



Chapter 11 – Landscape and Visual

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11. LANDSCAPE AND VISUAL IMPACT

11.1 Introduction

This chapter of the EIAR consists of a Landscape and Visual Assessment (LVIA) for the Proposed Development, consisting of the construction, commissioning, and operation of a c. 23.65-kilometre (km), 300-millimetre (mm) nominal bore (NB) underground steel gas transmission pipeline with a maximum operating pressure of 85 barg (the GNI 143 Ballykilleen Pipeline). The Proposed Development site comprises a linear pipeline route approximately 243.4 hectares (ha) (including associated construction works compounds) that traverses counties Meath and Offaly and the following townlands: Aghnagillagh, Ardnamullan, Ballyboggan, Ballynakill, Castlejordan, Clongall, Harristown, Kilwarden, Park, and Ticroghan (Co. Meath); and Ballykilleen, Clonmore, Drumcooly, Esker More, Lenamarran, Monasteroris, Mountwilson, Rathgreedan, Rathmore, Roosk, Shean, and Thornwell (Co. Offaly) (hereinafter referred to as the 'Site' or 'Proposed Development Site')

This LVIA describes the landscape context of the Proposed Development and assesses the likely landscape and visual impacts of the scheme on the receiving environment. Although closely linked, landscape and visual impacts are assessed separately.

- ▶ Landscape Impact Assessment (LIA) relates to assessing effects of a development on the landscape as a resource in its own right and is concerned with how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character.
- ▶ Visual Impact Assessment (VIA) relates to assessing effects of a development on specific views and on the general visual amenity experienced by people. This deals with how the surroundings of individuals or groups of people may be specifically affected by changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/or introduction of new elements. Visual impacts may occur from; Visual Obstruction (blocking of a view, be it full, partial or intermittent) or; Visual Intrusion (interruption of a view without blocking).

This chapter is supported by figures contained in Volume 4 of this EIAR. While selected figures may be reproduced within the chapter for ease of reference, the full size and quality of those figures are provided in Volume 4. Annotated mark ups, diagrams and photographic records are excluded, as these are provided for illustrative or contextual purposes only and are not replicated at full presentation quality.

The relevant Volume 4 figures to this chapter include:

- ▶ Figure 11-1 Extent of the Study Area
- ▶ Figure 11-2 Landcover context within the study area
- ▶ Figure 11-3 Viewpoint Location Map

11.2 Methodology

This document uses methodology as prescribed in the previously mentioned GLVIA3, which follows the European Landscape Convention (ELC) definition of landscape:

'Landscape 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). Thus, GLVIA-2013 covers all landscapes from "high mountains and wild countryside to urban and fringe farmland (rural landscapes), marine and coastal landscapes (seascapes) and the landscapes of villages towns and cities (townscapes)" - whether protected or degraded.

11.2.1 Approach

This LVIA adopts an approach that is founded in the following best practice guidance documents:

- ▶ Landscape Institute and the Institute of Environmental Management and Assessment (IEMA) publication entitled Guidelines for Landscape and Visual Impact Assessment, 2013 (GLVIA3);
- ▶ Environmental Protection Agency (EPA) publication 'Guidelines on the Information to be contained in Environmental Impact Statements (2022); and
- ▶ 'Photography and Photomontage in Landscape and Visual Impact Assessment', Landscape Institute Technical Guidance Note 06/2019.

11.2.2 Scope of the Assessment

GLVIA3 establishes guidelines and not a specific methodology. The preface recognises that:

'This edition concentrates on principles and processes. It does not provide a detailed or formulaic 'recipe' that can be followed in every situation – it remains the responsibility of the professional to ensure that the approach and methodology adopted are appropriate to the task in hand.'

The methodology for this assessment has therefore been developed specifically for this assessment to ensure that it is appropriate and fit for purpose. The LVIA Methodology can be summarised as undertaking the following key tasks:

- ▶ Desk study and site visits in September 2025;
- ▶ Defining the Baseline Landscape setting and conditions;
- ▶ Identification and Evaluation of key components of the Proposed Development;
- ▶ Consideration of Mitigation Measures;
- ▶ Assessment of Landscape Effects;
- ▶ Assessment of Visual Effects; and
- ▶ Summary Statement of Significance.

11.2.3 Study Area

According to Guidelines for Landscape and Visual Impact Assessment (GLVIA), the first step in the process of LVIA is to determine a bespoke study area which is appropriate to the combination of the development type and the receiving landscape and visual context. From similar studies of underground infrastructure, it is anticipated that the proposed BnM Pipeline works are likely to be difficult to discern beyond approximately 500m and thus, are not likely to give rise to significant landscape or visual impacts beyond this distance due to the subterranean nature of the proposed infrastructure and the transient nature of the proposed construction works.. Nonetheless, for the purposes of a comprehensive appraisal, a 1km radius study area was applied to the underground pipeline (refer to Figure 11-1).

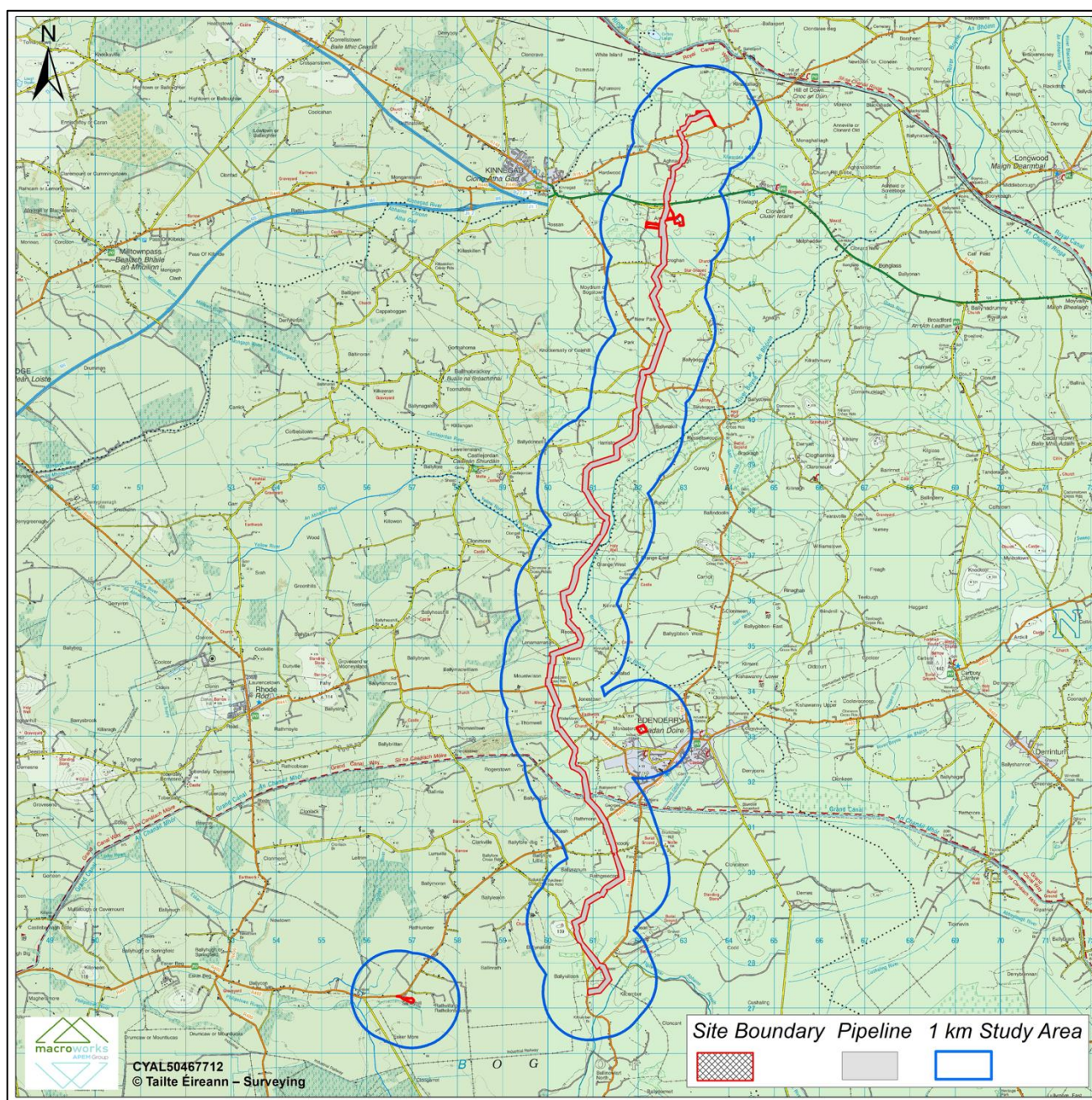
For the purpose of this EIAR chapter, the pipeline length has been subdivided into 6 sections, (refer to Table 11-1) below for the chainage and corresponding distances along the pipeline length).

In addition to the linear pipeline, the Proposed Development includes temporary construction infrastructure within the red line boundary, comprising five Temporary Construction Compounds, temporary laydown areas (Type A and Type B), construction access points, and a temporary construction haul road or 'running track' along the pipeline route. Temporary Construction Compounds 03 (near Edenderry town) and 04 (located in the townland of Esker More, Co. Offaly) are located off the linear route but within the red line boundary. All other temporary works, including access, haul roads, laydown areas, and temporary watercourse crossings, are located along the pipeline route.

