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LANDSCAPE & VISUAL IMPACT ASSESSMENT

Proposed Greenhills Renewable Energy
Park

Co. Cork

Prepared by Macro Works Ltd on behalf of Perigus Energy

July 2026



LVIA | TVIA | Landscape Design | Visibility Analysis | Glint and Glare | Verified Photomontages | CGI | Shadow Flicker Analysis

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This LVIA should be read in conjunction with the LVIA Photomontages produced by Macro Works Ltd (Appendix P to the Planning and Environmental Report submitted as part of the Planning Application for the Proposed Development).



1. LANDSCAPE AND VISUAL IMPACT ASSESSMENT

1.1 INTRODUCTION

This Landscape and Visual Assessment (LVIA) has been prepared to accompany a planning application for a solar farm with a total area of circa 323 ha in the townlands of Knocknagappagh, Barnaviddane, Ballyneague, Ballydaniel, Youghalpark, Ballydaheen and Cornaveigh in County Cork.

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).

1.1.1 Approach and Statement of Authority

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.

This LVIA was prepared by Cian Doughan, Associate Director at Macro Works Ltd of Cherrywood Business Park, Loughlinstown, Dublin 18; a consultancy firm specialising in Landscape and Visual Assessment and associated maps and graphics. Macro Works' relevant experience includes a broad range of infrastructural, renewable energy, industrial and commercial projects since 1999, including numerous urban, residential, and mixed use development projects.

1.1.2 Description of the Proposed Development

A detailed description is included in the Planning and Environmental Report Chapter 4 Description of the Proposed Development. In summary, the Proposed Development area is 323 ha and will comprise the following elements:

- Solar array
- Inverter/transformer stations
- New site entrances and access tracks
- All ancillary development such as drainage infrastructure, security fencing, CCTV, weather stations and storage containers for spare parts.
- Temporary construction compound(s)
- Landscaping

- Biodiversity enhancement
- Battery energy storage system (BESS)
- 220kV substation & loop in grid connection

1.2 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.

1.2.1 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 Spring 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.

1.2.2 Study Area

From similar studies, it is anticipated that the proposed development is likely to be difficult to discern beyond approximately 5km and is not likely to give rise to significant landscape or visual impacts beyond approximately 2km. In the interests of a comprehensive appraisal, a 5km radius study area is used in this instance. However, there will be a particular focus on receptors contained within 2km, except where iconic or designated scenic viewpoints exist at greater distances out to 5km (refer to Figure 1.1). A study area of 5km has typically been used for solar projects in Ireland, Northern Ireland and Great Britain and this approach has been deemed acceptable by multiple planning authorities including Cork County Council.

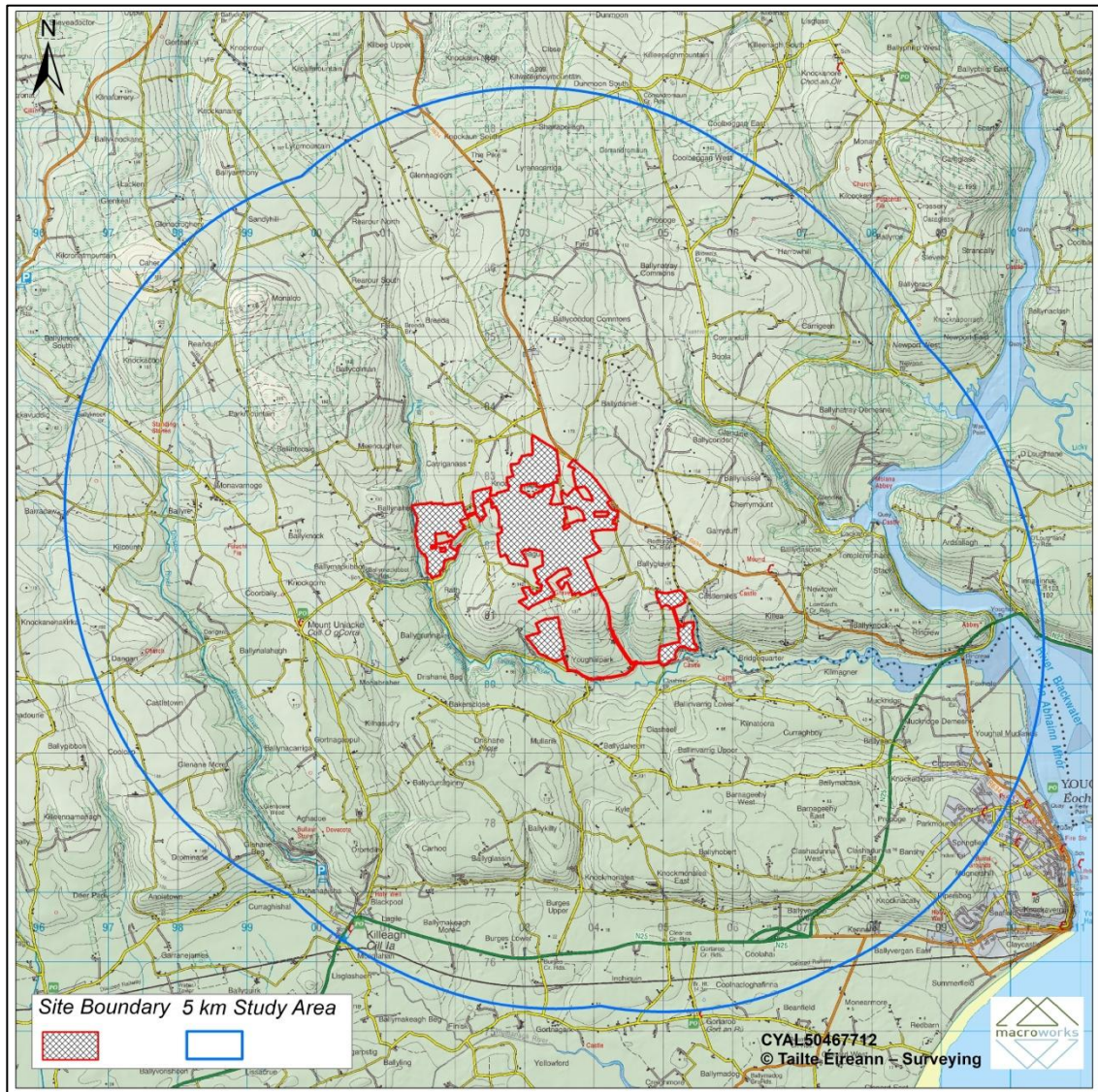


Figure 1.1 5km Extent of the Study Area

1.2.3 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.

1.2.3.1 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 1.1.

Table 1.1 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.

1.2.4 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 1.2 outlines criteria used to inform this judgement.

Table 1.2 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.

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.

1.2.5 **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.

It has been deemed appropriate to structure the assessment around a series of representative viewpoint locations. 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.

1.2.5.1 *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.

1.2.5.2 *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”.*

1.2.5.3 Values 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 designated areas such as National Parks and other highly susceptible landscape 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 built up urban areas, 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.

1.2.6 **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. It is often, though not always, expressed using one of the following terms: Minimal; Sub-dominant; Co-dominant; Dominant; Highly dominant. Criteria used to inform judgements are provided in Table 1.3.

Table 1.3 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.

1.2.7 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 1.4 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 1.5.

Table 1.4 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 1.5 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	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

	changes over some of the area or moderate changes in a localised area.	appreciable segment of the overall visual composition, or there is an intrusion in the foreground of a view.
Slight	An effect which causes noticeable changes in the character of the landscape without affecting its sensitivities. There are minor changes over a small proportion of the area or moderate changes in a localised area or changes that are reparable over time.	An effect which causes noticeable changes in the character of the visual environment without affecting its sensitivities. The affected view forms only a small element in the overall visual composition or changes the view in a marginal manner.
Imperceptible	An effect capable of measurement but without noticeable consequences. There are no noticeable changes to landscape context, character or features.	An effect capable of measurement but without noticeable consequences. Although the development may be visible, it would be difficult to discern resulting in minimal change to views.

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 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.

1.2.8 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 new energy / infrastructure developments within rural and semi-rural settings, the landscape and visual change brought about by an increased scale and intensity of built form is seldom considered to be positive / beneficial. Effects in these contexts are generally considered to be adverse in nature, or neutral, where the effect has little influence on the landscape/views.

1.3 LANDSCAPE AND VISUAL POLICY CONTEXT AND DESIGNATIONS

1.3.1 Cork County Development Plan 2022-2028

The Cork County Development Plan 2022-2028 includes Chapter 14 'Green Infrastructure and Recreation', within which sub-section 14.7 relates to landscape. A number of general objectives relating to landscape are noted within this chapter and are included below;

GI 14-9: Landscape

1. *“Protect the visual and scenic amenities of County Cork’s built and natural environment.*
2. *Landscape issues will be an important factor in all land-use proposals, ensuring that a pro-active view of development is undertaken while maintaining respect for the environment and heritage generally in line with the principle of sustainability.*
3. *Ensure that new developments meets high standards of siting and design.*
4. *Protect skylines and ridgelines from development.*
5. *Discourage proposals necessitating the removal of extensive amounts of trees, hedgerows and historic walls or other distinctive boundary treatments.”*

GI 14-10: Draft Landscape Strategy

“Ensure that the management of development throughout the County will have regard for the value of the landscape, its character, distinctiveness and sensitivity as recognised in the Cork County Draft Landscape Strategy and its recommendations, in order to minimize the visual and environmental impact of development, particularly in areas designated as High Value Landscapes where higher development standards (layout, design, landscaping, materials used) will be required.”

A Landscape Character Assessment was undertaken as part of the Draft Cork Landscape Strategy (2007). This has been incorporated within the Cork County Development Plan (2022-2028) and divides the county into 16 No. Landscape Character Types (LCTs). The proposed development is located within LCT10b – Fissured Fertile Middleground (Figure 1.2 and Figure 1.3 refers), which is classified with a 'Medium' landscape value, 'High' landscape sensitivity, and 'County' level landscape importance. This landscape type *“runs broadly between Macroom to the west and the county boundary to the east. This landscape type, as a middleground, has characteristics of both the flatter fertile farmland type (Fertile Plain with Moorland Ridge) and the higher marginal hilly or rugged type (Rolling Marginal and Forested Middleground). It comprises an area rising above adjacent plains with moderate to low relief of elongated interlocking hills forming sinuous rivers. It is an elevated landscape, which is sequentially fissured by these rivers and their valleys. Many of the rivers in the western parts extend beyond this landscape type and feed into the River Lee and Bandon River while those to the east head southwards to the sea.”*

Other landscape types within the wider study area include LCT6b - Broad Fertile Lowland Valleys and LCT2 Broad Bay Coast. Due to its coastal location, LCT2 is much more susceptible to development and is classified with a 'Very High' value, 'Very High' sensitivity and 'County' level importance. LCT6b represents a landscape setting more typical in nature and is classified with a 'Medium' value, 'Medium' landscape sensitivity and 'Local' landscape importance.

