlands, Hedgerows and Trees

13.134 The proposed development, by its nature, will result in the loss of any vegetation located within the extraction area. However, the loss of hedgerows within the site was reduced as far as possible and a greater length of diverse native hedgerows will be planted, as part of the phased restoration proposals.

13.135 In view of the above, the development is considered to be in compliance with **HER POL 37** and **HER POL 37** of the current Meath CDP.

#### Landscape

13.136 The above LVIA was carried out by a suitably qualified professional (Anne Merkle, MILI, with 20+ years' experience in LVIA) and with regard to the Meath Landscape Character Assessment, including the value, character, importance, etc. listed for the study area. Also, as described above the removal of hedgerows within the site was minimised, as far as possible.

13.137 In view of the above, the development is considered to be in compliance with **HER POL 52, HER POL 53, HER OBJ 49** and **HER OBJ 50** of the current Meath CDP.

### Extractive Industry and Building Materials Production

13.138 The landscape and visual effects due to the proposed development were assessed as moderate or less for all sensitive landscape and visual receptors and not significant. This assessment took account of the Meath Landscape Assessment and sensitivities of the study area stated within. It is considered that the proposed development "*would not unduly impinge on the visual amenity or environmental quality in the area" or "not unduly compromise the environmental quality of the county*" in landscape and visual terms. Also, a detailed phased restoration programme is provided for the whole extraction area and associated temporary soil / overburden storage areas. This sets out rehabilitation of the site to a suitable agricultural land use.

13.139 In view of the above, the development is considered to be in compliance with **RD POL 22, RD POL 23, RD POL 24, RD POL 26** and **RD POL 27** of the current Meath CDP.

## *Co. Fingal*

### Quarries, Aggregate Extraction and Land Reclamation

13.140 While the development will not be located within the Fingal county boundary, it is considered to be in compliance with the Fingal **Policy EEP27** and **Objective EE074**, in landscape and visual terms, as no significant landscape or visual effects were identified.

### Landscape Character Assessment

13.141 The LVIA concluded that the landscape effects on the Fingal LCT, due to the proposed development, will be minor during the operational stage, reducing to negligible for all landscape receptors at the post-operational stage. Hence, it can be reasoned that the landscape character/quality and the uniqueness/distinctiveness of the relevant landscape character types, including the character of the Fingal Highly Sensitive Areas, will be preserved. Further to that not skylines or ridgelines will be affected by the proposed development.

13.142 In view of the above, the development is considered to be in compliance with **Policy GINHP25, Objective GINHO55, Objective GINHO56, Objective GINHO57, Objective GINHO58** and **Objective GINHO59** of the current Fingal CDP.

### Views and Prospects

13.143 The above LVIA was carried out with regard to the views and prospects to be preserved listed in the Fingal CPD. The assessment concluded that the visual effects on the views to be preserved along the R122 to the south of the site will be moderate for the duration of the development, and effect not considered significant. The effects will reduce to minor at the post-operational stage, i.e. after 12 years. In other words, the designated views will be partially and temporarily altered, but their overall composition/appearance will be returned to a state similar to the existing views within 12 years. It can therefore be reasoned that the special amenity value will ultimately be preserved. **Note**: there will be glimpsed views of the proposed development from the protected views along the R108 at the southern edge of Naul, but these were assessed to experience minor /negligible effects only.

13.144 In view of the above, the development is considered to be in compliance with **Policy GINHP26, Objective GINHO60** and **Objective GINHO61** of the current Fingal CDP.

## Unplanned Events (i.e. Accidents)

13.145 It is highly unlikely that any unplanned events within the application area would result in noticeable / significant landscape or visual effects.

## Cumulative / Synergistic Impacts

13.146 A C&D recycling facility on the eastern side of the R108 was granted permission (P. Ref. 180893) in February 2019. The entrance to this facility adjoins the existing Kilsaran concrete plant at Naul, to which the material extracted from the proposed sand & gravel pit will be delivered. The C&D facility, is likely to result in 8 additional HGV movements through Naul per day. However, the proposed sand & gravel pit, will result in a significant reduction of HGV movements through Naul, as deliveries from more distant sand & gravel pits will not be required for the duration of the proposed development, resulting in a net loss of HGV movements. It can therefore be reasoned that there will be no cumulative impact on visual amenity within Naul, due to the two developments.

13.147 Along the short section of the R108 between the proposed site entrance and the existing Kilsaran concrete plant there will be a small increase of HGV movements (i.e. 8 per day). However, considering the short section of road (ca. 70m) and small increase, the cumulative impact on visual amenity is considered negligible.

13.148 Further to the above there are no know other existing developments or developments currently in the planning process that would result in cumulative landscape or visual impacts in combination with the proposed sand and gravel extractions at Naul.

## Transboundary Impacts

13.149 The proposed development is not located in the vicinity of a national boundary. Therefore, transboundary landscape or visual impacts will not arise.

## Interaction with Other Impacts

13.150 There are no known interactions with other impacts.

## 'Do-nothing Scenario'

13.151 If the proposed development is not carried out, the application site will continue to be used for agricultural purposes, resulting in no landscape/visual change, when compared with the current conditions.

# MITIGATION MEASURES

## Operational Stage

13.152 The proposed phased extraction and restoration of the application area will ensure that landscape and visual impacts are kept to a minimum, at all times during the operational stage of the development. Please refer to Chapter 2 of this EIAR and **Figure 2-5** – Restoration Plan for a detailed description of the restoration activities.

13.153 In summary, the site will be extracted in three phases and most of the areas within each phase will be restored to an agricultural land use, in tandem with the extraction works moving on to the next

phase. On completion of all extraction activities, the remainder of the site will be restored to an agricultural land use. As part of the restoration works, the majority of the pit slopes will be re-graded to 3:1 (H:V), so that these areas can be returned to an agricultural use as well. In order to compensate the loss of approximately 180m of existing hedgerows, a total of 430m of new internal diverse native hedgerows will be planted along the north-western boundary and re-instating the internal boundary lines.