Table 11-1 Structured Sections to describe the Proposed Development

Pipeline Section	Start Point (m)	End Point (m)	Length (m)
Pipeline Section 1: Kilwarden Offtake Installation to the L40181 Road (RDX05)	0	3,931	3,931
Pipeline Section 2: L40181 Road (RDX05) to the L4091 (RDX09)	3,931	7,441	3,510
Pipeline Section 3: L4091 Road (RDX09) to the Yellow River (RVX02)	7,441	11,669	4,228
Pipeline Section 4: Yellow River (RVX02) to the R441 (RDX12)	11,669	15,348	3,679
Pipeline Section 5: R441 (RDX12) to the L5003 (RDX15)	15,348	19,494	4,146
Pipeline Section 6: L5003 (RDX15) to the Ballykilleen AGI	19,494	23,650	4,156
GNI 143 Ballykilleen Pipeline	0	23,650	23,650

Figure 11-1 Extent of the Study Area



11.2.4 Landscape Impact Assessment Criteria

This part of the LVIA provides an assessment of how the introduction of the Proposed Development will affect the physical features and fabric of the landscape, and then how the proposals influence landscape character with reference to published descriptions of character and an understanding of the contemporary character of the landscape as informed through desktop and site studies.

When assessing the potential landscape effects of the development, the value and sensitivity of the landscape receptor is weighed against the magnitude of impact to determine the significance of the landscape effect. Criteria outlined below are used to guide these judgements.

11.2.4.1 Landscape Sensitivity

The sensitivity of the landscape to change is the degree to which a particular setting can accommodate changes or new elements without unacceptable detrimental effects to its essential characteristics. In accordance with GLVIA3, the sensitivity of a landscape receptor (Landscape Character Area or feature) is derived from combining judgements in relation to its susceptibility to change and its value. The judgement reflects such factors as its quality, value, contribution to landscape character and the degree to which the particular element or characteristic can be replaced or substituted. Landscape Sensitivity is classified using the following criteria set out in Table 11-2.

Table 11-2 Landscape Value and Sensitivity

Sensitivity	Description
Very High	Areas where the landscape character exhibits a very low capacity for change in the form of development. Examples of which are high value landscapes, protected at an international or national level (World Heritage Site/National Park), where the principal management objectives are likely to be protection of the existing character.
High	Areas where the landscape character exhibits a low capacity for change in the form of development. Examples of which are high value landscapes, protected at a national or regional level (Area of Outstanding Natural Beauty), where the principal management objectives are likely to be considered conservation of the existing character.
Medium	Areas where the landscape character exhibits some capacity and scope for development. Examples of which are landscapes, which have a designation of protection at a county level or at non-designated local level where there is evidence of local value and use.
Low	Areas where the landscape character exhibits a higher capacity for change from development. Typically, this would include lower value, non-designated landscapes that may also have some elements or features of recognisable quality, where landscape management objectives include, enhancement, repair and restoration.
Negligible	Areas of landscape character that include derelict, mining, industrial land or are part of the urban fringe where there would be a reasonable capacity to embrace change or the capacity to include the development proposals. Management objectives in such areas could be focused on change, creation of landscape improvements and/or restoration to realise a higher landscape value.

11.2.4.2 Magnitude of Change – Landscape

The magnitude of change is a product of the scale, extent or degree of change that is likely to be experienced as a result of the Proposed Development and to a lesser extent the duration and reversibility of that effect. The magnitude takes into account whether there is a direct physical impact resulting from the loss of landscape components and/or a change that extends beyond the immediate setting that may have an effect on the landscape character. Table 11-3 outlines criteria used to inform this judgement.

Table 11-3 Magnitude of Change - Landscape

Criteria	Description
Very High	Change that would be large in extent and scale with the loss of critically important landscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that contribute to an extensive change of the landscape in terms of character, value and quality.

Criteria	Description
High	Change that would be more limited in extent and scale with the loss of important landscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that contribute to a considerable change of the landscape in terms of character, value and quality.
Medium	Changes that are modest in extent and scale involving the loss of landscape characteristics or elements that may also involve the introduction of new uncharacteristic elements or features that would lead to noticeable changes in landscape character, and quality.
Low	Changes affecting small areas of landscape character and quality, together with the loss of some less characteristic landscape elements or the addition of new features or elements that would lead to discernible changes in landscape character, and quality.
Negligible	Changes affecting small or very restricted areas of landscape character. This may include the limited loss of some elements or the addition of some new features or elements that are characteristic of the existing landscape or are hardly perceivable leading to no material change to landscape character, and quality.

11.2.5 Visual Impact Assessment Criteria

This part of the LVIA provides an assessment of how the introduction of the Proposed Development will affect views within the landscape. It therefore needs to consider:

- ▶ Direct impacts of the Proposed Development upon views through intrusion or obstruction;
- ▶ The reaction of viewers who may be affected, e.g. residents, walkers, road users; and
- ▶ The overall impact on visual amenity.

The structure of the assessment is based around a series of representative viewpoint locations, which fully complies with the outline methodologies set out in GLVIA3. All viewpoints are located within the public domain and are representative of views available from main thoroughfares and pedestrian areas within the vicinity of the Proposed Development. The selected viewpoints are considered to be comprehensive in communicating the variable nature of the visual effects.

When assessing the potential visual effects of the development, the sensitivity of the visual receptor is weighed against the magnitude of the visual impact to determine the significance of the visual effect. Criteria outlined below are used to guide these judgements.

11.2.5.1 Sensitivity of Visual Receptors

As with landscape sensitivity, the sensitivity of a visual receptor is categorised as Very High, High, Medium, Low, and Negligible. Unlike landscape sensitivity however, the sensitivity of visual receptors has an anthropocentric (human) basis. It considers factors such as the perceived quality and values associated with the view, the landscape context of the viewer, the likely activity the viewer is engaged in and whether this heightens their awareness of the surrounding environment.

A list of the factors considered by the assessor in estimating the level of sensitivity for a particular visual receptor is outlined below to establish visual receptor sensitivity at each viewpoint location.

11.2.5.2 Susceptibility of Visual Receptors to Change

In accordance with GLVIA3, visual receptors most susceptible to changes in views and visual amenity are:

- ▶ "Residents at home;

- ▶ People, whether residents or visitors, who are engaged in outdoor recreation, including use of public rights of way, whose attention or interest is likely to be focussed on the landscape and on particular views;
- ▶ Visitors to heritage assets, or to other attractions, where views of the surroundings are an important contributor to the experience;
- ▶ Communities where views contribute to the landscape setting enjoyed by residents in the area;
- ▶ Travellers on road rail or other transport routes where such travel involves recognised scenic routes and awareness of views is likely to be heightened”.
- ▶ Visual receptors that are less susceptible to changes in views and visual amenity include;
- ▶ “People engaged in outdoor sport or recreation, which does not involve or depend upon appreciation of views of the landscape;
- ▶ People at their place of work whose attention may be focussed on their work or activity, not their surroundings and where the setting is not important to the quality of working life”.

11.2.5.3 Value attached to Views

The value attached to a view is determined by considering the following:

- ▶ Recognised scenic value of the view (Development Plan designations, guidebooks, touring maps, postcards etc). These represent a consensus in terms of which scenic views and routes within an area are strongly valued by the population because in the case of County Development Plans, for example, a public consultation process is required;
- ▶ Views from within highly sensitive landscape areas. These are likely to be in the form of Architectural Conservation Areas, which are incorporated within the Development Plan and therefore subject to the public consultation process. Viewers within such areas are likely to be highly attuned to the landscape around them;
- ▶ Primary views from residential receptors. Even within a dynamic city context, views from residential properties are an important consideration in respect of residential amenity;
- ▶ Intensity of use, popularity. This relates to the number of viewers likely to experience a view on a regular basis and whether this is significant at a national or regional scale;
- ▶ Provision of vast, elevated panoramic views. This relates to the extent of the view on offer and the tendency for receptors to become more attuned to the surrounding landscape at locations that afford broad vistas;
- ▶ Sense of remoteness and/or tranquillity. Receptors taking in a remote and tranquil scene, which is likely to be fairly static, are likely to be more receptive to changes in the view than those taking in the view of a busy street scene, for example;
- ▶ Degree of perceived naturalness. Where a view is valued for the sense of naturalness of the surrounding landscape it is likely to be highly sensitive to visual intrusion by distinctly manmade features;
- ▶ Presence of striking or noteworthy features. A view might be strongly valued because it contains a distinctive and memorable landscape / townscape feature such as a cathedral or castle;
- ▶ Historical, cultural and / or spiritual significance. Such attributes may be evident or sensed by receptors at certain viewing locations, which may attract visitors for the purposes of contemplation or reflection heightening the sense of their surroundings;
- ▶ Rarity or uniqueness of the view. This might include the noteworthy representativeness of a certain landscape type and considers whether the receptor could take in similar views anywhere in the broader region or the country;
- ▶ Integrity of the landscape character. This looks at the condition and intactness of the landscape in view and whether the landscape pattern is a regular one of few strongly related components or an irregular one containing a variety of disparate components;
- ▶ Sense of place. This considers whether there is special sense of wholeness and harmony at the viewing location;
- ▶ Sense of awe. This considers whether the view inspires an overwhelming sense of scale or the power of nature.

Those locations which are deemed to satisfy many of the above criteria are likely to be of higher sensitivity, and no relative importance is inferred by the order of listing.

It is recognised that a viewer’s interpretation and experience of the landscape can have preferential and subjective components. Where relevant, judgements are made on those elements of the landscape that are considered to contribute more prominently and positively to the visual landscape resource as well as those elements that contribute negatively. Overall sensitivity may be a result of a number of these factors or, alternatively, a strong association with one or two in particular.