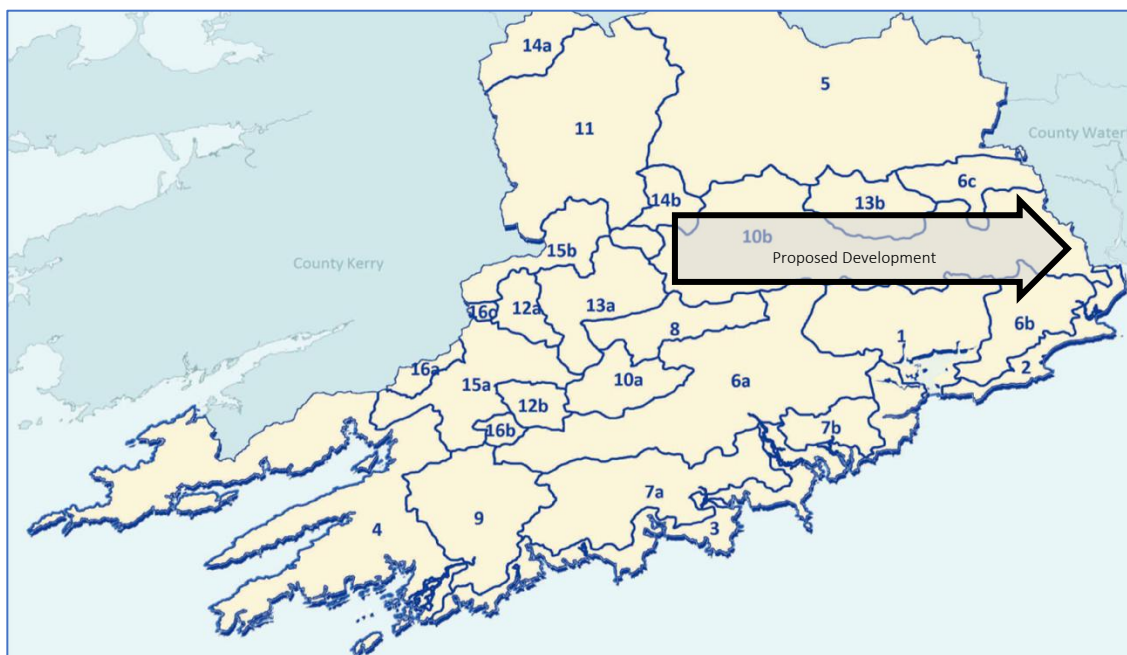


Figure 1.2 Excerpt from Cork County Development Plan (2022-2028). Appendix F, Map 2 showing approximate locations of the proposed development in relation to Landscape Character Types.

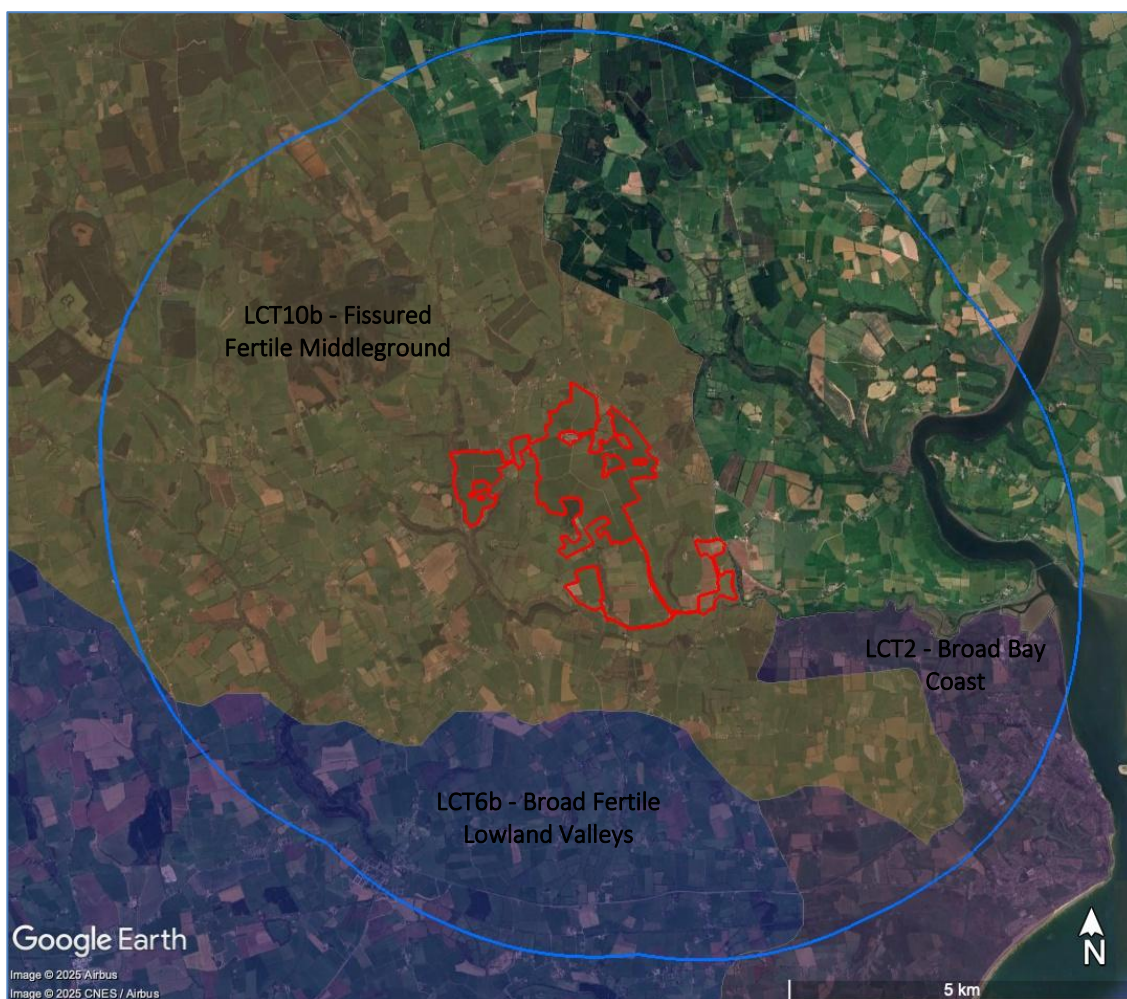


Figure 1.3 Excerpt from the Cork County Development Plan (2022-2028) map browser, showing landscape character types in relation to the proposed development.

The value of the landscape in county Cork “is defined as the environmental or cultural benefits, including services and functions, which are derived from various landscape attributes. Value is evaluated using criteria ranging from Very High to Low”. The proposed development site is not contained within a High Value Landscape (HVL) designation. However, the nearest HVL Designation is contained to the southeast of the site and is associated with the more susceptible LCT2 - Broad Bay Coast (refer to Figure 1.4).

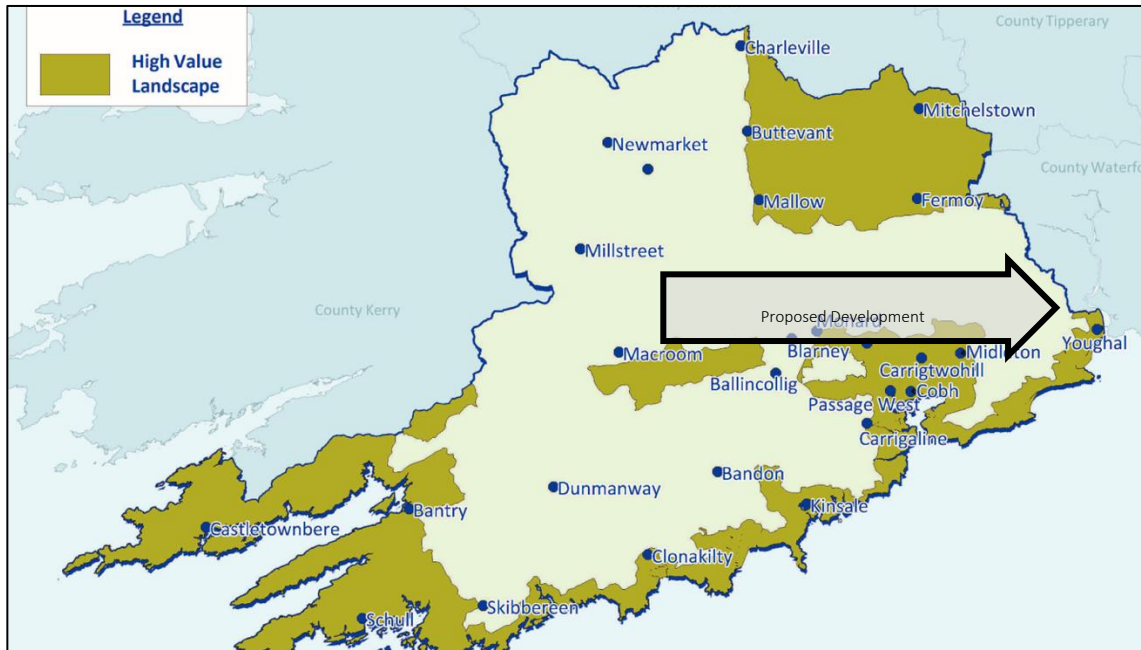


Figure 1.4 Excerpt from CCDP (2022-2028). Chapter 14, Figure 14.2 showing approximate location of the proposed development in relation to high value landscapes

A number of general recommendations are outlined in the Draft Cork County Landscape Strategy regarding LCT10b – Fissured Fertile Middleground. Those deemed relevant to the proposed development are included below:

- The majority of this landscape is farmed relatively intensively therefore the promotion of agriculture as the major land use in this LCT will help maintain the existing features of the landscape while also supporting the local economy and rural diversification.
- Provide incentives to landowners to improve condition of farmland, including management of hedgerows and trees in field boundaries.
- New farm buildings must be designed to integrate with the landscape considering factors such as size, materials and colouring.
- Maintain and enhance views to and from areas of visual value including extensive uninterrupted views across open countryside.
- Maintain the visual integrity of the area which has retained a dominantly undisturbed upland character.

1.3.2 Waterford County Development Plan (CDP) 2022-2028 - Landscape Character Assessment

The eastern and north-eastern extent of the study area (but not the extents of the planning application boundary) lies within County Waterford. Therefore, it is important to consider landscape policies and designations within County Waterford.

Chapter 10 of the Waterford CDP 2022–2028 identifies seven Landscape Character Types (LCTs): coastal landscapes, river corridor and estuary landscapes, farmed lowland landscapes, foothill landscapes, upland landscapes, and urbanising landscapes. These LCTs are further subdivided into Landscape Character Units (LCUs). The LCUs that fall within the study area are: LCA 2D – Clashmore & Newport Lowlands, LCA 3A – Blackwater & Bride River Corridor, and LCA 5F – Glendine Foothills.

The CDP identifies ‘landscape sensitivities’, with the river valley area of the Blackwater and its surrounding tributaries being classed as ‘most sensitive’. The other areas within the study area in County Waterford are deemed to be of low sensitivity, as they represent more typical working rural environments.

1.3.3 Views of Recognised Scenic Value

Views of recognised scenic value are primarily indicated within Development Plans in the context of scenic views/routes 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.