13.154 No additional mitigation measures are considered necessary during the operational stage of the proposed development.

### Post – Operational Stage

13.155 All restoration works will be completed during the operational stage of the development and the site therefore will have been returned fully to an agricultural use at the post operational stage. The hedgerows will take a number of years to mature, but no further mitigation measures are found necessary at this stage of the proposed development.

## RESIDUAL IMPACT ASSESSMENT

### Operational Stage

13.156 As no additional mitigation measures are proposed during the operational stage, the residual levels of landscape and visual impact will be as per the assessment above. In summary, the assessment has found that the proposed development will have minor/negligible landscape effects during the operational stage (i.e. levels of impact not considered to be significant).

13.157 There will be no visual impact on views from publicly accessible locations to the west and north of the application area and beyond 1km to the south and east. The visual effects on views from a small number of locations within 1km to the south and east ranges from moderate to negligible.

### Post – Operational Stage

13.158 As no additional mitigation measures are proposed during the post-operational stage, the residual landscape and visual effects will be as per the assessment above. In summary, on completion of all restoration activities, and as the hedgerows within the application area mature the predicted landscape effects will reduce to minor/negligible and the visual effects will reduce to minor/none.

## MONITORING

13.159 Apart from the proposed 2-year aftercare period, as part of the Restoration Proposals (refer to **EIAR Figure 2-6**), 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

# APPENDICES

**Appendix 13-A**
Method used in Assessing Landscape and Visual Impact Effects

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

# Appendix 13-A – Method used in Assessing Landscape and Visual Impact 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[10] (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 deals specifically with 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.

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.

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.

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



[10] Landscape Institute and Institute of Environmental Management and Assessment 'Guidelines for Landscape and Visual Impact Assessment' (Third Edition, April 2013)

## Landscape Effects

Landscape, as defined in the European Landscape Convention, is "*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 aspects (for example sense of naturalness, tranquillity or openness), or, at a larger scale, the character of a defined character area or landscape type. Designated landscapes, such as National Parks or Areas of Outstanding Natural Beauty (AONBs), may also be treated as landscape receptors, in which case attention is also given to effects on their special qualities.

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, remove or alter 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. The criteria and definitions used in making these judgements are set out below.

### Landscape Sensitivity

The sensitivity of landscape receptors is assessed by combining assessments of the value attached to each receptor and the susceptibility of each receptor to the type of change which is proposed. (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 sometimes be different to that suggested by the presence or absence of a 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. Consideration should be given to their settings especially where these contribute to the special qualities for which the landscape is valued. | National |
| Local Landscape Designations (such as Areas of High Amenity) included in local planning documents; or other landscapes of identified value | Areas of landscape identified as having value, which are either recognised at the local authority level by a local designation or other equivalent recognition of value OR are landscapes considered to have elevated value, having regard to the criteria in Table 2 below and/or by virtue of demonstrable physical attributes. | Local Authority |
| Undesignated landscapes | Landscapes which do not have any formal designation, and which are not considered to have demonstrable physical attributes that elevate their value, but which may be valued by local communities. | Community |
| Undesignated landscapes with negative attributes | Landscapes with no designations or demonstrable physical attributes that elevate their value, which are in poor condition or are degraded or fundamentally altered by presence of man-made structures judged to be intrusive. | Low |

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

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

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

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

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

### Susceptibility of Landscape Receptors to Change

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

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

**Table 13A-3: Landscape Receptor Susceptibility to Change**

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

### Defining Sensitivity

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

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

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

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

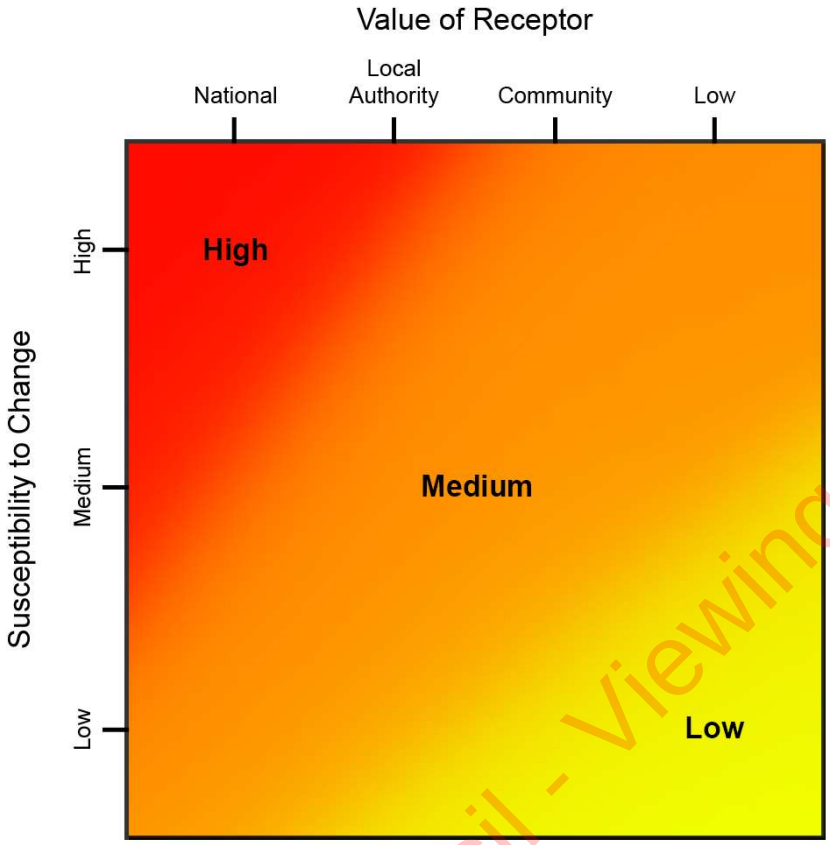



**Table 13A-4: Example Levels of Sensitivity defined by Value and Susceptibility of Landscape Receptors**

| Sensitivity | Criteria |
|---|---|
| High | The landscape receptor is of international or national value and is considered to have high susceptibility to the effects of the proposed development<br>OR<br>The landscape receptor is of national value and is considered to have medium susceptibility to the effects of the proposed development |