11.2.5.4 Magnitude of Change - Visual

The magnitude of change is again a product of the scale, extent, or degree of change that is likely to be experienced as a result of the Proposed Development. This is directly influenced by its ‘visual presence / prominence’, as experienced by visual receptors in the landscape. These terms are somewhat quantitative in nature, and essentially relate to how noticeable or ‘dominant’ the proposal is within a particular view. Aside from the obvious influence of scale and distance, a development’s visual presence is influenced by the extent and complexity of the view, contextual movement in the landscape, the nature of its backdrop, and its relationship with other focal points or prominent features within the view. Criteria used to inform judgements are provided in Table 11-4.

Table 11-4. Magnitude of Change - Visual

Criteria	Description
Very High	Complete or very substantial change in view, dominant, involving complete or very substantial obstruction of existing view or complete change in character and composition of baseline, e.g., through removal of key elements.
High	A major change in the view that is highly prominent and has a strong influence on the overall view. This may involve the substantial obstruction of existing views or a complete change in character and composition of baseline, e.g. through removal of key elements or the introduction of new features that would heavily influence key elements.
Medium	Moderate change in view: which may involve partial obstruction of existing view or partial change in character and composition of baseline, i.e., pre-development view through the introduction of new elements or removal of existing elements. Change may be prominent but would not substantially alter scale and character of the surroundings and the wider setting. View character may be partially changed through the introduction of features which, though uncharacteristic, may not necessarily be visually discordant.
Low	Minor change in baseline, i.e. pre-development view - change would be distinguishable from the surroundings whilst composition and character would be similar to the pre change circumstances.
Negligible	Very slight change in baseline, i.e. pre-development view - change would be barely discernible. Composition and character of view substantially unaltered.

11.2.6 Significance of Effect

The significance of a landscape or visual effect is based on a balance between the sensitivity of the receptor and the magnitude of change, and is categorised as Profound, Substantial, Moderate, Slight, or Imperceptible. Intermediate judgements are also provided to enable an effect to be more accurately described where relevant. ‘No Effect’ may also be recorded as appropriate where the effect is so negligible it is not noteworthy.

The significance category judgement is arrived at using the Significance Matrix at Table 11-5 as a guide. This applies the principle of significance being a function of magnitude weighed against sensitivity, but employs slightly different terminology that avoids the potentially confusing use of the term 'significant' (as recommended by GLVIA3 Statement of Clarification 1/13 (Landscape institute, 10th June 2013)).

Indicative criteria descriptions used in relation to the significance of effect category are presented at Table 11-6.

Table 11-5 Significance Matrix

	Sensitivity of Receptor				
Magnitude	Very High	High	Medium	Low	Negligible
Very High	Profound	Profound-substantial	Substantial	Moderate	Slight
High	Profound-substantial	Substantial	Substantial-moderate	Moderate-slight	Slight-imperceptible
Medium	Substantial	Substantial-moderate	Moderate	Slight	Imperceptible
Low	Moderate	Moderate-slight	Slight	Slight-imperceptible	Imperceptible
Negligible	Slight	Slight-imperceptible	Imperceptible	Imperceptible	Imperceptible

Table 11-6 Indicative Significance of effect criteria descriptions

	Landscape	Visual
Profound	There are notable changes in landscape characteristics over an extensive area or a very intensive change over a more limited area.	The view is entirely altered, obscured or affected.
Substantial	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the landscape. There are notable changes in landscape characteristics over a substantial area or an intensive change over a more limited area.	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the visual environment. The proposal affects a large proportion of the overall visual composition, or views are so affected that they form a new element in the physical landscape.
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends. There are minor changes over some of the area or moderate changes in a localised area.	An effect that alters the character of the visual environment in a manner that is consistent with existing and emerging trends. The proposal affects an appreciable segment of the overall visual composition, or there is an intrusion in the foreground of a view.

It is important that the likely effects of the proposals are transparently assessed and understood in order that the determining authority can bring a balanced, well-informed judgement to bear when making a planning decision.

As such, whilst the significance matrix and criteria provide a useful guide, the significance of an effect is ultimately determined by the landscape specialist using professional judgement, and also in the context of occasionally using hybrid judgements (i.e. Moderate-Slight, Slight-imperceptible etc) to account for nuance.

Effects assessed as 'Substantial' or greater (shaded cells) are considered to be the most notable in landscape and visual terms, and may be regarded as 'Significant', albeit it is important to note that this is not a reflection on their acceptability in planning terms.

11.2.7 Quality of Effects

In addition to assessing the significance of landscape and visual effects, the quality of the effects is also determined. Within this LVIA, effects are described as negative/adverse, neutral, or positive/beneficial, and the following criteria has been used to guide these judgements.

- ▶ Positive/beneficial - A change which improves the quality of the environment, enhancing the existing view/landscape;
- ▶ Neutral - No effects or effects that are imperceptible, within normal bounds of variation e.g. will neither detract from nor enhance the existing view/landscape;
- ▶ Negative/adverse - A change which reduces the quality of the environment, detracting from the existing view/landscape.

In the case of underground pipeline developments within rural settings, the operational phase landscape and visual change brought about by such developments tends to be limited. Whilst it is seldom considered to be positive / beneficial, effects in these contexts are generally considered to be neutral to neutral negative, especially where the effect has little influence on the landscape/views.

11.2.8 Forecasting Methods and Difficulties Encountered

There were no forecasting methods or difficulties encountered compiling this assessment.

11.3 Receiving Environment

11.3.1 Landscape and Visual Policy Context and Designations

11.3.1.1 Meath County Development Plan 2021-2027

A Landscape Character Assessment was carried out for Meath and has been incorporated into the current County Development Plan. The CDP divides the county into 19 geographically specific landscape character areas. The Proposed Development is located within LCA 15- 'South West Lowlands'. The Meath County Development Plan describes the Lowlands as:

"The Lowlands LCT covers the largest portion of Meath, and due to the high quality of the land, is primarily agricultural. In the south of the County, there is an abundance of 18th-century demesnes with extensive areas of mixed woodland and parkland bounded by original stonewalls, creating an attractive landscape setting for the numerous estate houses.

In terms of more localised LCA's, the Proposed Development is contained within LCA 15 – 'South-West Lowlands'. The current Landscape Character Assessment for County Meath assigns LCA 15 with a 'High' value, 'Medium' landscape sensitivity and 'Regional' landscape importance. With regard to landscape capacity, this LCA is classified with a *"Medium to low potential capacity to accommodate underground services provided such development is located to avoid adverse visual impacts and important archaeological features"*. The landscape character assessment describes LCA 15 as:

“Characterised by rolling hills interspersed with beech copses and well-wooded hedgerows dividing rough pasture. The main transport routes are the N4 from Enfield to Kinnegad and the Royal Canal (a tourist route). Pasture farmland is dominant although there is rough pasture in the upland areas interspersed with a mix of woodland plantations, small copses and scrubby woodland more prevalent in the south west. Fields are small to medium sized and enclosed with well-wooded hedgerows.”

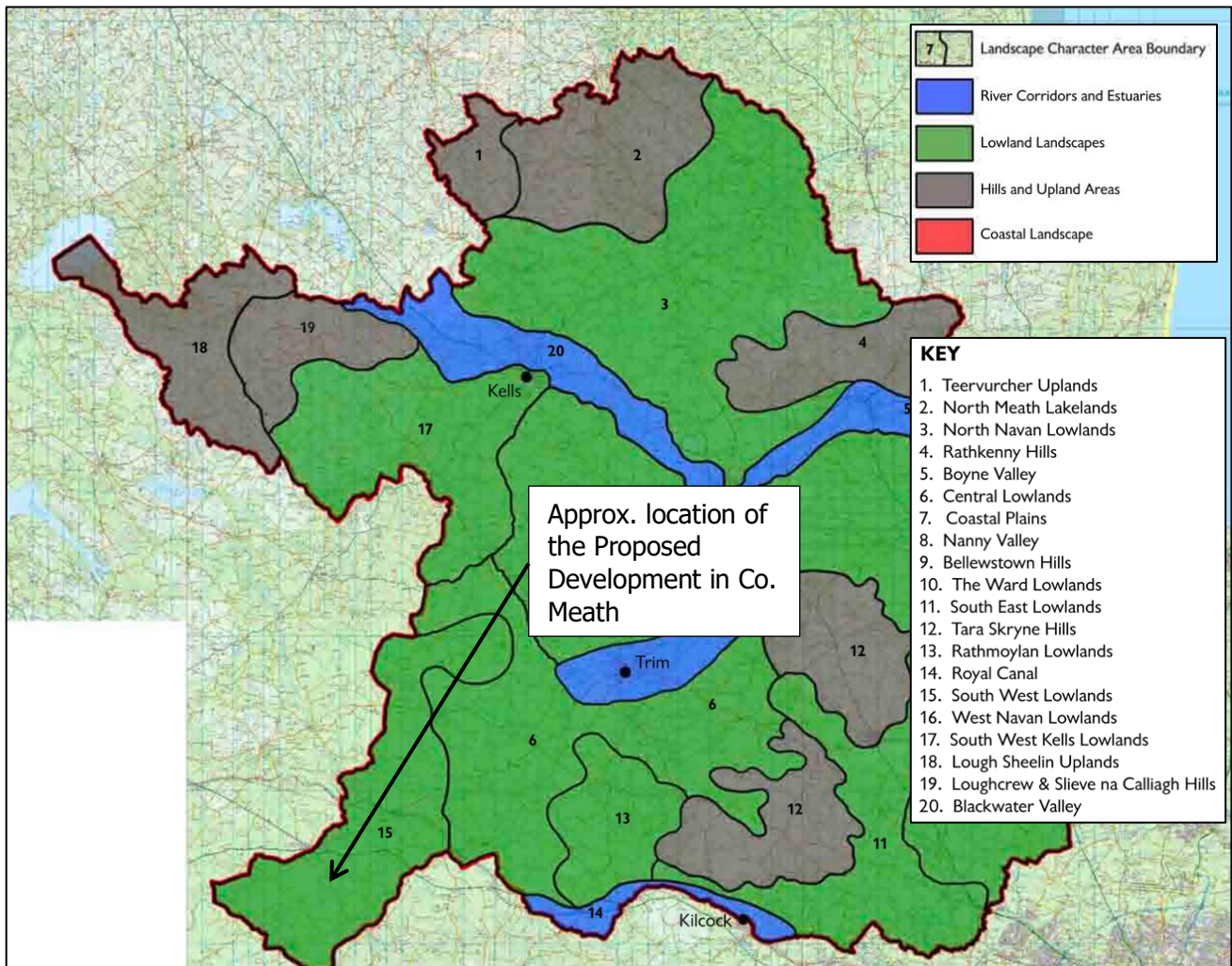
The objectives of the Meath Conty Development Plan are included in the policy below:

- ▶ 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) to ensure that new development meets high standards of siting and design.
- ▶ 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.
To discourage proposals necessitating the removal of extensive amount of trees, hedgerows and historic walls or other distinctive boundary treatments.

Recommendations for South-West Lowlands:

- ▶ Protect the existing rural nature of this LCA by integrating new development within existing settlements providing design guidelines on the styles, scales and materials that suit the local vernacular.
- ▶ Pursue opportunities to restore the landscape surrounding the M4 motorway corridor, which is presently in poor condition.
- ▶ Provide incentives to landowners to improve condition of farmland, including management of hedgerows and trees in field boundaries.

Insert 11-1 Excerpt from Meath County Development Plan 2022-2028 indicating Landscape Character Types.



11.3.1.2 Offaly County Development Plan 2021-2027

A Landscape Character Assessment was carried out for County Offaly and has been incorporated into the current County Development Plan. The CDP divides the county into geographically specific landscape character types. Offaly divides areas into three categories, areas of 'High', 'Medium' and 'Low' landscape sensitivity (refer to Insert 11-1). The Proposed Development falls predominately within an area that is classified as an 'Area of Low Landscape Sensitivity', albeit it briefly intersects with a very small area of High Sensitivity that is associated with the Grand Canal corridor. Areas of Low Sensitivity within Offaly are described below:

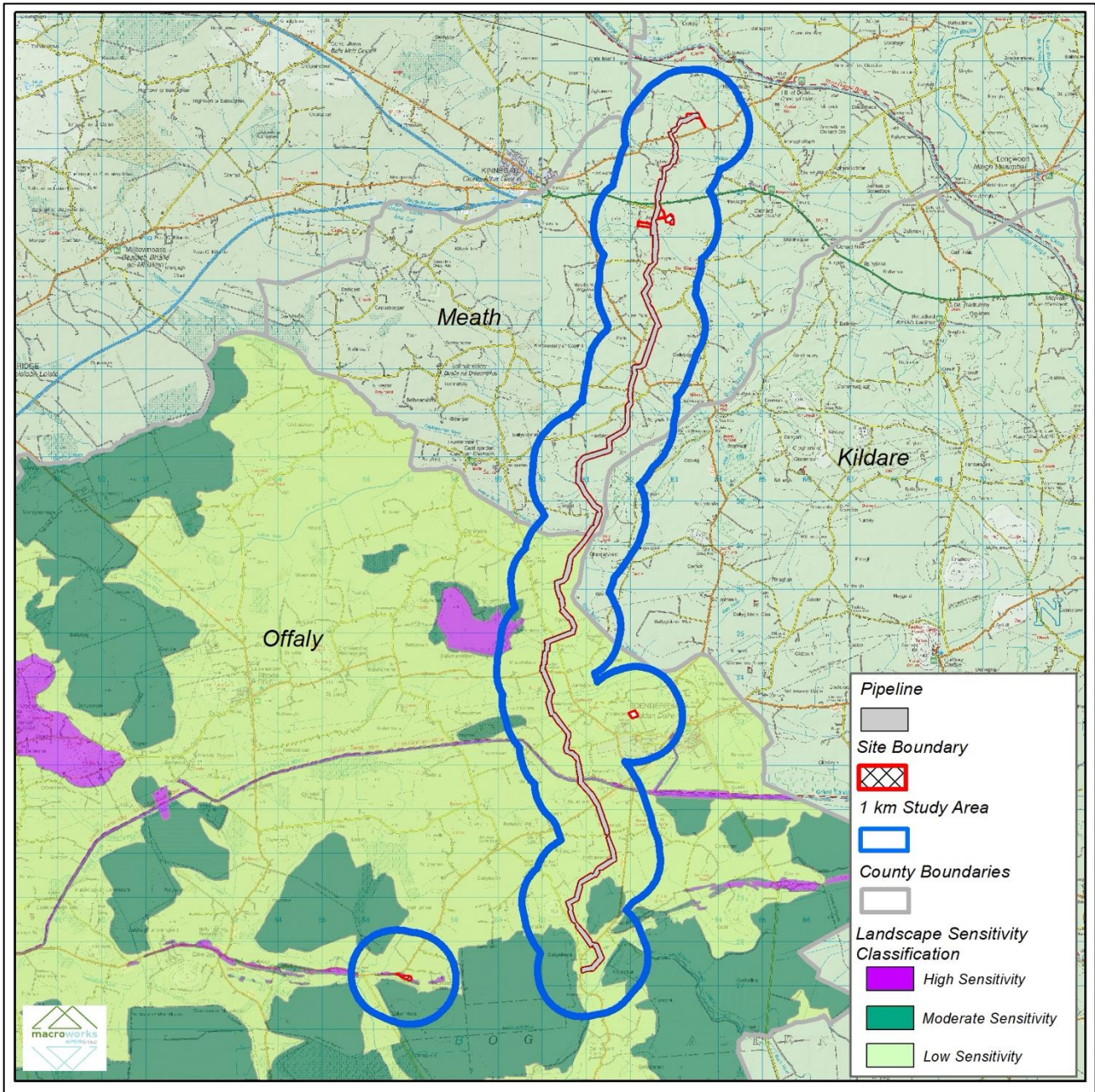
"Low sensitivity areas are robust landscapes which are tolerant to change, such as the county's main urban and farming areas, which have the ability to accommodate development...County Offaly is largely a rural county which comprises of a predominantly flat and undulating agricultural landscape coupled with a peatland landscape. Field boundaries, particularly along roadside verges which are primarily composed of mature hedgerows typify the county's rural landscape."

The objectives and aims of the County Development Plan are reflected in the policy below:

- ▶ BLP05 It is Council policy to ensure that development does not have a significant adverse impact, incapable of satisfactory avoidance or mitigation, on plant, animal or bird species protected by law.

- ▶ BLP38 It is Council policy to protect and enhance the county's landscape by ensuring that developments retains, protects and where necessary, enhances the appearance and character of the county's existing landscape.
- ▶ BLP39 It is Council policy to seek to ensure that local landscape features, including historic features and buildings, hedgerow, shelter belts and stone walls, are retained, protected and enhanced where appropriate, so as to preserve the local landscape and character of an area, whilst providing for future development.
- ▶ BLP40 It is Council policy to ensure that consideration of landscape sensitivity is an important factor in determining development uses.

Insert 11-2 Excerpt from Offaly County Development Plan 2023-2029 indicating 'Landscape Classification Areas'