Cork County Development Plan 2022-2028

Subsection 14.9 of the current County Development Plan identifies views and prospects within County Cork. These are defined in Volume 2, Heritage and Amenity, Chapter 5: Scenic Routes, and are identified on the County Development Plan Map Browser. Those within the study area are listed below:

- S45 - Road Between Youghal and Tallow
- S46 - Youghal Bypass

Waterford County Development Plan 2022-2028

No protected views occur within the study area, however one scenic route as designated within the current Waterford CDP (2022-2028) passes through the eastern extent of the study area, on the southern banks of the River Blackwater and across rolling farmland west of the Blackwater, namely Scenic Route 4 - *"Third class route from the mouth of the Glendine River, crossing the River Bride and following the Blackwater north, turning west to Lismore"*.

1.4 EXISTING ENVIRONMENT

1.4.1 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 1.4.2.

1.4.1.1 *Landform and Drainage*

The landform of the site and study area comprises low, rolling terrain intersected by several river valleys. The landform of the site varies from approximately 159 m AOD in the more northern and central parcels to around 24 m AOD in the southernmost parcels, in the vicinity of watercourses and river valleys. Overall, the terrain within the study area tends to rise towards the northern and north-western extents, with the most elevated ground reaching around 230 m AOD on the north-western periphery of the study area, near the townland of Ballinteosig.

The nearest watercourse to the proposed development is the Tourig River, located in a distinctive, relatively enclosed valley that meanders through the landscape directly south of the site as it flows eastwards before merging with the River Blackwater. The River Blackwater, the principal watercourse within the study area, lies in its eastern extent and forms one of the key landscape features of the surrounding area. Many of the smaller rivers and streams within the study area discharge into the Blackwater in its eastern extent.

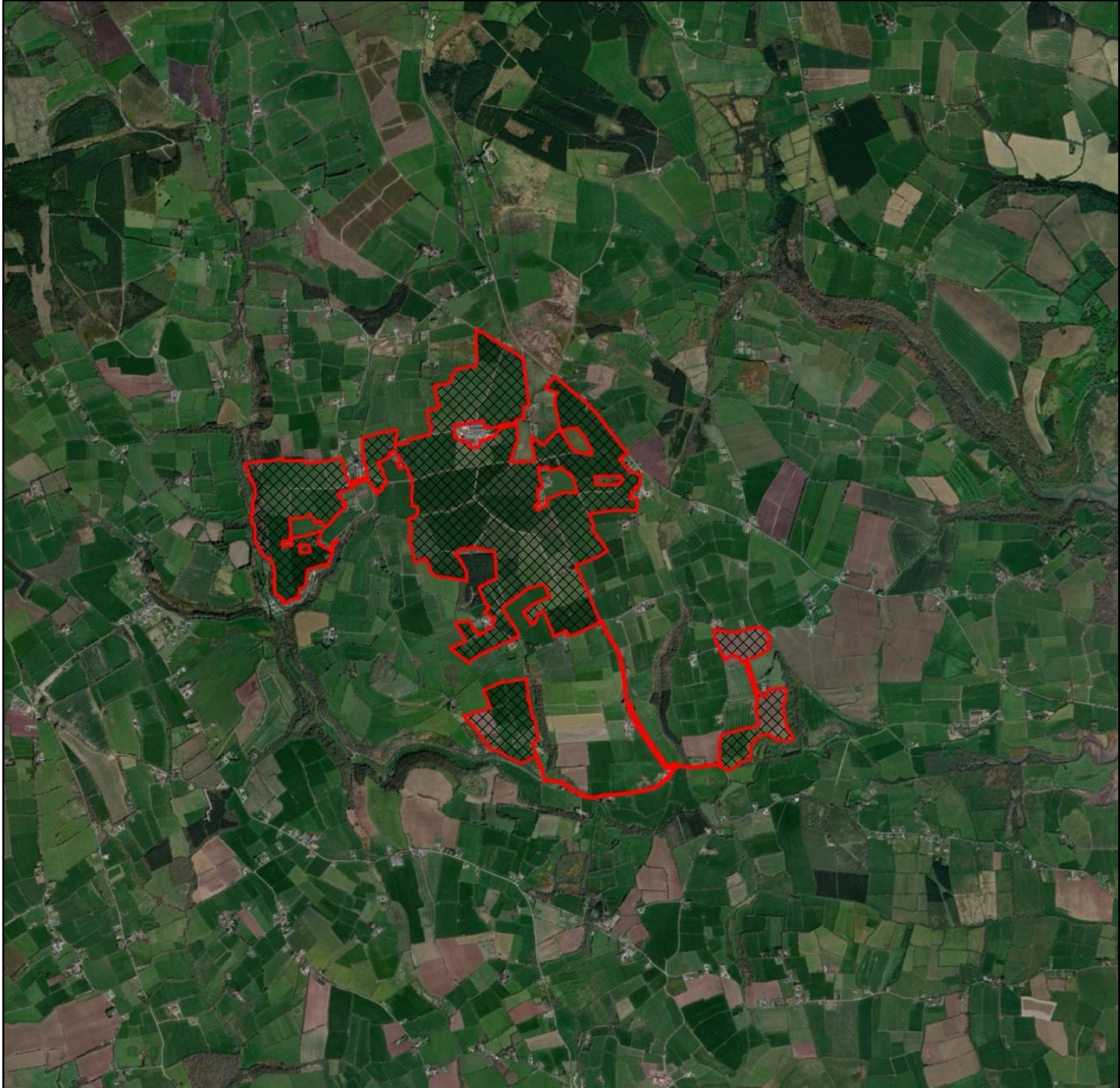


Figure 1.5 Landscape context of the site and immediate study area

1.4.1.2 *Vegetation and Land Use*

Land use within the study area is typical of the rural context of this part of east Cork, consisting primarily of large- to medium-sized pastoral fields bounded by mixed hedgerow vegetation and mature tree lines. Hedgerow vegetation within the study area varies, with the more actively farmed areas characterised by tightly clipped, heavily managed hedgerows, while other parts of the landscape feature more natural hedgerows containing mature trees.

The study area also encompasses several notable blocks of commercial conifer forestry, most evident in the northern extent along the more elevated lands. In contrast, linear swathes of broadleaf and riparian woodland are common along the river valley corridors and adjacent to streams that traverse the study area. Notable areas of mudflats are also present along the various river estuaries within the eastern extent of the study area, where many of the streams and rivers of the wider landscape meet the River Blackwater.

Other notable areas of land cover include the urban settlements of Youghal and Killeagh, both located in the southern extent of the study area. The wider northern parts of Youghal account for the largest area of urban land cover within the study area, incorporating several industrial developments and large residential housing estates within its south-eastern periphery. Ballynatray Demesne, which includes a stately home, represents a distinctive land use along the River Blackwater in the eastern extent of the study area, while the N25 National Primary Route corridor forms a significant linear land use within the area.

1.4.1.3 Centres of Population and Housing

Whilst the centre of the settlement of Youghal lies outside the 5 km study area, the wider parts of Youghal represent the most significant population centre with respect to the proposed development. The northern parts of Youghal are located approximately 3.6 km south of the site at their nearest point. The nearest population centre to the proposed development is the dispersed rural settlement of Inch, situated directly to the south-west of the site and partially within the distinctive valley of the River Tourig.

The centre of the village, which includes a small church, is located immediately south of the south-westernmost solar parcel, while the local school and the more populous residential area associated with the settlement lie approximately 800 m west of this parcel. The only other settlement within the study area is the village of Killeagh, located along the alignment of the N25 and approximately 4.3 km south-west of the site.

Otherwise, the study area comprises a modest rural population, including linear clusters of dwellings, small crossroads settlements, and isolated rural dwellings. Several residential properties are situated along the immediate boundary of the proposed development.

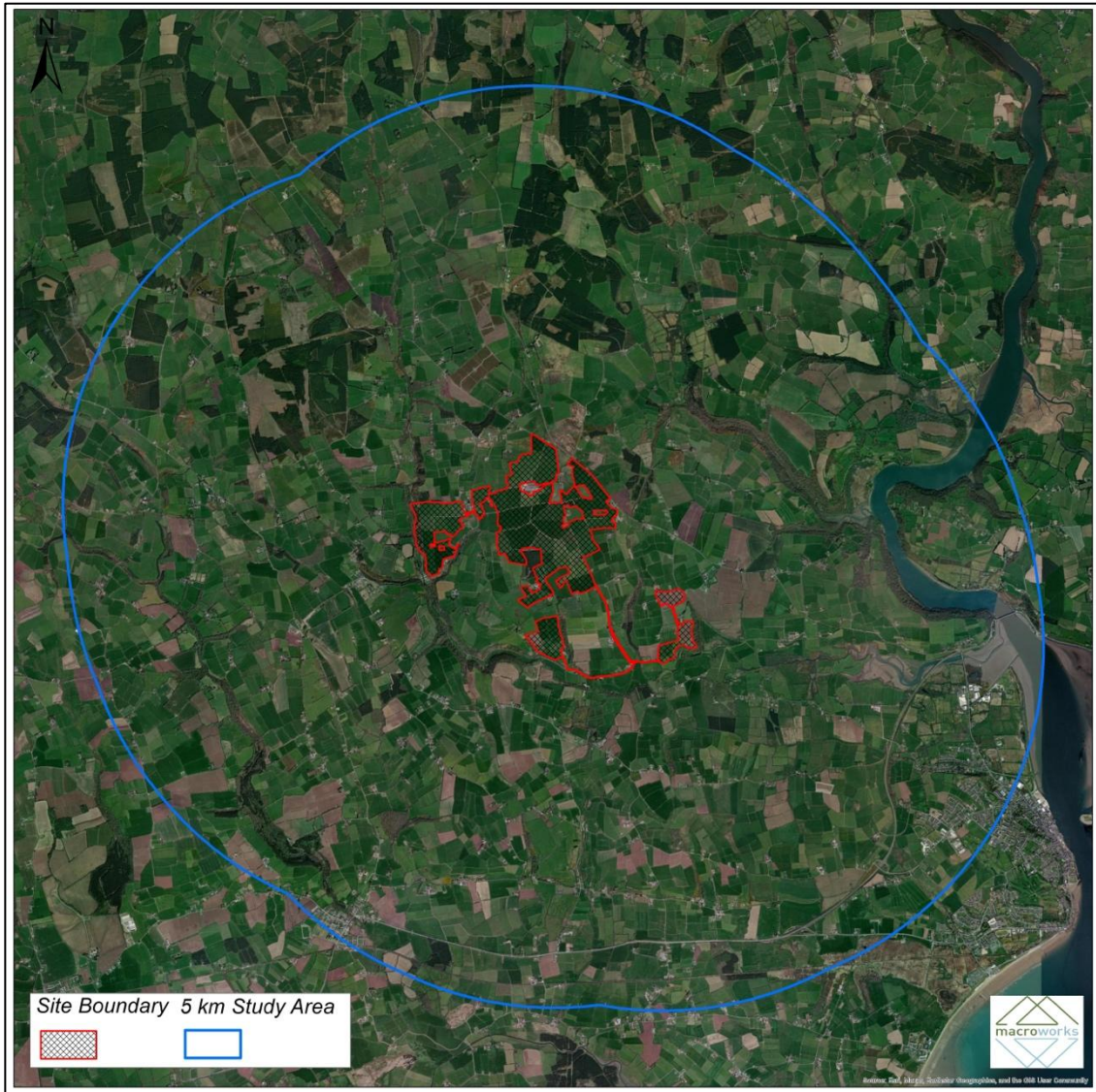


Figure 1.6 Landscape context of the full extent of the 5km study area

1.4.1.4 Transport Routes

The principal transport route with regard to the proposed development is the N25 National Primary Route, which enters the study area in the south-east quadrant as it crosses the River Blackwater. The route passes north of the settlement of Youghal and traverses westwards through the southern extent of the study area before exiting at the small settlement of Killeagh. The N25 lies just over 3 km south-east of the proposed development at its nearest point.