| Sensitivity | Criteria |
|---|---|
| Medium | The landscape receptor is of international or national value and is considered to have low susceptibility to the effects of the proposed development<br>OR<br>The landscape receptor is of local authority value and is considered to have high susceptibility to the effects of the proposed development<br>OR<br>The landscape receptor is of local authority value and is considered to have medium susceptibility to the effects of the proposed development<br>OR<br>The landscape receptor is of community value and is considered to have high susceptibility to the effects of the proposed development |
| Low | The landscape receptor is of local authority value and is considered to have low susceptibility to the effects of the proposed development<br>OR<br>The landscape receptor is of community value and is considered to have medium susceptibility to the effects of the proposed development<br>OR<br>The landscape receptor is of community value and is considered to have low susceptibility to the effects of the proposed development |

### 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.

### 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 | There would be a large level of change in landscape character, and especially to the key characteristics if, for example, the proposed development:<br>• becomes a dominant feature in the landscape, changing the balance of landscape characteristics; and/or<br>• would dominate important visual connections with other landscape types, where this is a key characteristic of the area. |
| Medium level of landscape change | There would be a medium level of change in landscape character, and especially to the key characteristics if, for example:<br>• the proposed development would be more prominent but would not change the overall balance or composition of the landscape; and/or<br>• key views to other landscape types may be interrupted intermittently by the proposed development, but these views would not be dominated by them. |
| Small level of landscape change | There would be a small level of change in landscape character, and especially to the key characteristics if, for example:<br>• there would be no introduction of new elements into the landscape and the proposed development would not significantly change the composition/balance of the landscape. |
| Negligible/no level of landscape change | 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. |

### 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 further from the site itself. |
| Medium extent of landscape change | Landscape change extends beyond the site boundaries. |
| Small extent of landscape change | localised change, 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 (May 2022).

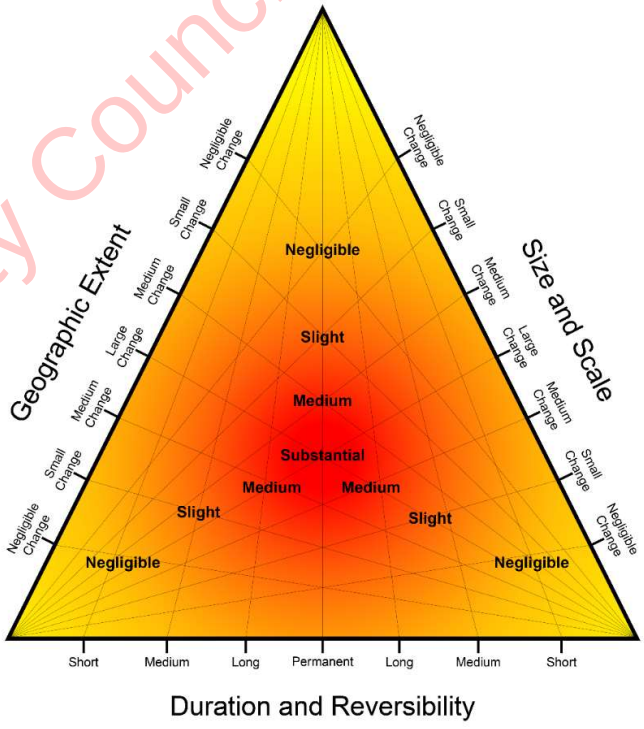
**Table 13A-7: Duration and Reversibility**

| 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**

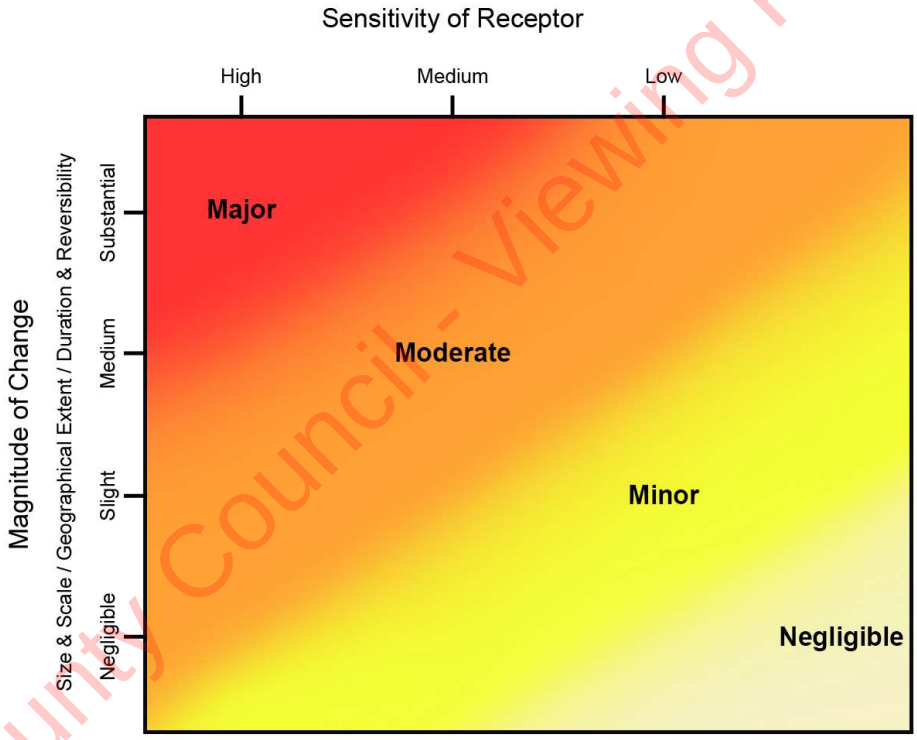


## Assessment of Landscape Effects

The assessment of 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 public rights of way 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. They may include:

- Communities within settlements (i.e. towns and villages);
- Residents of individual properties and clusters of properties outside settlements;
- 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.