11.3.1.3 Kildare County Development Plan 2023-2029

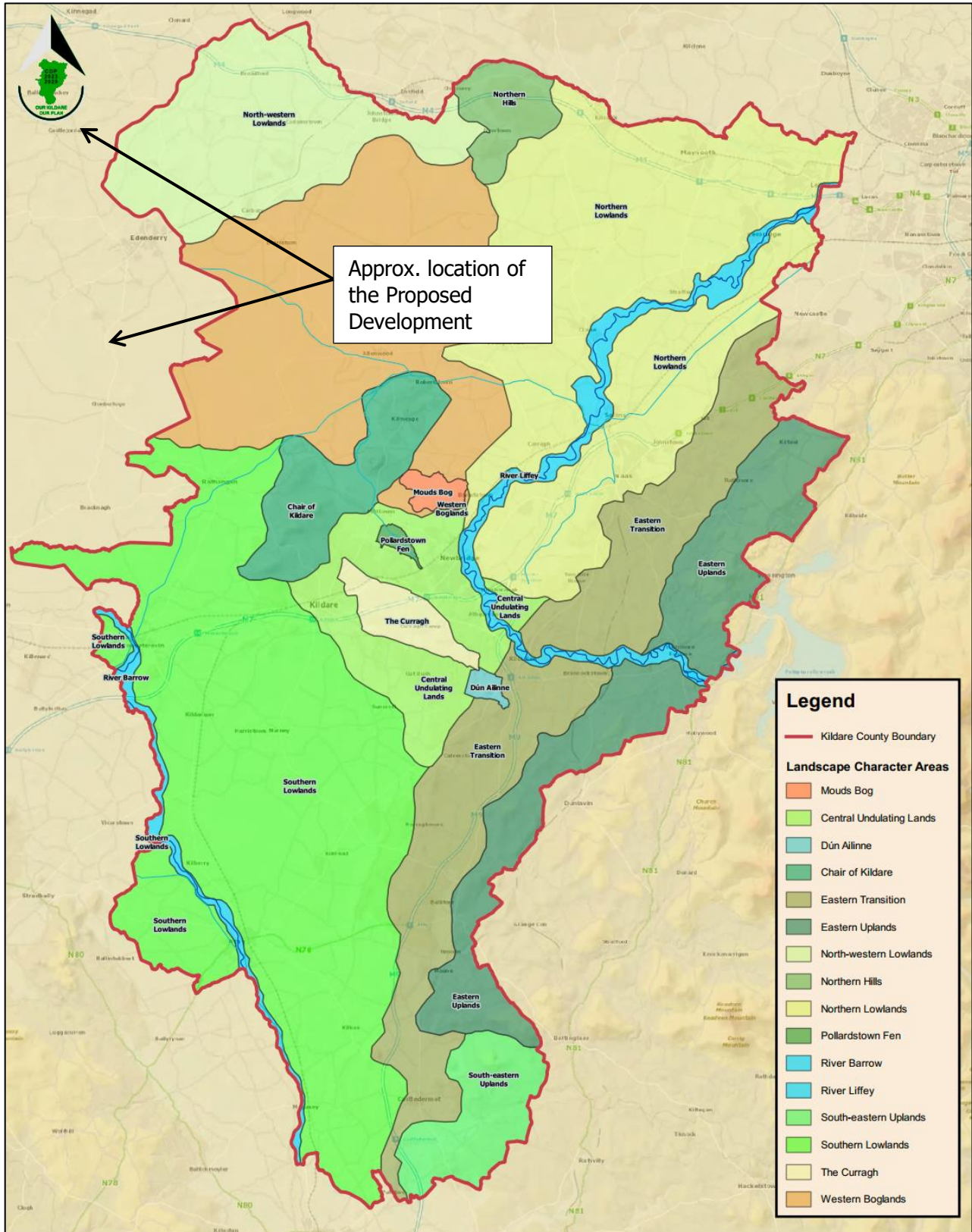
Whilst the Development is entirely contained within counties Offaly and Meath, the study area also includes some parts of the surrounding landscape within County Kildare. Thus, it is important to consider landscape designations and policies within the current Kildare County Development Plan (CDP)

A Landscape Character Assessment was carried out for Kildare and has been incorporated into the current County Development Plan. The current CDP divides the county into 16 different Landscape Character Areas. The wider study area falls within the 'North-western Lowland' (refer to Insert 11-3) that is described as an area "with the capacity to generally accommodate a wide range of uses without significant adverse effects on the appearance or character of the area".

The objectives of the County Development Plan are reflected in the policy included below:

- ▶ LRP1 Protect and enhance the county's landscape, by ensuring that development retains, protects and where necessary, enhances the appearance and character of the existing local landscape.
- ▶ LR01 Ensure that consideration of landscape sensitivity is an important factor in determining development uses. In areas of high landscape sensitivity, the design, type and the choice of location of the Proposed Development in the landscape will be critical considerations.
- ▶ LR04 Ensure that local landscape features, including historic features and buildings, hedgerows, shelter belts and stone walls, are retained, protected and enhanced where appropriate, so as to preserve the local landscape and character of the area.
- ▶ LR013 Recognise that boglands, including cutaway and cut-over bogs, are critical natural resources for ecological and environmental reasons, particularly for climate mitigation and adaptation. Development proposals for boglands that reduce biodiversity and increase greenhouse gas will not be considered. Appropriate environmental assessment should be carried out for any development proposals which impact on boglands.
- ▶ LR016 Require the undertaking of a peatland stability assessment, carbon emissions balance assessment and hydrological and ecological impact assessments, as appropriate, when developing project proposals for development on peatlands.

**Insert 11-3 Excerpt from Kildare County Development Plan 2023-2029 indicating
'Landscape Character Areas'**



11.3.1.4 Views of Recognised Scenic Value

Views of recognised scenic value are primarily indicated within the Development Plans in the context of scenic views/route designations, but they might also be indicated on touring maps, guide books, websites, road side rest stops or on post cards that represent the area.

There are no scenic route/view designations that fall within the 1km study area of the Proposed Development across the areas of Meath, Offaly or Kildare.

11.3.2 Landscape Baseline

The landscape baseline represents the existing landscape context and is the scenario against which any changes to the landscape brought about by the Proposed Development will be assessed. A description of the landscape context of the proposed application site and wider study area is provided below under the headings of landform and drainage, vegetation and land use, centres of population and houses, transport routes and public amenities and facilities. Although this description forms part of the landscape baseline, many of the landscape elements identified also relate to visual receptors i.e. places and transport routes from which viewers can potentially see the Proposed Development. The visual resource will be described in greater detail in section 11.3.3

11.3.2.1 Landform and Drainage

The landform does not change dramatically throughout the various defined sections and chainages of the Proposed Development, with the majority of the land presenting as a typical inland flat to low-rolling rural setting. The study area is composed of low-lying undulating terrain. Topography varies from 60-70m AOD in the locality of the site with low, broad hills rising to around 100m AOD in the surrounding landscape. The most notable waterbody in the study area would be the Grand Canal, which runs perpendicular to the Proposed Development in the southern extent of the study area as the canal passes west of Edenderry. At chainage 18090m (Pipeline Section 5) of the proposed pipeline corridor, the Grand Canal intersects the proposed pipeline route as it travels to the west of Edenderry. There are several other watercourses in the study area that intersect the Proposed Development including the Yellow River and Kilwarden River. The Kilwarden River crosses the Proposed Development north of the M4 motorway corridor near Aghnagillagh at chainage 1230m (Pipeline Section 1) and the Yellow River crosses the proposed pipeline at Clongall at chainage 11414m (Pipeline Section 3).

Figure 11-2 Landcover context within the study area



11.3.2.2 Vegetation and Land Use

The study area consists of multiple varied land uses including agricultural farmland bordered by mature hedgerow vegetation. The fields are split into geometrically shaped medium to large sized agricultural fields. There are also several large areas of boglands scattered throughout the study area and its immediate surrounds, especially to the south of the study area (Pipeline Section 6) both within the wider landscape to the east and west. These areas of peatbog tend to be encircled by areas of scrubby vegetation along their wider periphery. There are also several settlements within the area including Edenderry to the southeast (c.950m from site at nearest point – Pipeline Section 5) and Kinnegad (c.2.2km from site at nearest point – Pipeline Section 1) to the northwest of the study area. Other notable land uses include the Edenderry Power Plant located adjacent to the Proposed Ballykilleen AGI, whilst Cloncreen Wind Farm is another notable anthropogenic land use within the wider landscape at the southern extent of the study area (Pipeline Section 6).

11.3.2.3 Centre of Population and Housing

The most notable centre of population in relation to the Proposed Development is the settlement of Edenderry located approximately 950m from the proposed pipeline corridor (Pipeline Section 5) at its nearest point. Other notable centres of population within the study area are Kinnegad located within the wider landscape west of the north extent of the study area (Pipeline Section 1). Kinnegad is located to the west of the Proposed Development approximately 2.2km from the proposed pipeline corridor at its nearest point on the border of Meath and Westmeath. While Kinnegad sites outside of the 1km study area it is a large settlement within the area and worthy of note as many of the local roads that connect Kinnegad to Clonard and Edenderry will traverse the land of the proposed pipeline corridor. The settlement of Clonard is located to the east of the northern extent of the study area, located approximately 1.7km from the Proposed Development at its nearest point Pipeline (Section 1). The majority of the dwellings within the study area follow the pattern of the local roads with small linear clusters of dwelling located along located and regional roads within the study area.

11.3.2.4 Transport Routes

The principal transport route in the study area is the M4, which intersects the Proposed Development at chainage 3000m (Section 1) and is oriented in a general east-west direction through the study area and wider surrounding landscape. Apart from the M4, the study area is connected through a network of regional and local roads. The most notable regional roads in the area are the R441 (crossing chainage 15338 – Pipeline Section 4), R148 (crossing chainage 2472 – Pipeline Section 1), R402 (crossing chainage 18743 – Pipeline Section 5) and R401 (crossing chainage 22757 – Pipeline Section 6) regional road. There are also several local roads that intersect the Proposed Development within the study area.

11.3.2.5 Tourism, Heritage and Public Amenities

The main tourism and outdoor recreational amenity in the local area is the Grand Canal that passes through the south of the study area. The Grand Canal is a waymarked walking trail that offers routes along its banks and several aesthetically pleasant views from the multiple bridges that traverse the canal. In terms of outdoor recreational amenities there are several local sports pitches within Edenderry, Clonard and Kinnegad. The majority of the local landscape is not strongly associated with outdoor recreational activities as several highly anthropogenic land uses influence the character of the local landscape such as the agricultural lands and motorways corridors.