The nearest major route to the proposed development is the R634, which runs directly adjacent to the north-east boundary of the site and traverses the eastern and northern extents of the study area in a north-west to south-east direction. Aside from the R634 and the N25, there are no other major routes within the study area. Nonetheless, a dense network of interconnecting local roads crosses the study area, many of which pass directly adjacent to, and between, the proposed solar development areas.

1.4.1.5 *Tourism, Heritage and Public Amenities*

Whilst the central and wider study area is not strongly associated with tourism or recreation, there is some localised recreational and heritage value linked to the River Blackwater corridor and the wider parts of Youghal. The River Blackwater is popular for fishing and includes several heritage assets along its corridor, although many of these lie outside the 5 km study area. A section of the Sean Kelly on-road cycling route also crosses the Blackwater in the eastern extent of the study area and follows third-class roads northwards towards Lismore. The settlement of Youghal is a popular domestic summer tourism destination, with numerous holiday parks and summer lets located along its coastal areas.

1.4.2 **Visual Baseline**

1.4.2.1 *Analysis of ZTV (Zone of Theoretic Visibility) Mapping*

Only those parts of the receiving environment that potentially afford views of the proposed development are of concern to this section of the assessment. A computer-generated Zone of Theoretical Visibility (ZTV) map has been prepared to illustrate where the proposed development is potentially visible from. The ZTV map is based solely on terrain data (bare ground visibility), and ignores features such as trees, hedges or buildings, which may screen views. Given the complex vegetation patterns within this landscape, the main value of this form of ZTV mapping is to determine those parts of the landscape from which the proposed development will definitely not be visible, due to terrain screening within the 5km study area.

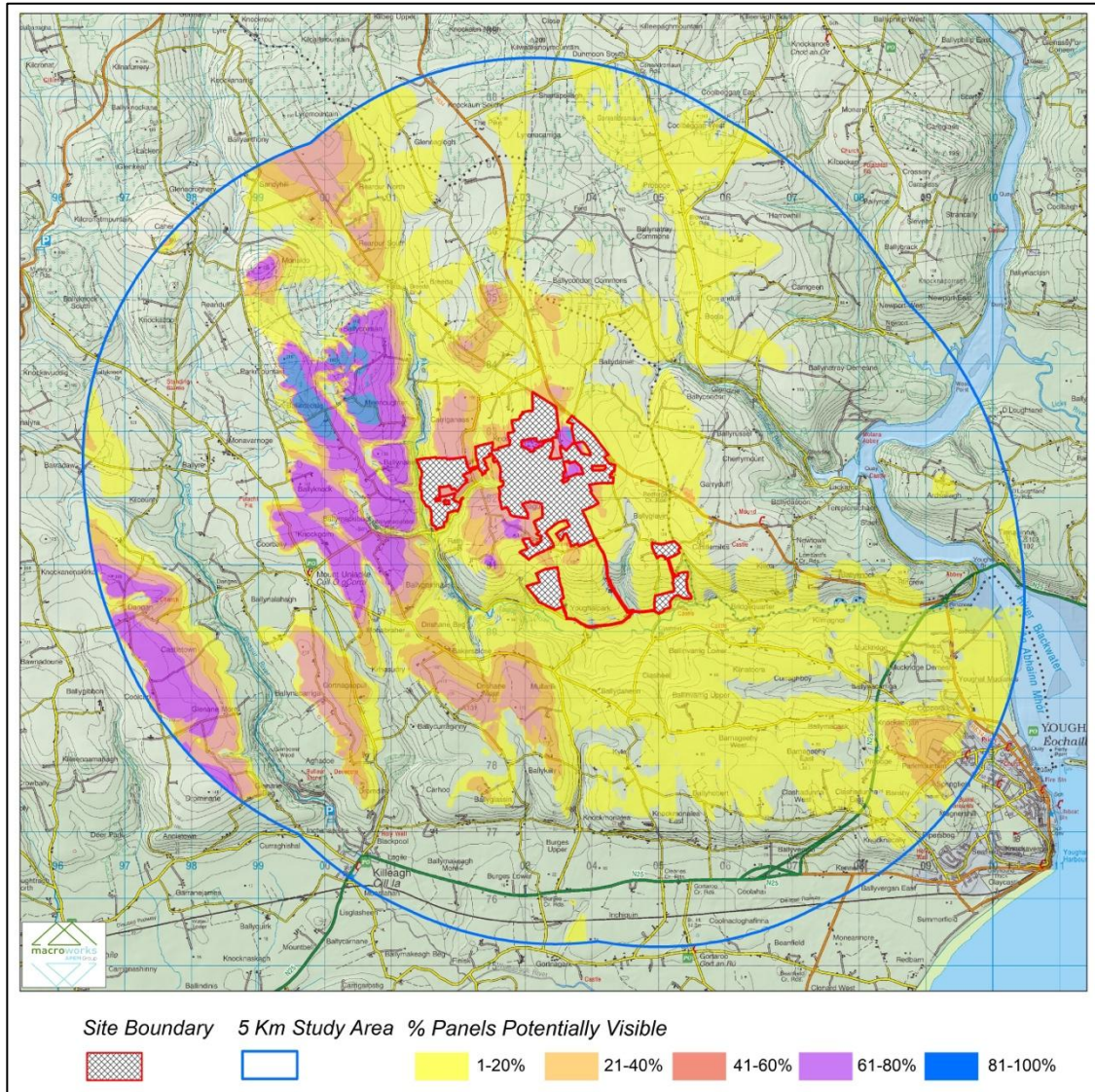


Figure 1.7 Standard (bare-ground) ZTV map

The following key points are illustrated by the 'bare-ground' ZTV map (see Figure 1.7 above):

- The principal point to note is that the proposed development has very limited potential to be viewed in full. Indeed, only a small part of the north-west quadrant of the study area has the potential to afford comprehensive visibility (blue pattern) of the proposed solar array.
- The largest potential visibility pattern relates to views of less than 20% of the proposed panel area, which is likely a direct consequence of the rolling nature of the surrounding terrain and the dispersed panel array that comprises several solar parcels.
- Much of the most notable areas of theoretical visibility relates to the western extent of the study area, where the terrain tends to be more elevated than the site and the surrounding landscape.
- The study area also encompasses considerable areas where visibility of the proposed panels will be fully screened by the surrounding intervening terrain. The full extent of the River Blackwater within the study area will have no potential for visibility.

- The N25 National Primary route corridor has limited potential to afford visibility of the proposed development. Indeed, the entire extent of the route in the southern periphery of the study area will have no visibility of the proposed development, whilst there is very limited potential to afford visibility of the proposed development from sections of the N25 route in the south-east quadrant of the study area.
- The wider areas of the settlement of Youghal have intermittent potential to afford visibility of the proposed solar development, ranging from 1–40% of the proposed panel area. Nonetheless, visibility tends to drop off and is entirely eliminated within the more central parts of the settlement in the south-east periphery of the study area.

The most important point to make in respect of this ‘bare-ground’ ZTV map is that it is theoretical. The proposed PV panels will not rise more than 3.4m above the underlying terrain and will therefore be considerably screened by surrounding and intervening hedgerow vegetation, trees and numerous buildings, walls and embankments scattered throughout the study area, resulting in a much lesser degree of actual visibility. Whilst the proposed substation and BESS structures are slightly larger, many of the larger elements comprise a slender built form and will not be prominently visible, even in the immediate surrounds of the development. Indeed, the BESS and substation development have been strategically sited within a more contained part of the site well offset from the nearest surrounding residential receptors.

The second form of ZTV mapping relies on a Digital Surface Model (“DSM”), which also accounts for terrestrial land cover elements, such as hedgerows and buildings. This is of far more value in determining the likely visibility of the solar panels. For this finer grain of visibility analysis, a more consolidated area incorporating the surrounding network of roads and dwellings within approximately 1km of the application site boundary is used.

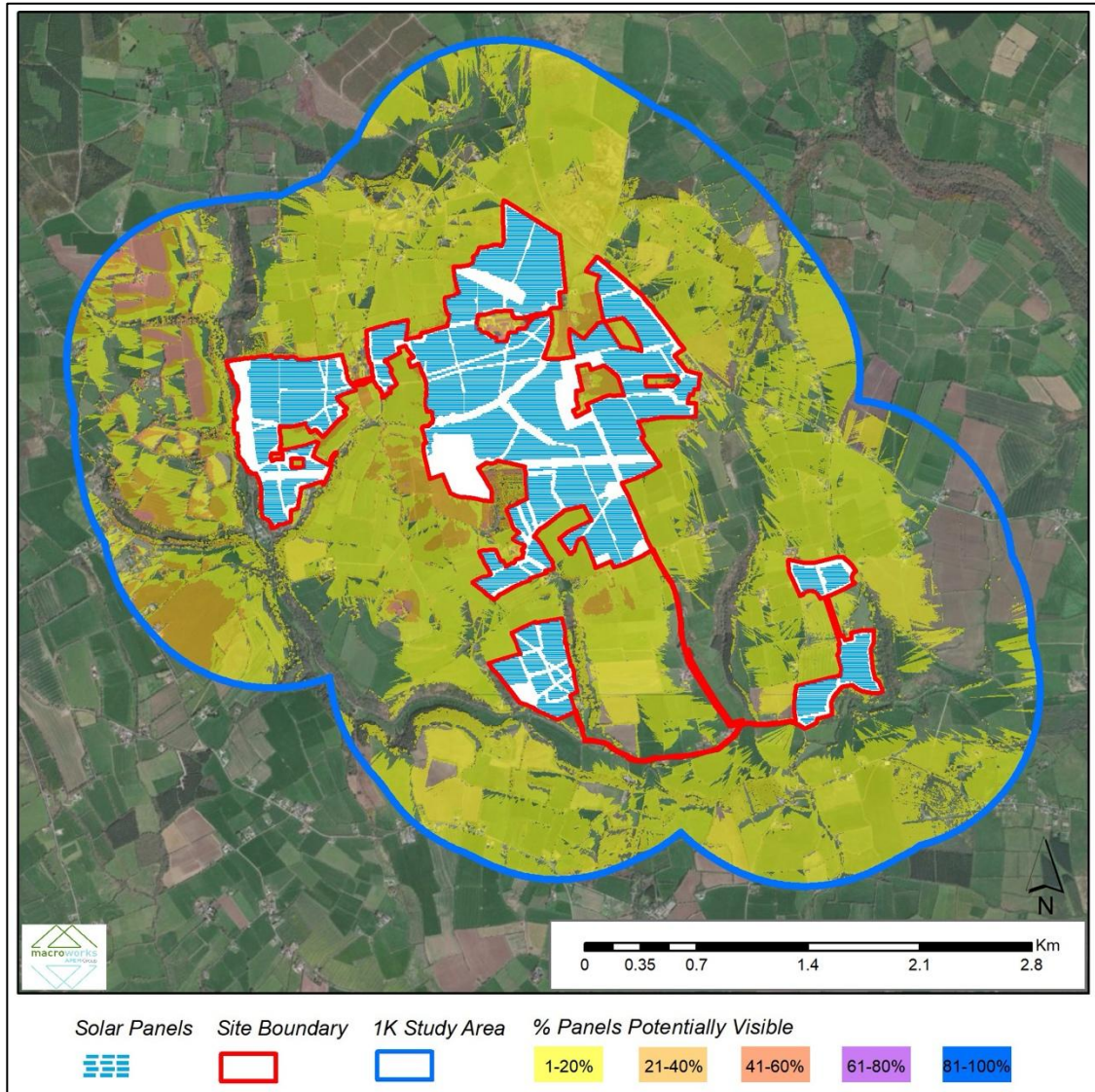


Figure 1.8 Digital Surface Model (DSM) based ZTV map accounting for screening by surface elements such as hedgerows, trees lines and forestry.