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, ideally 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 | Criteria |
|---|---|
| High | Views from nationally (and in some cases internationally) known viewpoints, which:<br>• have some form of planning designation; or<br>• are associated with internationally or nationally designated landscapes or important heritage assets; or<br>• are promoted in sources such as maps and tourist literature; or<br>• are linked with important and popular visitor attractions where the view forms a recognised part of the visitor experience; or<br>• have important cultural associations.<br>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:<br>• have some form of local planning designation associated with locally designated landscapes or areas of equivalent landscape quality; or<br>• are promoted in local sources; or<br>• are linked with locally important and popular visitor attractions where the view forms a recognised part of the visitor experience; or<br>• have important local cultural associations.<br>Also, may include views judged by the assessors to be of medium value. |
| Low | Views from viewpoints which, although they may have value to local people:<br>• have no formal planning status; or<br>• are not associated with designated or otherwise high-quality landscapes; or<br>• are not linked with popular visitor attractions; or<br>• have no known cultural associations.<br>Also, may include views judged by the assessors to be of low value. |

### Susceptibility of Visual Receptors to Change

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

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

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 | Criteria |
|---|---|
| High | Residents;<br>People engaged in outdoor recreation where their attention is likely to be focused on the landscape and on particular views;<br>Visitors to heritage assets or other attractions where views of the surroundings are an important part of the experience;<br>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.<br>People engaged in outdoor sport or recreation, which may involve appreciation of views e.g. users of golf courses. |
| Low | People engaged in outdoor sport or recreation, which does not involve appreciation of views;<br>People at their place of work whose attention is focused on their work;<br>Travellers, where the view is incidental to the journey. |

## 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.

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

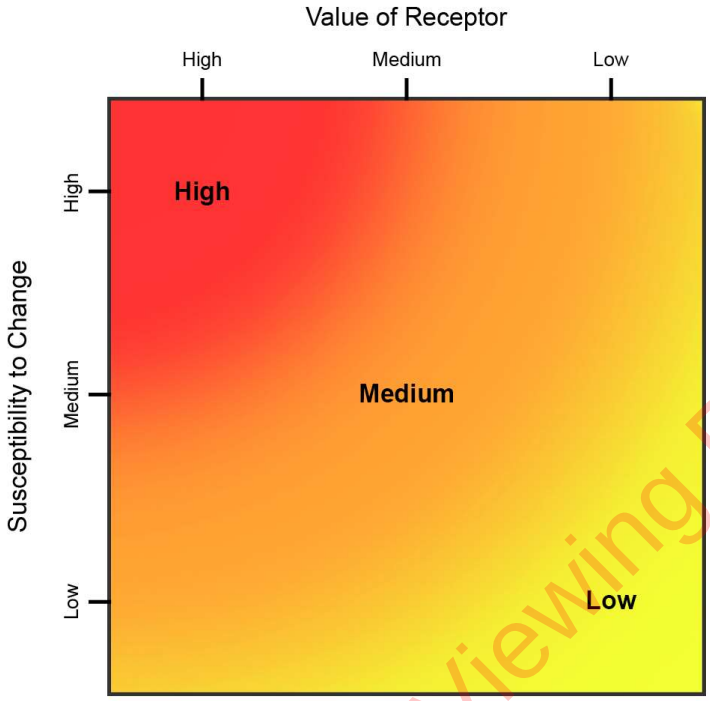



**Table 13A-10: Example Levels of Sensitivity defined by Value and Susceptibility of Visual Receptors**

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

| Sensitivity | Criteria |
|---|---|
| Low | 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<br>OR<br>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<br>OR<br>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. |

### 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 and as summarised in the **Table 13A-11** below:

- 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.

### Table 13A-11: Size/Scale of Change

| Category | 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.

The following factors are considered for each representative viewpoint:

- the angle of view in relation to the main activity of the receptor;
- the distance of the viewpoint from the proposed development; and
- the extent of the area over which changes would be visible.

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 land may be widely visible from much or all of an 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: 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 only a very small number of receptors; or the effect on the specific view is barely discernible. |

### Duration and Reversibility of Change

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 Environmental Impact Assessment Reports (May 2022).

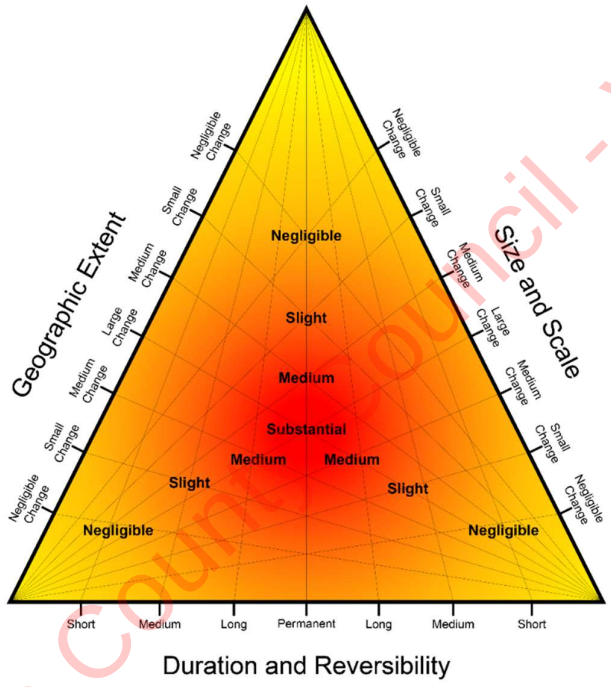
**Table 13A-13: Duration and Reversibility**

| 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 judged on merit rather than by formulaic application of the relationships in the diagram.