11.3.3 Visual Baseline

11.3.3.1 Identification of Representative Viewpoints as a Basis for Assessment

Representative Viewpoints (VPs) are the locations used to study the visual impacts of a Proposed Development in detail. It is not warranted to include each and every location that provides a view of a development as this would result in an unwieldy report and make it extremely difficult to draw out the key impacts arising from the Proposed Development. Instead, the selected viewpoints are intended to reflect a range of different receptor types, distances and angles. The visual impact of a Proposed Development is assessed by Macro Works using up to 6 no. categories of receptor type as listed below:

- ▶ Key Views (from features of national or international importance) (KV);
- ▶ Designated Scenic Routes and Views (SR/SV);
- ▶ Local Community views (LCV);
- ▶ Centres of Population (CP);
- ▶ Major Routes (MR);
- ▶ Amenity and heritage features (AH).

VPs might be relevant to more than one category and this makes them even more valid for inclusion in the assessment. The receptors that are intended to be represented by a particular VP are listed at the

beginning of each viewpoint appraisal. The Viewpoints selected in this instance are set out in the Table 11-7 and Figure 11-3 below.

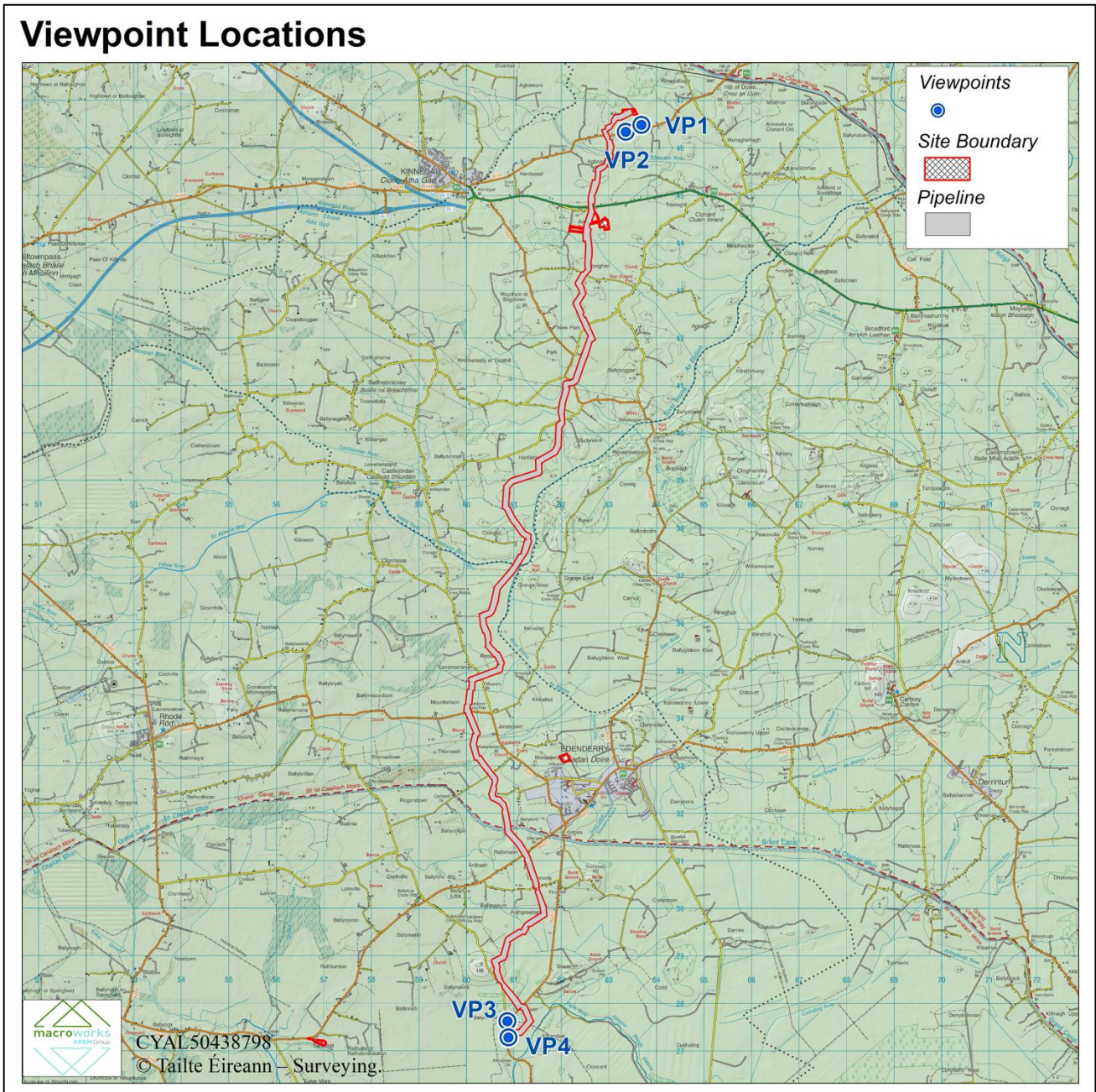
Note: In this instance, only viewpoints along above-ground features (the proposed Kilwarden Offtake Installation and Ballykilleen AGI) that form part of the Proposed Development have been selected. Indeed, due to the contained nature of both the Offtake and AGI, only two representative viewpoints for each were deemed necessary. As the majority of the Proposed Development comprises an underground pipeline, there is no requirement for photomontages to be prepared.

Table 11-7 Outline Description of Selected Viewpoints (VPs)

VP No.	Location	Representative of	Direction of view
VP1	R161 at Kilwarden (1)	LCV, MR	NW
VP2	R161 at Kilwarden (2)	LCV, MR	NE
VP3	R401 at Ballykilleen	LCV, CP,MR	SE
VP4	R401 at Ballykillen, west of Edenderry Power Station	LCV,MR	NE

In this instance, there are no relevant 'Designated Scenic Routes and Views' or 'Key Views' within the study area.

Figure 11-3 Viewpoint Location Map



11.4 Characteristics of the Proposed Development

The purpose of this section is to provide an overview of the key relevant details of the construction phase and operational phase of the Proposed Development. The information presented in this section is informed by the project design, but it is not a complete description of the Proposed Development. Therefore, it should be read in conjunction with the full development package. For a more comprehensive understanding of the Proposed Development, please refer to Chapter 2 (Description of the Proposed Development) of the EIA Report. Chapter 2 provides a detailed overview of the lifecycle of the project, including reference to the architectural and civil engineering, drawings, plans, reports, and other relevant document in order to define the Proposed Development.

11.4.1 Construction Phase

The most relevant construction stage aspects of the Proposed Development will comprise the following:

- ▶ Movement of HGVs to and from the site and along the surrounding road network.
- ▶ Creation of construction compound
- ▶ Stripping of topsoil and excavating of the proposed pipeline trenches
- ▶ Temporary storing of materials to be used within the Proposed Development
- ▶ Removal and cutting back of brief areas of vegetation intersecting the development
- ▶ Erection of site temporary and permanent site fencing
- ▶ Site clearance for both the proposed Kilwarden Offtake Installation and Ballykilleen AGI

11.4.2 Operational Phase

The most relevant operational aspects of the Proposed Development will comprise the following:

- ▶ Permanent above ground compound at the Kilwarden Offtake Installation and Ballykilleen AGI, including 2.4m high security fencing around both, respectively
- ▶ Reinstatement of any minor areas of vegetation removed as part of the construction stage.

11.5 Potential Impacts of the Proposed Development

11.5.1 Assessment of Receptor Sensitivity – Landscape

Landscape value and sensitivity are considered in relation to a number of factors highlighted in the Guidelines for Landscape and Visual Impact Assessment 2013, which are set out below and discussed relative to the proposal site and wider study area. The study area represents a relatively typical and robust rural landscape that is not considered highly rare or distinctive. The landscape character is principally influenced by the surrounding pastoral lands, typically bound by layers of intervening mixed hedgerow vegetation that truncate any notable sense of openness.

Some small areas of scrubby vegetation and peat bogs are also situated throughout the study area, whilst small linear clusters of residential dwellings also occur along the surrounding local and regional road network. The M4 motorway corridor also has a notable influence on the surrounding landscape as it crosses the Proposed Development in the northern extent (Pipeline Section 1) of the study area.

There are no designated scenic views/routes within the study area and the landscape value is typically associated with a productive, working rural landscape that is not considered highly rare or distinctive in any sense. In terms of recreational amenity within the study area, this is typically associated with a section of the Grand Canal, which intersects the Proposed Development as it passes through Edenderry in the southern extent of the study area.

With regard to landscape designations within County Meath, the Proposed Development is situated within the 'Southwest Lowlands' – LCA, which is attributed with a 'high' landscape value, a 'medium' landscape sensitivity and is described as a landscape of 'regional' importance. Nonetheless, at a more local level, the site and much of the study area is not considered highly susceptible to development or change, which is reinforced by the broad array of anthropogenic development types within the extent of the study area and wider surrounding landscape. It should also be noted that the majority of the proposed pipeline alignment within the study in County Offaly is classified as of 'low' sensitivity, with the only area of high sensitivity within the study area being the immediate context of the Grand Canal corridor.

Overall, it is considered that this is a robust, rural landscape context that is not highly susceptible to change and is influenced by a varied mix of highly anthropogenic land uses and built features. Therefore, on balance of these factors and in accordance with the criteria outlined in Table 11-2, the landscape sensitivity is deemed to be Medium-low, with some localised areas of higher and lower sensitivity.

11.5.2 Assessment of Receptor Sensitivity – Visual

The study area generally presents as a robust rural landscape, influenced by various forms of anthropogenic land uses such as urban settlements and major routes including the motorway and regional roads. Indeed, parts of the study area that are heavily influenced by such forms of development or land use tend to have a landscape sensitivity of Medium-low and in some cases, low where these land uses are the prominent land uses within the immediate surrounding landscape, such as contained sections of the M4 motorway corridor.