As can be seen from the comparison of the 'bare-ground' ZTV map (Figure 1.8) and the Digital Surface Model based ZTV map (Figure 1.14):

- The visibility pattern in comparison to the theoretic visibility (Figure 1.8), has notably reduced, with visibility of the proposed development most often being less than 20% of the proposed panel areas, and localised areas affording visibility of up to 40% of the proposed panel areas. However, areas with visibility of up to 40% of the proposed panel area tend to relate to pastoral fields and/or are not highly populated.
- Whilst there is still potential for views of the proposed development throughout the study area, existing vegetation will result in more filtered and partially screened views of the proposed solar development, with glimpsed views of the development represented by the splays of the visibility pattern emanating from the site.

1.4.2.2 Identification of Viewshed Reference Points as a Basis for Assessment

Viewshed Reference Points (VRP's) 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 (DSR/SV);
- Local Community views (LCV);
- Centres of Population (CP);
- Major Routes (MR);
- Amenity and heritage features (AH).

VRP's 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 VRP are listed at the beginning of each viewpoint appraisal. The Viewshed Reference Points selected in this instance are set out in the Table 1.6 and Figure 1.9 below.

Table 1.6 Outline Description of Selected Viewshed Reference Points (VRPs)

VRP No.	Location	Representative of	Direction of view
VP1	Local road at Ballinteosig	LCV	SE
VP2	L3803 at Knocknagappagh	LCV	S
VP3	R634 at Knocknagappagh	DSR, LCV, MR	SW
VP4	L7829 at Ballydaniel (1)	LCV	W & S
VP5	Local road at Knocknagappagh	LCV	E & W
VP6	L3803 at Barnaviddane	LCV	E & W
VP7	R634 at Ballydaniel	DSR, MR, LCV	W
VP8	L7829 at Ballydaniel (2)	LCV	W & E
VP9	L6040 at Ardsallagh	AH	W
VP10	R634 at Garryduff	MR, LCV	S
VP11	Ballmackibbot Cross Roads	CP, LCV	E
VP12	L3803 at Inch	CP, LCV	N
VP13	Local road intersection at Park National School	LCV	W
VP14	L78281 at Ballygalvin	LCV	S

VP15	L6013 at Castlemiles	LCV	SW
VP16	L7828 at Ballydaniel	LCV	N
VP17	Ardagh Cemetery	LCV	N & SW
VP18	L3808 at Cornaveigh	LCV	N
VP19	N25 Youghal Bypass at Tourig River	DSR, MR	NW
VP20	L3804 local road at Drishane Beg	LCV	NE
VP21	L3804 local road at Youghal Park	LCV	N
VP22	Local road at Drishane More	LCV	NE
VP23	L7844 at Clasheel	LCV	N
VP24	L38101 west of Youghal	LCV	NW

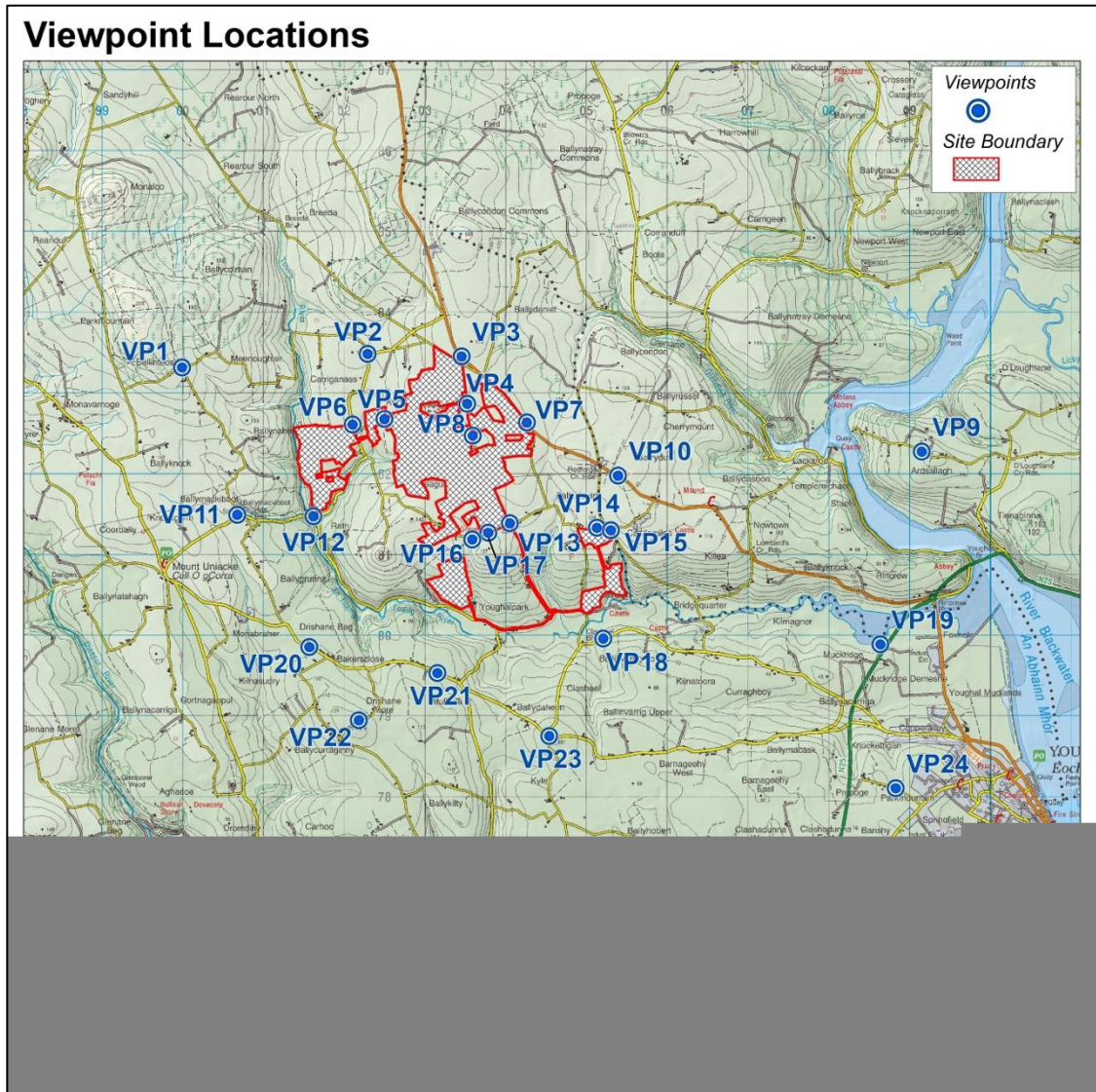


Figure 1.9 Viewpoint location map

1.5 MITIGATION AND RESTORATION MEASURES

The main mitigation-by-avoidance measure employed in this instance is the siting of the proposed development in a robust and modified rural area that is not highly distinctive or susceptible to change, as evidenced in the current CDP landscape character assessment, which classifies the receiving landscape as having 'county' level landscape importance. Whilst some parts of the site have a more open character, notable areas are also bound by well-established hedgerows, and the surrounding landscape encompasses dense networks of established hedgerows that screen and soften the proposed development from surrounding receptors. Furthermore, the development is contained within the pre-existing hedgerow networks, which further anchors the site into its receiving landscape without any undue conflicts in terms of land cover or land use. Indeed, the proposed development is designed around the existing hedgerow network, with removal of vegetation limited to localised areas.

In addition to mitigation by avoidance measures, retention of existing hedgerow boundaries within and around the site aids visual screening, and maintains the existing field pattern. In this respect, the proposed solar farm is not perceived to impose itself on the existing landscape pattern.

In addition to retaining the existing hedgerows within and around the site, it is also proposed to bolster existing perimeter and internal hedgerows with under-planting and inter-planting of whip transplants (i.e. Hedgerow Type 1 - see Figure 1.10 below) in order to ensure dense and consistent screening of the site in perpetuity. This will be undertaken where required to thicken and fill gaps in the existing hedgerow network prior to the construction phase, thus allowing for any growth in the period between a grant of planning permission and construction of the development. Advanced nursery stock in the form of 8-10cm girth trees will be used to fill any noticeable gaps and plant species will be selected to complement the existing broadleaf hedgerow species mix around the site and will be of local provenance. Where not already exceeded by existing vegetation, it is intended to manage hedgerows up to 3-4m in height. This height will be achieved by a combination of allowing lower sections of existing hedgerows to mature, filling obvious gaps with advanced nursery stock and providing an additional line of whip planting to selected hedgerows that require densification. Refer to the Landscape Mitigation Plan LD.GRNHLLS for details.

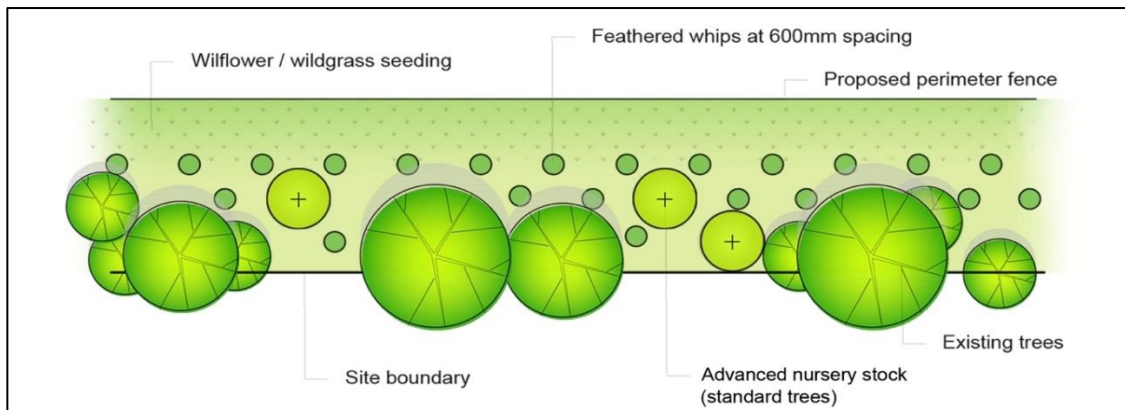


Figure 1.10 Hedgerow Type 1: indicative boundary planting detail showing the approach to inter-planting and under-planting of existing hedgerows (where consolidation is needed).