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

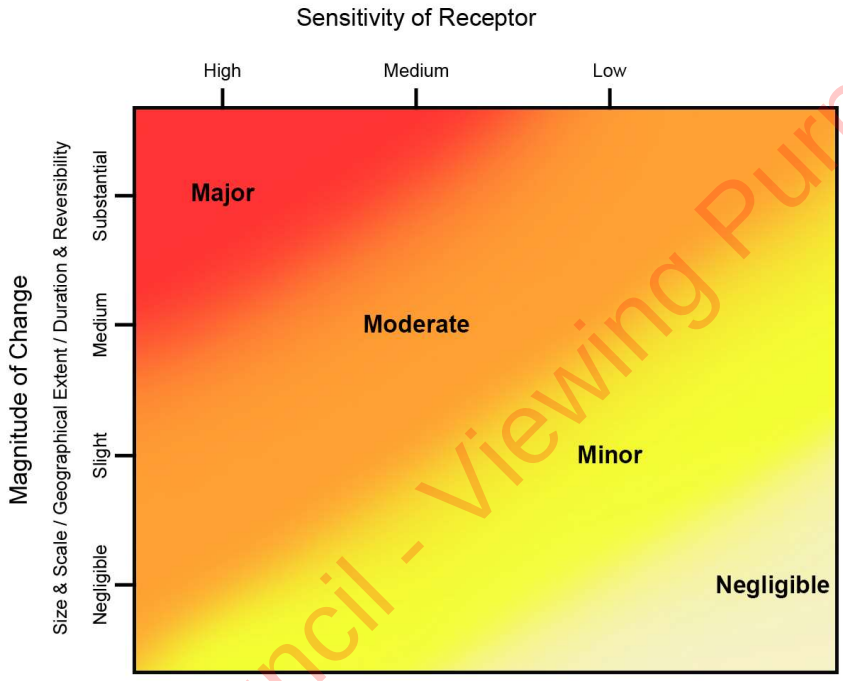



## Assessment of Visual Effects

The assessment of visual effects is defined in terms of the relationship between the sensitivity of the visual receptors 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**

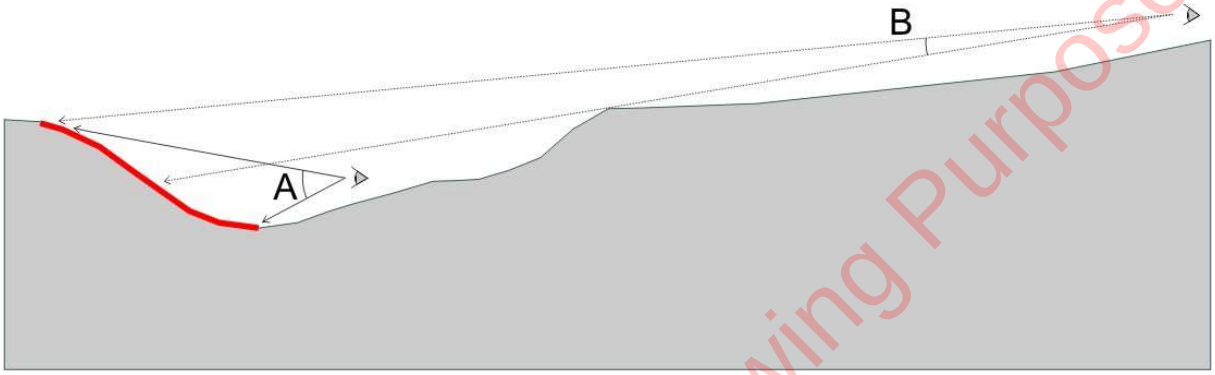


## Appendix 13-B – Zone of Theoretical Visibility (ZTV) Methodology

A Zone of Theoretical Visibility (ZTV) Study was conducted for the existing ground levels within the application 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.

## Appendix 13-C – Viewpoint Photography & Photomontage Methodology

### Introduction

An integral part of the assessment/appraisal process is often the recording of viewpoint photography and the preparation of visualisations, including photomontages. Such output is valuable in illustrating visual change for assessment purposes and in helping readers to understand the nature of that change.

It is essential that such output is prepared to be technically correct and an accurate representation of that which is illustrates.

The photography and visualisations are prepared with knowledge and understanding of the principles and guidance provided in a number of relevant documents, including:

- Landscape Institute (2011) Advice Note 01/11, Photography and Photomontage in Landscape and Visual Impact Assessment;
- Landscape Institute (2017): Technical Guidance Note 06/19: Visual Representation of Development Proposals;
- Scottish Natural Heritage (December 2014) Visual Representation of Wind Farms, Version 2.2; and
- The Highland Council (2017) Visualisation Standards for Wind Energy Developments.

Note that not all elements of the above documents are relevant to all developments and a pragmatic and proportionate approach has been taken to illustrate the Proposed Development effectively.

### Viewpoints

The viewpoints are chosen to reflect a range of views towards the Proposed Development and the selection process is explained in the assessment/appraisal.