Some of the more susceptible parts of the surrounding landscape relate to the corridors of streams and watercourses. Of most note, is the Grand Canal corridor, which is also a notable amenity feature as it hosts a national waymarked walking trail and provides a localised sense of visual amenity that is principally contained within the corridor of the Grand Canal corridor itself. Indeed, the receptor sensitivity at the Grand Canal Corridor is deemed Medium.

Views of the working agricultural landscape are generally pleasant in terms of its rolling pastoral aesthetic and 'green', settled working character. The network of hedgerows and vegetation throughout it contributes to some sense of naturalness and, combined with its undulating topography, generates a sense of containment in many locations. However, whilst a pleasant pastoral aesthetic is noted throughout some parts of the study area, as noted above, this is a typical robust rural landscape that is not considered high rare or distinctive. Overall, the sensitivity of visual receptors within the more typical working landscape context tends to range between Medium and Medium-low, with those of a Medium sensitivity representing more open expansive views across the wider landscape.

Key differentials in terms of visual receptor sensitivity relate to the occupation of the visual receptor and whether views of the surrounding landscape are an inherent part of the experience. Static residential receptors are considered generally more susceptible to changes in views over those where views are experienced transiently by those travelling through the landscape, particularly on major transport routes where road infrastructure and traffic volume draw from visual amenity. Likewise, receptors located in closer proximity to the site are considered more susceptible to changes in views over those where views are experienced at a distance.

On the basis of the site-specific factors outlined above and in accordance with the general visual receptor sensitivity considerations contained in the methodology Section 11.2.5, visual receptor sensitivity judgements are provided for each representative viewpoint in the table below in section 11.5.6 below.

11.5.3 Magnitude of Landscape Impacts– Construction Phase

During the construction phase, there will be notably higher intensity of activity at the site and along the surrounding local roads than during the operational phase. This will consist of heavy vehicle movement to and from the site as well as construction machinery within the site. In some areas of the site, this will be less noticeable than others, as HGV's are commonplace along the busier regional roads and the M4 motorway corridor. Construction stage impacts will also be generated by the introduction of temporary site lighting and the temporary storage of construction materials and excavated ground.

The impacts on the physical terrain of the Proposed Development relate to the stripping of topsoil to a typical depth of 300mm along the site's working area, which extends the entire extent of the route. This working area will marginally increase in the surrounds of water and road crossings. This construction methodology requires the removal of a stretch of hedgerow at each boundary crossing. This will result in short term loss of some areas of existing hedgerow.

With regard to the storage of materials, the linepipe will be stored within the 5 no. Temporary Construction Compounds and within Laydown Areas (Type A), as set out in Section 2.4.4.4 of Chapter 2.

The most notable physical impacts on the landscape relate to the excavation of the proposed trenches, which will be excavated to the required minimum 1.65 m depth. There will also be construction-related activities associated with the permanent Ballykilleen AGI and the proposed Kilwarden Offtake Installation, much of which relates to soil-stripping, construction of AGI and site security fencing at both locations.

Construction phase impacts on the landscape are considered to be 'short-term' and will occur over an 24 month period. A summary of construction activities within the site are included below:

- ▶ HGV's transporting materials to and from the site;
- ▶ Movement of heavy earth-moving machinery on-site;
- ▶ Temporary storage of excavated materials and construction materials on-site;
- ▶ Security fencing and site lighting.
- ▶ Trees and hedgerows to be retained will be protected in accordance with British Standard BS5837: 2012 Trees in Relation to Design, Demolition and Constriction

Whilst there will be some physical construction stage works, these are considered to be relatively modest, much of which relates to soil stripping and excavation of a relatively narrow trench. Furthermore, construction related activity and its effect on landscape character will be temporary in duration and will be heavily localised. For these reasons, the magnitude of landscape effects during the construction stage is deemed to be Low within the immediate surrounds of the site, however, this quickly reduces to Low-negligible and Negligible in the wider surrounds of the study area where visibility of construction activity is likely to be very limited as a result of the surrounding dense intervening hedgerow networks.

11.5.3.1 Significance of Construction Phase Landscape Effects

In combination with the Medium-low landscape sensitivity designation outlined above, the significance of construction stage (***short-term***) effect is deemed to be ***Slight*** within the immediate surrounds of the site, however this quickly reduces to ***Slight-imperceptible*** and ***Imperceptible*** within the wider study area where construction activities will be barely discernible. The quality of the construction stage effects will be ***negative***. Overall, construction stage landscape effects are assessed as ***not significant***.

11.5.4 Magnitude of Visual Impacts – Construction Phase

During construction, the main visual impacts will arise from frequent heavy vehicle movements and worker vehicles travelling to and from the site and using the site entrance. In addition, there will be construction machinery on site, which may rise above intervening vegetation and buildings. There will also be stockpiles of stripped topsoil and construction materials awaiting use, much of which will be located within the 3 no. designated compounds along the proposed route. However, aside from the site's immediate vicinity, a large part of this temporary activity within the site will remain screened and partially screened from view by the mixed clipped and mature tree-lined hedgerows located in the surrounds of the site and its immediate landscape context. Furthermore, construction-related activity is 'short-term' in nature and will cease once the development becomes fully operational. Thus, construction stage visual effects are likely to result in a visual impact of no greater Medium-low in the immediate surroundings of the site.

11.5.4.1 Significance of Construction Phase Visual Effects

Coupled with the Medium-low visual receptor sensitivities in the surrounds of the site, the significance of construction stage (***short-term***) visual effects in the immediate vicinity of the site will be no greater than ***moderate-slight*** and will reduce considerably beyond 500m from the site, where the Proposed Development will be heavily screened. As a result, construction stage visual effects are assessed as ***not significant***.

11.5.5 Magnitude of Landscape Impacts – Operational Phase

Once the construction phase is complete, any disturbed road surface / agricultural grassland will be reinstated along the pipeline corridor. Thus, there will be little evidence of the Proposed Development, aside from the permanent above ground pigging compound at the Kilwarden Offtake Installation and Ballykilleen AGI, which will both be fenced off with 2.4m high-security fences. Nonetheless, it is proposed to plant native hedgerow in the surrounds of this fence at the Kilwarden Offtake Installation (refer to drawing 14301-GNI-01-PL-LA-0001-01) to further screen the Proposed Development, which further limits its potential to have any notable impact on the surrounding landscape character. Aside from areas located immediately above the pipeline corridor, all areas of hedgerow vegetation removed will be fully reinstated with an appropriate native planting mix of local provenance.

Operational stage (**long-term - permanent**) impacts mainly relate to the maintenance works for the pipeline corridor, which will be infrequent and will be brief in nature. Maintenance operations will be much less intensive than the activity at the construction stage. For these reasons, the underground pipeline is deemed to have a **negligible** magnitude of landscape effect.

11.5.5.1 Significance of Operational Phase Landscape Effects

In combination with the Medium-low landscape sensitivity, the significance of operational stage (**long-term - permanent**) landscape impact is deemed **imperceptible** and of a **neutral** Quality. Thus, operational phase landscape effects are assessed as **not significant**.

11.5.6 Magnitude of Visual Impacts – Operational Phase

In similar circumstances to the landscape effects, due to the limited visibility of the Proposed Development from surrounding receptors, there is limited potential for the Proposed Development to generate any notable visual impacts. Indeed, once the landscape in the surrounds of the proposed pipeline corridor has fully reinstated, there will be little, if any evidence that the pipeline corridor exists. The only real potential for residual visual impacts relates to the Ballykilleen AGI and the Kilwarden Offtake Installation, which will both be enclosed by a 2.4m high fence and surrounding hedgerow planting. In this regard, several representative views were selected in the surrounds of both the Kilwarden Offtake Installation at the northern end of the pipeline corridor and the proposed Ballykilleen AGI located at the southern tip of the proposed pipeline corridor.

The assessment of visual impacts at each of the selected viewpoints is aided by photomontages of the Proposed Development. Photomontages are a 'photo-real' depiction of the scheme within the view utilising a rendered three-dimensional model of the development, which has been geo-referenced to allow accurate placement and scale. For each viewpoint, the following images have been produced:

1. Existing view;
2. Operation Phase View (showing extent of Proposed Development);

The assessment of visual effects at the four representative viewpoints that represent both the Kilwarden Offtake Installation and Ballykilleen AGI is provided in the Table 11-8 below.