It is also proposed to plant new 'Type 2' hedgerows (Figure 1.11 refers), with whips and a high proportion of advance nursery stock trees (c.3m planted height), along the boundaries of some of the proposed parcels to further screen the proposed development from some of the nearest surrounding receptors (refer to Landscape Mitigation Plan drawing package LD.GRNHLLS). All of this planting will be allowed to mature up to a maintained height of 3-4m to aid in the screening and softening of the proposed development from nearby dwellings and surrounding local and regional roads.

Native woodland thickets are also proposed in localised areas along the perimeter of the proposed development to further screen and visually soften the proposed development from surrounding receptors, whilst also contextually separating the site from the surrounding public realm. These native thickets/woodlands will be provided in the form of high canopy (dominants) species, low canopy (sub-dominant) species, understory and fringe (higher shrubs) species and understory and edge (lower shrub) species, and will comprise of a mix of advanced nursery stock and whip planting of local provenance. The proposed planting will be allowed to grow out to reach maturity and will break up the visual mass of the main solar array and substation development.

A full overview of the proposed landscape mitigation measures proposed on site is provided in Figure 1.12 below

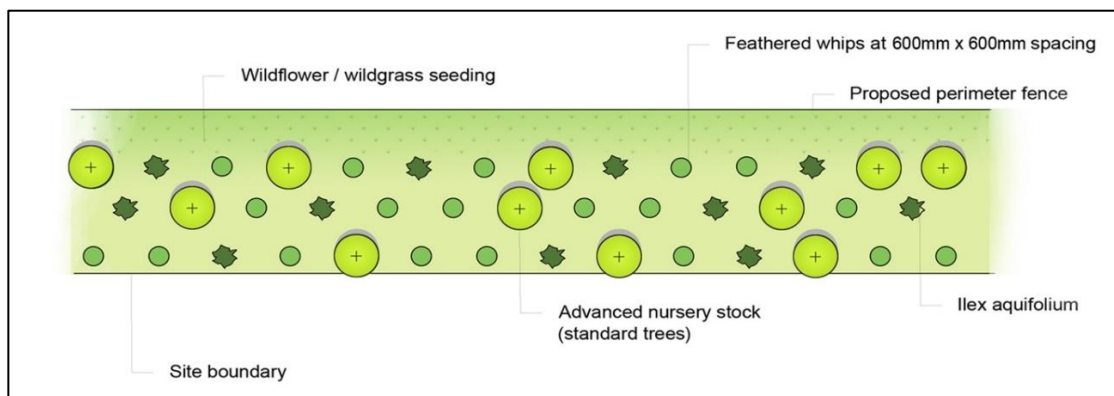


Figure 1.11 Indicative boundary planting detail showing the introduction of new boundary hedgerow TYPE 2

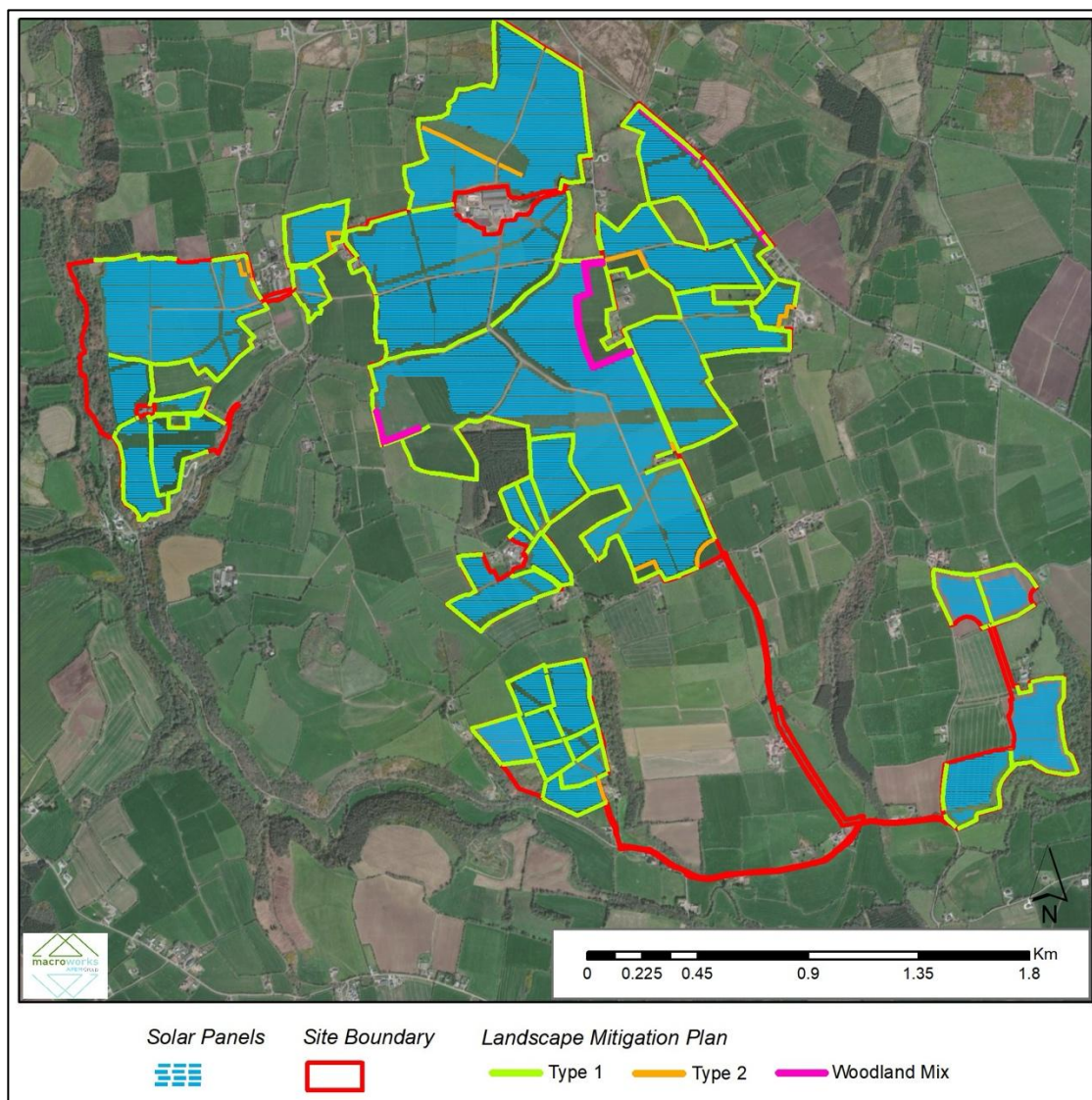


Figure 1.12 Overview of landscape mitigation measures proposed across the site

Furthermore, at an early stage of the design process, additional setbacks from some of the nearest residential dwellings to the proposed development were incorporated to mitigate potential visual impacts. The most notable area of setbacks is located within the central part of the site along the L-7829, where several dwellings are situated on either side of the local road. The proposed development is positioned to the north, south, east, and west of these dwellings; therefore, substantial setbacks were included to reduce the visual presence of the development and to further screen and soften the impact on these nearby visual receptors. Of particular note, these dwellings benefit from open views to the west. The principal aim, therefore, was to reduce the visual presence of the development and screen the panels in so far as possible, whilst also retaining the open nature of views to the wider landscape to the west. In similar circumstances, other dwellings located along the perimeter of parcels were also provided with notable setbacks from the proposed panel array, complemented by new areas of woodland and hedgerow planting along the proposed setbacks.

With regard to designated scenic amenity, the S45 scenic route was identified as a constraint to the proposed project from the outset. Most notably, a section of the S45 scenic route in the townlands of Knocknagappagh and Ballydaniel has the potential to afford clear views across the site. Whilst there was limited potential to fully screen the panels from this location, every effort has been made to reduce the potential for significant visual effects. In this regard, a large area of panels along a rolling hill to the south of the scenic route was removed, and early-stage visibility mapping was generated (refer to Figure 1.13 below) to understand the effectiveness of the proposed landscape mitigation measures. Overall, the principal aim was to screen any panels that may appear along the skyline with new sections of hedgerow and to retain the surrounding rolling hills free of panels.

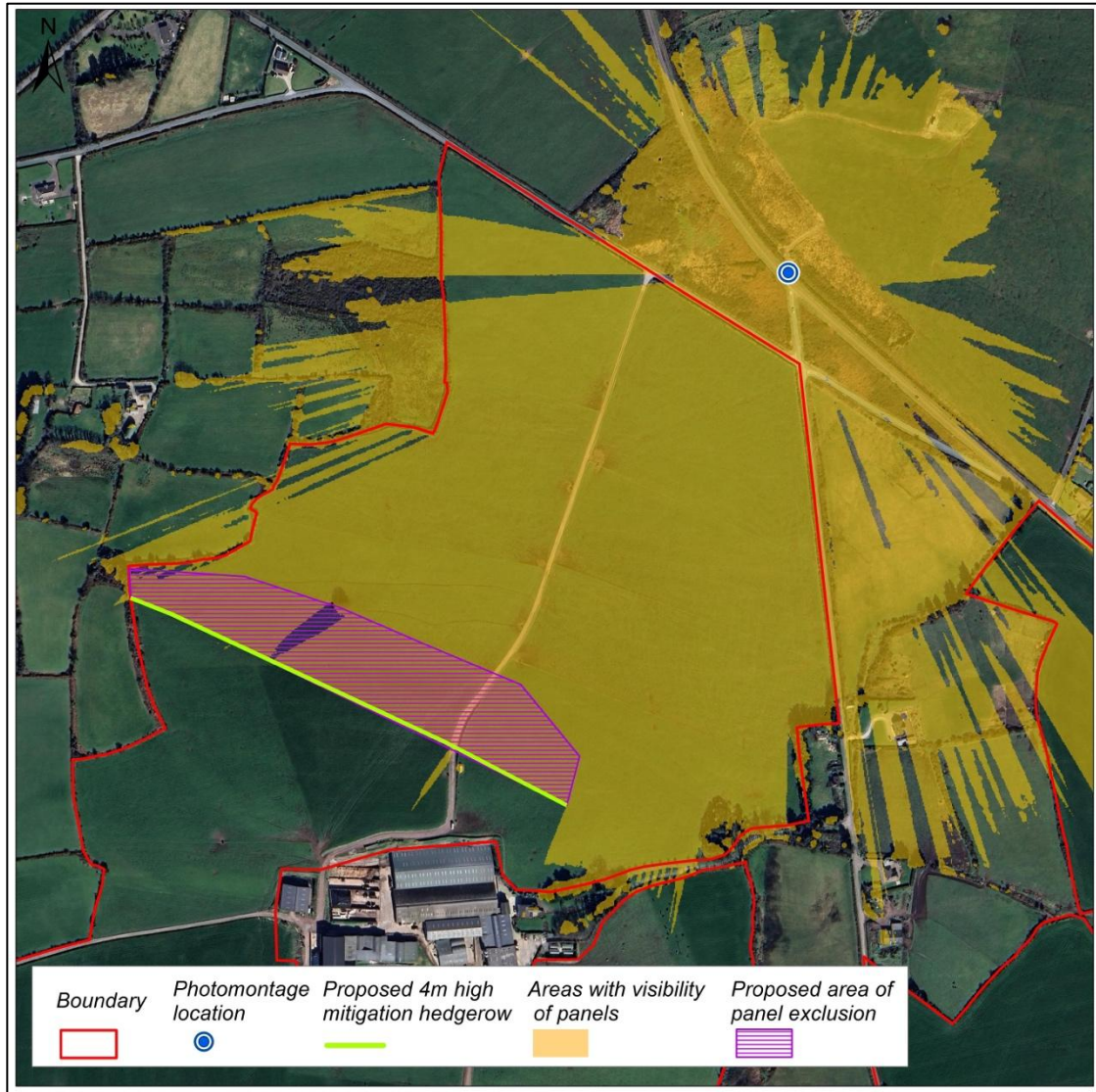


Figure 1.13 Initial stage reverse ZTV mapping showing potential visibility from the S45 scenic route, areas of panels to be removed and new sections of hedgerow vegetation proposed.