At each viewpoint baseline photography is recorded to allow the analysis of the effects that are predicted to occur as a result of the proposed development. Where appropriate, the assessment / appraisal involves the production of computer generated visualisations / photomontages for a number of viewpoints to illustrate views of the Proposed Development. The viewpoints form an important element of the visual assessment/appraisal and can also be used to inform judgements in relation to the potential effects on landscape/townscape receptors

### Viewpoint Photography

Photography is undertaken through the use of digital single lens reflex (dSLR) camera and a prime lens[11], with the camera and lens combination being comparable with a 35mm format camera and 50mm focal length lens combination. The camera is mounted on a tripod with a panoramic head in order to obtain a stable platform for single frame and panoramic views. A camera height of approximately 1.5m is used at each location, unless

[11] fixed focal length, as opposed to a zoom lens

otherwise stated. The position of the tripod is recorded with a handheld GPS device. In addition to recording the location of the viewpoint, observations in regard to time of day, weather, cloud cover and visibility are made.

Following completion of the fieldwork, the photography is reviewed and the clearest images selected for the production of panoramic images. In some cases, limited adjustments are made to the images through the use of Adobe Photoshop software in order to improve appearance of the photography e.g. adjustments to exposure and sharpness. The photography for each viewpoint comprises a panorama created by joining the images in Adobe Photoshop, using cylindrical projection.

### Three Dimensional Modelling

A three-dimensional model has been prepared for the proposed development and the surrounding area using survey software. This links a model of the proposed development with digital terrain model data for the surrounding landform using Ordnance Survey grid co-ordinates.

Reference points are selected and positioned in the survey software. These reference points reflect clearly identifiable elements that are visible in the baseline photography. These use of reference points allows verification of the visualisations/photomontages and accurate scaling/positioning of the Proposed Development in relation to baseline components of the view.

Where fully rendered views of the proposed development are produced in 3D modelling software, virtual cameras are positioned in the correct position relative to the development to match the baseline viewpoint photography. The lighting of the view in the 3D model is selected based upon the date, time and weather conditions applicable to the photography. While every effort is undertaken to render the development to account for the prevailing lighting conditions, some adjustment of the rendering and/or photograph is sometimes required to create a suitably realistic impression of the development

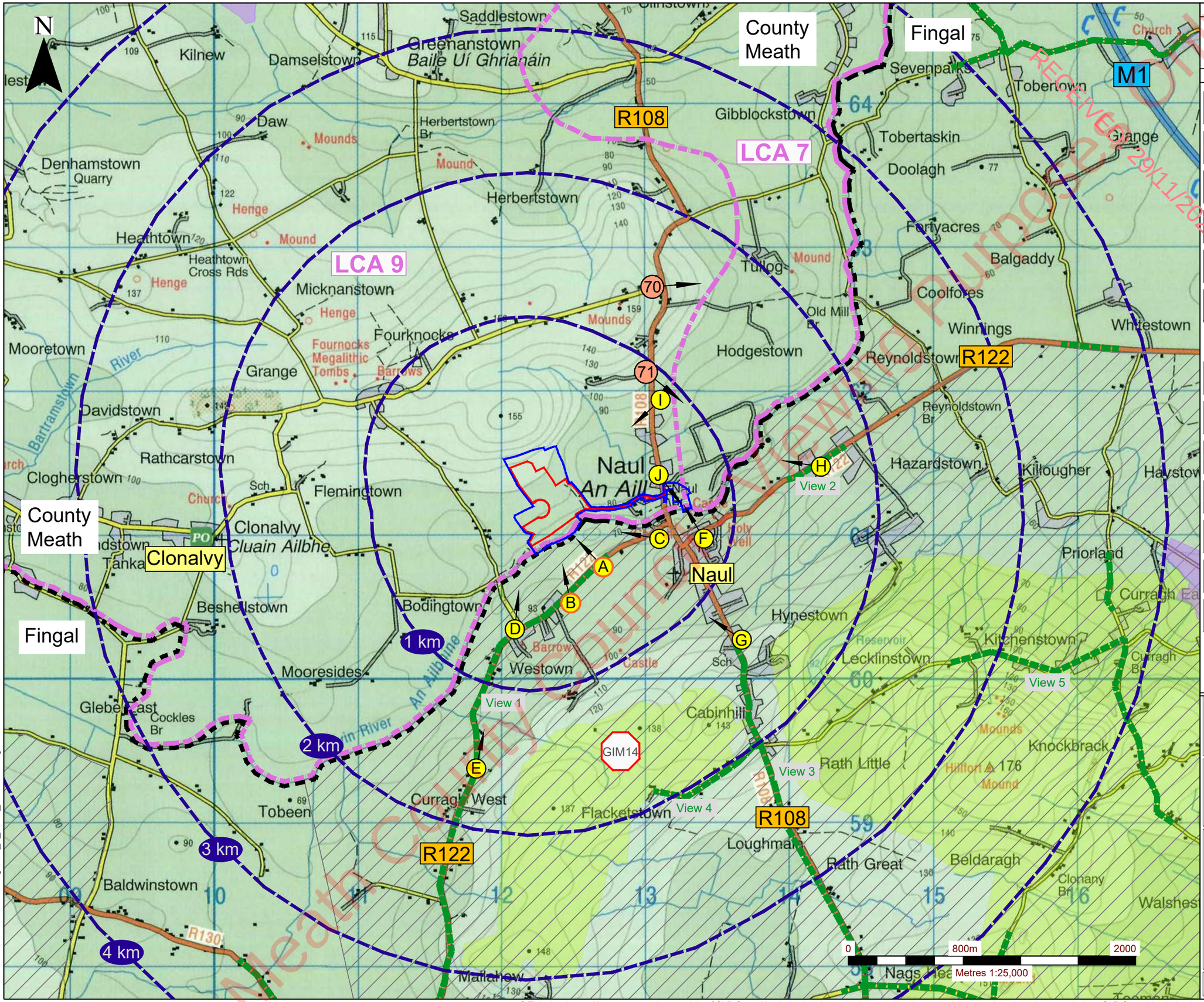
### Visualisations

The visualisations/photomontages that form part of the assessment/appraisal are presented in a way that provides a predicted view of the Proposed Development relative to, and within, the surrounding context. The main objective of the visualisation/photomontage process is to assist the assessor in determining the change and resultant effect on the receptors at the viewpoint location.