Table 11-8 Assessment Visual Effects at Representative Viewpoints

VP No.	Proposed Development Element	Existing View	VP Sensitivity	Magnitude of Visual Impact	Residual Significance / Quality / Duration of Effect
VP1	Kilwarden Offtake Installation	R161 at Kilwarden (1): This is a view is from the R161 regional road and is representative of local community receptors within the surrounding local landscape context. The view is oriented northwest looking over an open field in the foreground, adjacent to a nearby residential land holding. The view is contained by the dense mature stacked vegetation a short distance to the north.	Medium-low	No views of the proposed offtake, partial or otherwise, can be seen from this viewpoint location. Therefore, the magnitude of effect is negligible by default and of neutral quality.	Imperceptible / Neutral / Permanent
VP2	Kilwarden Offtake Installation	R161 at Kilwarden (2): This view is afforded from a the R161 slightly further to the west of VP1 above, and is representative of surrounding local community receptors, principally residual receptors immediately south of the regional road corridor. The view is oriented northeast with partial views of the landscape afforded beyond the dense hedgerow that lines the road. The view is contained by layers of stacked vegetation a short distance north of the regional road corridor.	Medium-low	No views of the proposed offtake, partial or otherwise, are afforded from this view point. Therefore, the magnitude of effect is negligible by default with a neutral quality.	Imperceptible / Neutral / Permanent
VP3	Ballykilleen AGI	R401 at Ballykilleen: This view is afforded from a local road intersection of the R401 adjacent to one of the entrances to Cloncreen Wind Farm. This is a relatively contained view that is representative of local community receptors and the major route corridor. The view looks across the regional road corridor and is contained on either side by dense mature trees and hedgerow vegetation. Partial glimpses of some of the Cloncreen turbines and the existing built infrastructure within Edenderry Power Station are afforded above the nearby intervening hedgerow vegetation.	Medium-low	No views of the proposed Ballykilleen AGI, partial or otherwise, are afforded from this view point. Therefore, the magnitude of visual impact is negligible by default with a neutral quality.	Imperceptible / Neutral / Permanent

VP No.	Proposed Development Element	Existing View	VP Sensitivity	Magnitude of Visual Impact	Residual Significance / Quality / Duration of Effect
VP4	Ballykilleen AGI	R401 at Ballykillen, west of Edenderry Power Station: This view is afforded from the side of the regional road and is representative of users of the regional road corridor. The nearby roadside hedgerow partially screens views to the east, with visibility of larger built features and distant existing wind turbines afforded over top of the near roadside hedgerow.	Medium-low	The proposed Ballykilleen AGI compound will be partially visible from this visual context. Over the dense low hedgerow the built components of the proposed Ballykilleen AGI are visible contained within a 2.4m security fence. The mature hedgerows effectively screen the majority of the development and will largely diminish its visual presence from here. Overall the Proposed Development does not present ambiguously as it is located within the confines of the Edenderry Power station, which comprises similar such development. Therefore the magnitude of effect is deemed to be Low with a negative quality.	Slight / Negative / Permanent

11.5.6.1 Summary of Operational Phase Visual Effects

With regard to the proposed pipeline corridor, the operational phase visual effects will be limited to the post-and-wire fence that will enclose its corridor. Indeed, this fencing is a characteristic feature of the rural environment and will have no notable effect on the visual amenity afforded from the surrounding landscape. Thus, the magnitude of visual effect with respect to the proposed pipeline is deemed Negligible and Neutral. Combined with the medium-low and medium receptor sensitivity within the immediate surrounding landscape context, the residual significance of effect is deemed Imperceptible.

In terms of the Kilwarden Offtake and Ballykillen AGI, both of these built features are well contained and will have a limited degree of visual exposure, even on the immediate surrounding landscape. Indeed, the two viewpoints selected to represent receptors in the surroundings of the Kilwarden Offtake were classified with a residual significance of effect of Imperceptible. With regard to the Ballykillen AGI, the nearest representative viewpoint (VP4) was classified with a residual significance of visual effect of no greater than Slight, as only a partial view of the compound will be afforded from the regional road in the surrounds of the entrance to Edenderry Power Station. Indeed, even if visible from here, the AGI compound will likely be perceived as an additional built feature of the power station development and will not appear out of place. Beyond the nearest sections of the adjacent regional road corridor, the proposed AGI compound will be fully screened, resulting in Imperceptible effects.

Overall, the residual visual effects generated by the Proposed Development are in the lower order of magnitude and are assessed as Not Significant.

11.6 Mitigation Measures

11.6.1 Construction Phase

The remedial measures proposed revolve around the implementation of appropriate site management procedures – such as the control of site lighting, storage of materials, placement of compounds, delivery of materials, car parking etc. Visual impact during the construction phase will be mitigated somewhat through appropriate site management measures and work practices to ensure the site is kept tidy, dust is kept to a minimum, and that public areas are kept free from building material and site rubbish.

Site hoarding and fencing will be appropriately scaled, finished and maintained for the period of construction of each section of the works as appropriate. To reduce the potential negative impacts during the construction phase, good site management and housekeeping practices will be adhered to (detailed mitigation measures are outlined in Section 4 of the CEMP (Appendix 2.2 in Volume 3 of the EIAR)). The visual impact of the temporary construction compounds during the construction phase are of a temporary nature only and therefore require no remedial action other than as stated above.

Existing trees and hedgerows to be retained are particularly sensitive to negative impacts during the construction phase if proper protection measures are not adhered to. With regard to the protection of the retained trees on site during proposed construction works, reference should be made to BS5837; Trees in Relation Design, Demolition and Construction- Recommendation (BSI 2012). The retention of existing green corridors such as hedgerows and promotion of biodiversity through native species landscaping will be undertaken where feasible along the pipeline route.

As part of baseline surveys an Arboricultural Report has been prepared in accordance with BS5837; Trees in Relation Design, Demolition and Construction- Recommendation (BSI 2012), showing the constraints along the route corridor, and is provided in Appendix 11.2. The objective of this survey was to gather information regarding the location of trees, tree groups, and hedgerows.

The survey report details constraints posed by existing trees to the Proposed Development as well as, the likely impact of the Proposed Development on trees within the site. The Arborist report includes detailed plans for tree protection, retention, or removal. Recommendations for the protection of trees and

hedgerows during construction work is based on BS 5837: 2012. Any recommendations for tree work are based on BS 3998: 2010 Tree Work - Recommendations.

Tree removal will be minimised to the greatest extent possible, with the Project Arboriculturist overseeing and approving only those removals essential for construction. Any trees or areas of mature vegetation removed to facilitate the full footprint of the Proposed Development will be quantified and replanted on a like-for-like basis. A landscape plan will be prepared by a suitably qualified landscape architect showing the location of the proposed compensatory planting at these locations. All replacement planting will be of native stock and of local provenance to mimic the existing vegetation already established within the intervening landscape.

11.6.2 Operational Phase

The primary 'mitigation measure' employed in respect of landscape and visual impacts for the proposed was avoidance of impacts. The key mitigation relevant to landscape and visual, as well as many of the other environmental factors, was to place the pipeline underground. This mitigation is embedded in the final design.

Once the construction stage works are complete, the grounds surrounding the proposed pipeline will be reinstated and will be reseeded with an appropriate grass seed mix of local provenance. Once fully reinstated, the areas of existing farmland can be used for typical agricultural practices.

Areas of existing hedgerow removed as part of the construction stage works (aside from those directly over the pipeline) will be reinstated with a native whip planting mix of local provenance including the following species:

- ▶ Elder *Sambucus nigra*
- ▶ Hazel *Corylus avellana*
- ▶ Hawthorn *Crataegus monogyna*
- ▶ Blackthorn *Prunus spinosa*
- ▶ Whitebeam *Sorbus aria*
- ▶ Rowan *Sorbus aucuparia*
- ▶ Birch *Betula Spp.* (wetter areas)
- ▶ Guelder Rose *Viburnum opulus*

It is also proposed to plant sections of native hedgerow around the permanent Kilwarden Offtake Installation to reduce the built tone and texture of the proposed 2.4m high security fencing (refer to drawing 14301-GNI-01-PL-LA-0001-01). As noted above, compensatory planting to offset the removal of any mature trees or vegetation during the construction stages of the Proposed Development will also be included in the surrounds of the Kilwarden Offtake Location to further screen the Proposed Development and assimilate it into the surrounding pastoral landscape context.

These planting works will be undertaken in the next available planting season after the completion of the main civil engineering works.

11.7 Monitoring or Reinstatement Measures

11.7.1 Construction Phase

Landscape tender drawings and specifications will be produced to ensure that the landscape work is implemented in accordance with best practice. This document will include tree work procedures, soil handling, planting and maintenance. The contract works will be supervised by a suitably qualified landscape architect.

The planting works will be undertaken in the next available planting season after completion of the main civil engineering works.

All tree protection requirements will be installed on commencement of the development and removed on a phased basis as stages of the development are completed.

11.7.2 Operational Phase

This will consist of weed control, replacement planting, pruning etc. All landscape works will be in an establishment phase for the initial three years from planting. All works will be monitored on an ongoing basis to ensure the quality of the development is maintained.

11.8 Residual Effects of the Proposed Development

11.8.1 Construction Phase

It is not considered that the residual construction stage effects will notably differ from the aforementioned construction stage impacts Section in 11.5.3 above. Overall, the residual construction stage significance of landscape effects are deemed to be no greater than ***slight, negative*** and ***short-term*** in duration. The residual construction stage significance of visual effect is considered to be ***moderate-slight, negative*** and ***short-term***.

11.8.2 Operational Phase

Whilst the residual operational stage effects will be much the same as the impacts stated in Section 11.5.6 above, there will be a marginal reduction in the residual visual impact at receptors in the surrounds of both the proposed mitigation screen planting has fully established. Once fully established, the proposed planting will largely screen both compounds, creating a much softer and site specific boundary treatment. Thus, the residual significance of operational stage landscape impact is deemed not greater than ***slight-imperceptible, neutral-negative*** and ***permanent***, whilst the residual significance of operational stage visual impact will reduce to ***slight-imperceptible, neutral*** and ***permanent***.

11.9 References

- ▶ Landscape Institute and the Institute of Environmental Management and Assessment (IEMA) publication entitled Guidelines for Landscape and Visual Impact Assessment, 2013 (GLVIA3);
- ▶ Environmental Protection Agency (EPA) publication 'Guidelines on the Information to be contained in Environmental Impact Statements (2022); and
- ▶ 'Photography and Photomontage in Landscape and Visual Impact Assessment', Landscape Institute Technical Guidance Note 06/2019.