The nearest residential receptors to the proposed development are contained along the western boundary of Parcel 2, whilst an isolated dwelling is also located adjacent to parcel 4. In both instances, offsets and supplementary planting have been included to mitigate potential landscape and visual effects at these receptors. Several residential dwellings are located in the surrounds of the proposed substation building, however, none of these are located along the substations immediate site boundary and are setback from the proposed built infrastructure.

As can be seen by the mitigation-based ZTV in Figure 1.14 (below), the combination of consolidated and proposed 3-4m high hedgerows and native thicket (c.8-10m high) will further reduce the potential for visual impacts within the surrounding area. There will be a further screening effect throughout the study area, with the proposed mitigation screen planting providing additional screening and softening of the development from surrounding receptors, while contextually separating the proposed development from local residential receptors and the surrounding road networks. The most notable screening effect occurs to the north of the site along the R634 regional road, where the proposed woodland planting will entirely screen the development from the road and from the surrounding landscape to the north-east.

Whilst there is still potential for visibility throughout the immediate surrounds of the site, the proposed mitigation screen planting will further diminish the perceived scale and extent of the development and will aid in reducing the perceived visual mass of the proposed solar array

Overall, a reduction in potential visibility is noted throughout the immediate study area.

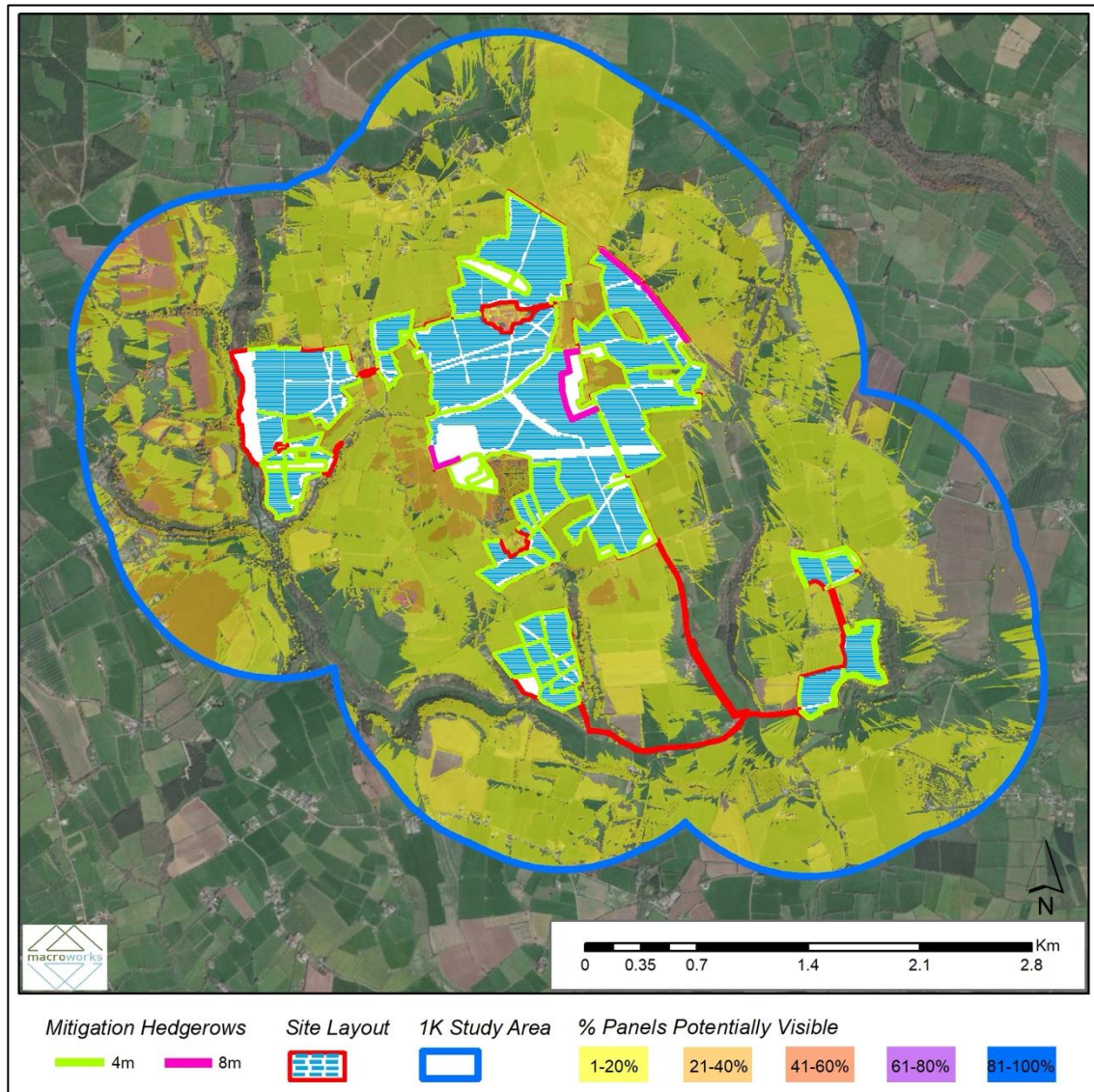


Figure 1.14 Mitigation ZTV illustrating the effect of proposed mitigation planting

The installation method for these types of solar panels and mounting frames is undertaken using local piling to reduce the impact deriving from construction to facilitate the long-term use of the field as farmland. Panels are constructed using small-scale machinery causing very limited effect to the existing grass surface. This process is akin to timber post fence construction, whereby the post is driven a short length into the ground. This ensures that the fields' general green characteristics can be retained or quickly redressed following construction. All new cabling within the site will be buried underground. The proposed perimeter up to 2.4m stock proof fence will be set to the inside of the site boundaries. This will be maintained throughout the operational phase of the development to ensure access is prevented for both stray farm animals and human trespass. However, a small gap at the base of the fence will allow wild fauna to continue passage throughout the site. An un-grazed margin between deer fencing and the solar panels will be left for biodiversity enhancement measures. When feasible, ancillary structures such as inverters, transformer cabins and other plant will be coloured in green or muted shades to help blend them in with the surrounding countryside.

Wherever possible, the on-site access roads utilise the existing farm tracks and follow existing topography in order to minimise ground disturbance, alteration of physical landscape character and visual intrusion. Reinstatement of temporary construction areas, construction compounds and cable trenches to the preconstruction conditions will be carried out at the end of the construction phase. Restoration of any areas disturbed during the construction process will be undertaken on construction completion by appropriate grass seeding to return a green characteristic.

The decommissioning of the site will involve the removal of all solar panels and associated fencing, storage and operation facilities. The site will be fully restored to agricultural use through reseeding of appropriate grass species to reflect the grass sward mix in the immediate vicinity. The site will be fully restored to agricultural use in accordance with a detailed restoration plan.

Existing hedgerow field boundaries, which will have been maintained and reinforced with additional planting during the construction and operational phases, will remain intact following the restoration phase. Indeed, due to the supplementary planting proposed as part of the landscape mitigation the field boundaries are likely to be more consistent and consolidated than they are at present.

1.6 IMPACT ASSESSMENT

1.6.1 Do-nothing scenario

The '*do-nothing*' impact refers to the non-implementation of the proposed development. The primary effect of this would be that the impacts and effects identified would not directly occur. In this regard the following issues are relevant. The site, which is currently contained in pastoral farmland, would likely be managed for typical agricultural practices, whilst the surrounding perimeter vegetation would continue to grow out, some of which would be maintained by the current landowners.

1.6.2 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 proposed development site and wider study area.

This is a modified rural landscape, principally influenced by typical rural land uses such as pastoral farmland and forestry. Whilst the surrounding landscape presents a pleasant pastoral aesthetic due to the rolling nature of the landform, it is by no means a highly rare or susceptible landscape context. There are some notable landscape features within the study area, with the River Blackwater and the Blackwater River Valley representing one of the more sensitive and susceptible landscape areas. However, the Blackwater is well offset from the central parts of the study area and has a limited influence on the character of the immediate surrounding landscape. Overall, the study area presents as a settled rural landscape, with the most notable area of settlement associated with the town of Youghal, located in the south-east periphery of the study area. The other surrounding parts of the study area remain predominantly rural in character, with lower population densities. Indeed, in these areas, the main landscape values relate to the sustenance of the rural economy rather than to any highly sensitive landscape qualities associated with scenic or recreational amenity, or a sense of naturalness. The River Blackwater and its tributaries offer a contrast to the more typical rural lands, being defined by more distinctive valley landforms and often cloaked in dense surrounding vegetation. However, the sense of naturalness associated with these areas tends to be well contained within the immediate river corridor context.

In terms of landscape designations, the predominance of the study area is contained with LCT 10b - Fissured Fertile Middleground, which is classified with a 'Medium' landscape value, 'High' landscape sensitivity, and 'County' level landscape importance. At a local level, it is not considered that the site and its immediate context are highly sensitive to development. Whilst some natural landscape features, such as the river corridors, exhibit some sense of the naturalistic and are considered more susceptible to development, the site and surrounding study area are not considered to represent a highly sensitive landscape context. This is further reflected in the current County Development Plan, as the site and much of the study area is not contained with a HVL designation within the current Cork CDP. In terms of visual designations, two scenic route designation occurs within the study area. It is also important to note that the robust nature of this landscape context is further highlighted in the Waterford CDP, which classifies much of the surrounding landscape in the immediate vicinity of the site within Waterford as of 'Low' sensitivity.