In the case of photomontages, Adobe Photoshop is used to combine the image of the three-dimensional survey model with the baseline photography using the reference points present in both (as described in the three dimensional modelling step above). The modelled view of the proposed development is then integrated with the photography as a third layer, and matched to the reference points in the survey model and rendered view to accurately position and scale the Proposed Development within the view. The Proposed Development is also placed carefully in relation to foreground and background vegetation to ensure it is depicted in a realistic way.

The visualisations/photomontages are presented in at A3 size for ease of viewing. The visualisations should be used in the field at the viewpoint location to help appreciate the level of effect that is likely to result from the Proposed Development.

## FIGURES




NOTES

1. EXTRACT FROM 1:50,000 O.S DISCOVERY MAP NO. 43
2. CYAL50381397 **(C)** TAILTE ÉIREANN - SURVEYING.

LEGEND

- LAND INTEREST BOUNDARY
- APPLICATION AREA
- VIEWPOINT LOCATIONS
- PHOTOMONTAGE LOCATIONS
- APPROXIMATE DISTANCE FROM APPLICATION AREA BOUNDARY (EXCLUDING ACCESS ROAD)
- COUNTY BOUNDARY

LANDSCAPE / VISUAL BASELINE:

- LCA 3 — LANDSCAPE CHARACTER AREA (MEATH COUNTY DEVELOPMENT PLAN 2021-27)
- 70 — PROTECTED VIEWS & PROSPECTS (MEATH COUNTY DEVELOPMENT PLAN 2021-27)
- SPECIFIC OBJECTIVE: PRESERVE VIEWS (FINGAL DEVELOPMENT PLAN 2023-2029)
- SPECIFIC OBJECTIVE: HIGHLY SENSITIVE LANDSCAPE (FINGAL DEVELOPMENT PLAN 2023-2029)
- ZONING OBJECTIVE: HA - HIGH AMENITY (FINGAL DEVELOPMENT PLAN 2023-2029)
- GIM17 — GREEN INFRASTRUCTURE MAPPED OBJECTIVE (FINGAL DEVELOPMENT PLAN 2023-2029)
- PROPOSED NATURAL HERITAGE AREA (pNHA)

Kilsaran
ideas taking shape

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Kilsaran Concrete Unlimited Company

**Environmental Impact Assessment Report**

PROPOSED SAND & GRAVEL DEVELOPMENT AT NAUL TOWNLAND, CO. MEATH

**LANDSCAPE BASELINE & VIEWPOINT LOCATIONS**

**FIGURE 13-1**

Scale: 1:25,000 @ A3

Date: OCTOBER 2024

00036.64988.Naul.EIAR-Fig13-1_2_LVIA_ZTV R1.dwg

NOTES

1. EXTRACT FROM 1:50,000 O.S DISCOVERY MAP NO. 43
2. CYAL50381397 **(C)** TAILTE ÉIREANN - SURVEYING

LEGEND

- LAND INTEREST BOUNDARY
- APPLICATION AREA
- VIEWPOINT LOCATIONS (B)
- PHOTOMONTAGE LOCATIONS (A)
- APPROXIMATE DISTANCE FROM APPLICATION AREA BOUNDARY (EXCLUDING ACCESS ROAD) (2 km)
- AREAS / SECTIONS OF ROAD WITH SIMILAR VIEWS OF THE PROPOSED DEVELOPMENT TO THAT OF THE SAMPLE VIEWPOINT

**VERTICAL SUBTENDED ANGLES VISIBLE**
**(OF THE EXTRACTION AND OVERBURDEN STORAGE 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 process for this ZTV. This ZTV therefore represents a worst case scenario.
In SLRs experience, areas in grey (i.e. less than 0.4 degrees) tend to be screened by hedgerows and vegetation, if present. Please refer to Appendix 13-B of the EIAR for the ZTV methodology.

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ideas taking shape

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Kilsaran Concrete Unlimited Company
**Environmental Impact Assessment Report**

PROPOSED SAND & GRAVEL DEVELOPMENT AT NAUL TOWNLAND, CO. MEATH

**ZONE OF THEORETICAL VISIBILITY (ZTV) MAP**

**FIGURE 13-2**

Scale 1:25,000 @ A3
Date OCTOBER 2024

0 800m 2000
Metres 1:25,000

00036.64988.Naul.EIAR-Fig13-1_2_LVIA_ZTV R1.dwg

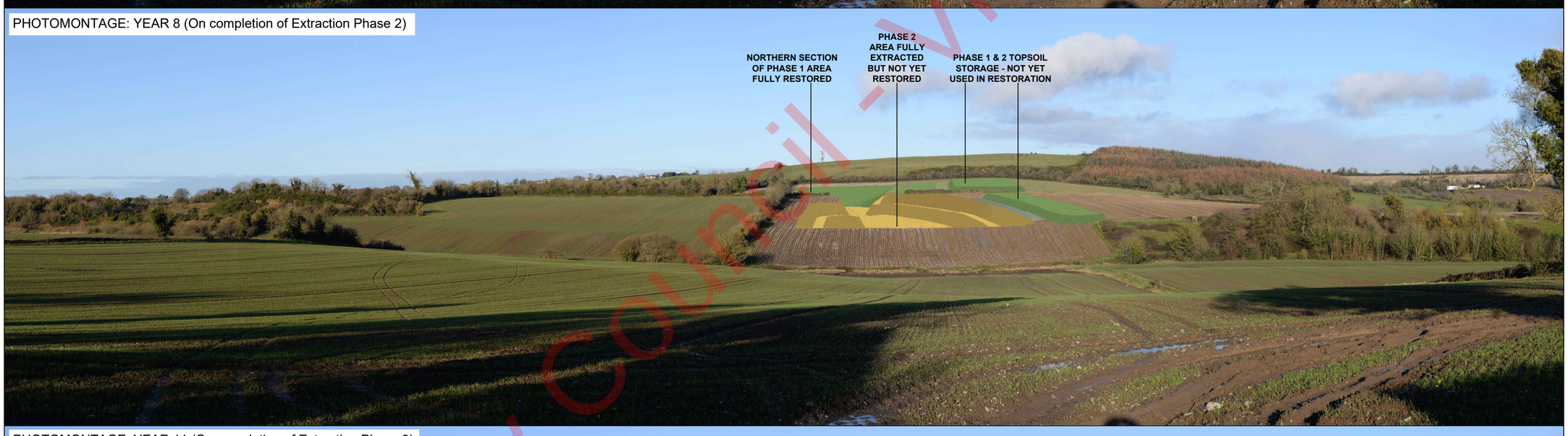
EXISTING VIEW - 2024

Note: the land use and topography of the site and its environs has not changed since 2019. Therefore, the previously prepared photomontages have not been updated, except for the removal of the settlement ponds, which are no longer proposed.

EXISTING VIEW - 2019

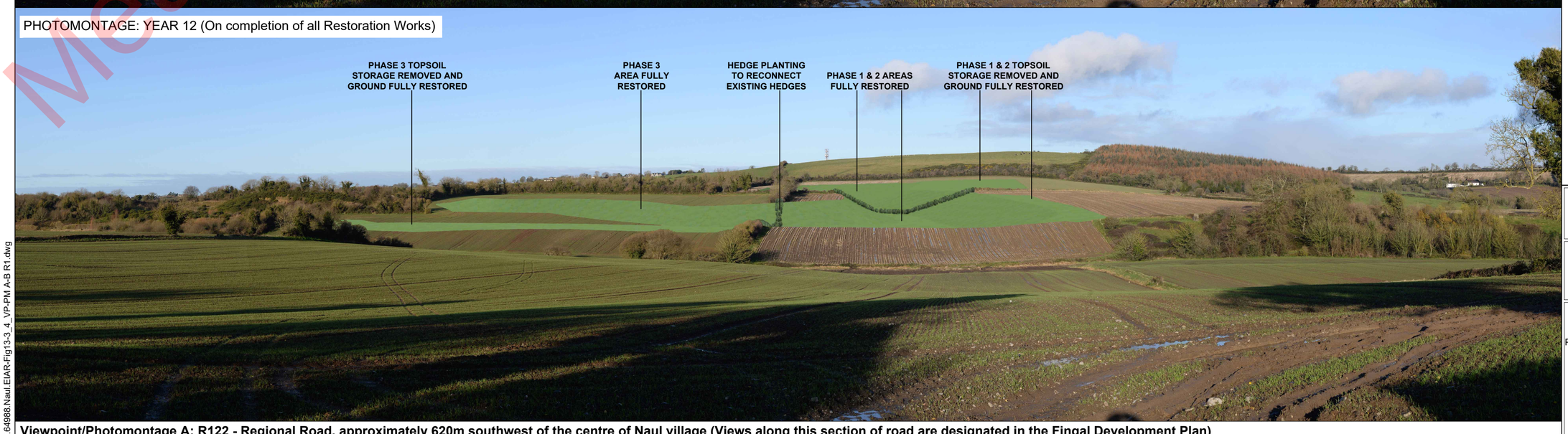
PHOTOMONTAGE: YEAR 4 (On completion of Extraction Phase 1)


PHOTOMONTAGE: YEAR 8 (On completion of Extraction Phase 2)




PHOTOMONTAGE: YEAR 11 (On completion of Extraction Phase 3)


PHOTOMONTAGE: YEAR 12 (On completion of all Restoration Works)




**Viewpoint/Photomontage A: R122 - Regional Road, approximately 620m southwest of the centre of Naul village (Views along this section of road are designated in the Fingal Development Plan)**

Grid Reference (ITM): **712573:760796** Elevation: **77m AOD** Distance from development site boundary: **340m** Direction of View: **Northwest** Date/time of photograph: **29/11/19 @ 10:40**

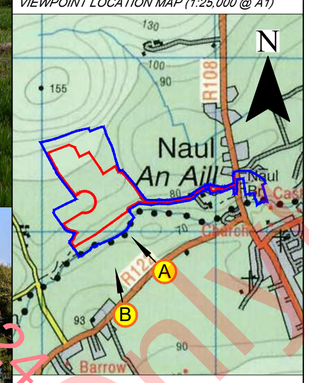
NOTES

1. EXTRACT FROM 1:50,000 OS DISCOVERY SERIES MAP NO. 43.
2. CYAL50381397 **(C)** TAILTE ÉIREANN - SURVEYING.
3. REFER TO APPENDIX 13-3 OF EIAR CHAPTER 13 FOR THE PHOTOMONTAGE METHODOLOGY

LEGEND

- LAND INTEREST BOUNDARY
- APPLICATION AREA
- PHOTOMONTAGE LOCATIONS (A)

*VIEWPOINT LOCATION MAP (1:25,000 @ A1)*




Kilsaran
ideas taking shape

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**PHOTOMONTAGE VIEWPOINT A - DEVELOPMENT PHASES 1, 2, 3 AND RESTORATION**

**FIGURE 13-3**

Scale: NTS

Date: OCTOBER 2024



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