Overall, landscape values are generally associated with productivity and rural subsistence rather than any sense of rarity or the naturalistic. Whilst there are some locally susceptible parts of the study area, it is considered that the landscape of the site and study area is relatively typical and not highly rare. Therefore, on balance of these factors and in accordance with the criteria outlined in Table 1.1, the landscape sensitivity is deemed to be **Medium-low**, with localised areas of higher and lower sensitivity.

1.6.3 **Assessment of Receptor Sensitivity – Visual**

The study area generally presents as a typical rural landscape, although some receptors within it have slightly heightened sensitivity due to locally elevated terrain that affords wider views across the working rural landscape. For the most part, however, the landscape is typical of rural character, with little notable sense of rarity or distinctiveness.

There is some degree of designated scenic amenity within the study area, with the nearest scenic route located directly north-east of the site. Whilst some pleasant, more open views are afforded across the surrounding landscape from this scenic route, the route corridor does not convey a strong sense of uniqueness. In fact, it is most often influenced by typical pastoral land uses, areas of scrubby vegetation, and blocks of forestry that provide a notable sense of containment. The only other scenic route within the study area is located along a section of the N25 in the south-east quadrant of the study area. Here, the most notable aspect of scenic amenity is clearly associated with the river corridors and the surrounding river valley context. Overall, the sensitivity of visual receptors at scenic designations within the study area tends to range from Medium to Medium-High, with those of medium sensitivity representing more typical rural views.

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 1.2.5, visual receptor sensitivity judgement are provided for each representative viewpoint in the table below in section 1.6.7 below.

1.6.4 **Magnitude of Landscape Effects – Construction Stage**

In terms of physical construction stage landscape effects, the proposed solar array will not require any significant excavation that would permanently alter the landform of the site. Some sections of new internal access/service tracks will be constructed to service the site and these will be similar in nature to farm tracks that can be found throughout this rural context. One main temporary construction compound, of circa 5,200m², will be located adjacent to the proposed substation on an area designated for future EirGrid expansion. In addition there will be 4 temporary construction compounds (each of circa 2,000m²) located in the solar array areas. These will be constructed of hardcore placed on geogrid which will be removed towards completion of the construction phase. The hardcore materials will be reutilised for access track construction and the temporary compound areas panelled over with solar panels. Whilst these temporary compounds will require some localised soil stripping, these areas will be fully reinstated post construction completion, and thus, any construction stage landscape effects related to these compounds will be temporary and reversible in nature.

Removal of some c. 260m of hedgerow to provide site lines at the 11 proposed development site entrance. Circa 134m of existing hedgerow will be required to facilitate the construction of access track, gates and fenceline throughout the site in addition to the removal of localised areas of hedgerow to facilitate the proposed sightlines. Notwithstanding the above areas of removal, this will be offset by the planting of c. 1,400 linear meters of new native hedgerow and the bolstering of some c. 30,998 linear meters of existing hedgerow 'as necessary', in addition to some 19,567 sqm of new native thickets/woodland corridors.

Some of the more notable construction stage works will be associated with the proposed substation and BESS development which are located in the central portions of the site and tend to be offset from the nearest surrounding receptors in a relatively discreet part of the site. The substation and BESS locations will be subject to cut and fill construction activities to provide level platforms for their development. Any excess materials will be utilised to form embankments at the substation and BESS area. The BESS area will be hardcored with the battery container units (5.3m in width x 4.47m in height), arranged in linear groups of 8 units with a length of circa 16.6m. The battery container units will be fixed to concrete plinths within the hardcored area. The BESS area is L shaped with the main dimensions being 139m in length and 49 m in width with an additional area for parking and storage containers (28.4m x 36m), see Drawing No. 30010118-DR-202_BESS Layout Plan & Drainage. The control Building (IPP) extends into this additional area and will be constructed adjacent to the BESS units. A 4m wide access road will be included around the equipment and a 6m gap from the road to the fence to facilitate crane installation and maintenance.

The Greenhills Energy Park 220 kV substation will be made up of a control building, transformer compound and busbar compound. The control building works will consist of foundation works, block work, roofing, low voltage electrical fit out, cladding and building finishing works. The transformer and structural steelwork will be installed in the transformer compound. The busbar compound structural steelwork will be erected. Substation electrical equipment will be installed once the control building and compound is complete. Palisade fencing will be erected around the compound for security/protection and a concrete post and rail fence to mark the substation boundary. The substation site has an elevation ranging from approximately 97 – 113m above sea level and the BESS compound has an elevation ranging from approximately 119 – 122m.

This new substation will consist of a customer compound (IPP side) of circa 7,169m² (the footprint is irregularly shaped) and an EirGrid Compound of circa 496m² surrounded by a 2.6m high palisade fence. The construction of a substation compound circa 22,631.71m², comprising of approx. 438m² single storey 220 kV substation control building, an 590m² IPP building and associated outdoor electrical equipment, including 2 no. 220 kV transformer, associated internal access track, 2.6m high station perimeter fencing and concrete post and rail property boundary fence will be built. Adequate lighting will be installed around the compound on the lighting masts. Lightning protection masts of approximate height 18m will be installed to protect the station from direct lightning strikes.

The proposed development will include a temporary site construction compound, on the EirGrid Extension Area, of circa 45m x 65m of level crushed rock base, to house a canteen, toilet facilities, office modules, parking facilities and material laydown area. These built elements will result in some small areas of reprofiling to accommodate the flat compounds and will result in some areas of cut and fill.

During the construction phase there will be a far higher intensity of activity at the site than during the operational phase. Such activity will include the movement of construction machinery on-site, as well as HGVs travelling to and from the site. It may also include temporary site lighting and the temporary storage of construction materials. Construction of the development is estimated to take 21 months to complete (including the substation and grid connection). Construction and decommissioning-related effects are, therefore, brief in nature and will only result in short-term landscape and visual impacts. Overall, the magnitude of construction stage effects is deemed High-medium at the site scale, reducing to Medium in the immediate context of the site and then rapidly reducing to Low and Negligible within the wider surrounds of the study area which construction activities will not be discernible.

Combined with the Medium-low landscape sensitivity of the study area, the significance of construction stage effects is deemed **Substantial-moderate** at the site scale, **Moderate** in the immediate vicinity of the site reducing to **Slight** and **Imperceptible** within the wider surrounding study area. The quality of effect is deemed **Negative**.

1.6.5 Magnitude of Visual Effects – Construction Stage

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. However, aside from the site's immediate vicinity, a large part of this temporary activity within the site will be fully and partially visually screened and softened by the surrounding layers of existing intervening mature vegetation. Furthermore, construction-related activity is temporary in nature and will cease once the development becomes fully operational. Thus, construction stage impacts are like to result in a visual effect of no greater than High-medium in the immediate surroundings of the site.

Coupled with the Medium and Medium-low visual receptor sensitivities in the near surrounds of the site, the construction stage visual impacts in the immediate vicinity of the site will be no greater than **Substantial-moderate** and **Moderate**, and will reduce considerably beyond 500m-1000m from the site, where the proposed development will be heavily screened. The quality of construction phase effects is deemed **Negative**.

1.6.6 Magnitude of Landscape Effects – Operational Stage

The only physical landscape effects on the sites terrain relate to a localised area of the site where there will be minor modifications to the terrain to accommodate the flat compounds of the proposed substation and BESS compounds. Otherwise, there will be no notable physical landscape effect on the site as the majority of the sites terrain will remain unaltered. In fact, the proposed landscape mitigation measures, which comprises the planting of 1,400 linear meters of new native hedgerow and 30,998 linear meters of enhanced (bolstered) existing hedgerow and 19,567 sqm of native thicket/woodland corridors, will generate some localised positive landscape effects during the operation phase of the proposed development.

The duration of any physical landscape impacts will last only as long as the proposed development is in place, which is proposed to be 40 years. Although these impacts may be classified as 'long term' (i.e. 15 to 60 years, as defined in the EPA's EIAR guidelines), within a short period of time following decommissioning there would be little evidence that the proposed development ever existed and the site will be returned to agricultural land use – with the exception of the proposed substation compound and underground cables which are likely to remain in place. The proposed solar farm is expected to connect to the national grid via a loop-in grid connection to the Knockraha to Cullenagh Overhead Line, which runs through the middle of the site.

Overall, the operational landscape impacts from the proposed solar farm are, for the most part ‘reversible’. The native hedgerows within and around the site, which will have consolidated as part of the mitigation strategy, in addition to the new areas of woodland will remain as an enduring and positive legacy of this proposed development.

In relation to landscape character, the proposed development seeks the introduction of a regular pattern of modern technological structures into a rural landscape. If viewed from a distance, these structures will read as a single homogenous, ground hugging, land cover that is contained within the prevailing field pattern. Whilst this provides some consistency with other forms of rural land use, the tone and texture of the panel array is clearly ‘built form’ and represents an increase in the intensity of built development in the immediate landscape context. It also adds to the diversity of land use in an area that is currently characterised by more traditional forms of agricultural land use within the immediate study area, whilst the wider study area comprises a varied mix of land uses. It is also important to note that whilst the proposed solar development is relatively sizeable in scale and occupies several land holdings, there will be very few opportunities to view the proposed development in its entirety due to the dense vegetation that occurs along the perimeter of the site and within the intervening landscape, in addition to the proposed landscape mitigation measures that form part of this application. The rolling nature of the landform also diminishes the potential for clear views of the site in its entirety further reducing the perceived overall extent of the proposed development.

Nevertheless, within the immediate context of the proposed development, especially where local roads pass through the central parts of the site, the proposed development will result in a notable intensification of built development in this rural context. Indeed, it will become one of the principal built features within the surrounding local landscape. However, it should be noted the perceived intensification of built development will be most notable in the immediate context of the site, principally along the nearest surrounding local roads. Beyond, this the perception of the development and its impact on the character of the surrounding working rural landscape will reduce rapidly as the development become screened and softened by the surrounding layers of vegetation combined with the layers of proposed mitigation screen planting.

On the basis of the factors discussed above it is considered that the magnitude of operational stage landscape effect is High-medium within the immediate vicinity, being those lands contained within approximately 500m of the proposed development. Thereafter, the magnitude of the operational stage landscape impact is deemed to reduce to Low and Negligible, as the proposed development becomes a progressively smaller component of the overall landscape fabric

With reference to the significance matrix (Table 1.4) above, the **Medium-low** landscape sensitivity judgement attributed to the study area, coupled with a **High-Medium** magnitude of landscape impact in the immediate vicinity (<500m) of the proposed development is considered to result in an overall significance of **Moderate** at the site and its immediate surroundings with the significance of effect reducing to **Slight** and **Imperceptible** in the wider surrounding study area. The quality of effect is deemed **Negative**.

1.6.7 **Magnitude of Visual Effects – Operational Stage**

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. Outline view (yellow outline showing the extent of the proposed development location including all associated overground works overlaid on the photograph);

3. Montage view
4. Montage view with mitigation established.

Note: The significance of visual effect in the pre-mitigation column relates to the stage when the proposed solar farm development has just become operational and the proposed screen planting provides limited screening. As the screen planting measures can take approximately four to six years to become fully established, the pre-mitigation residual effects are considered short-term in duration.

The residual post-mitigation significance of visual effect relates to the period when the screen planting has become fully established (i.e. four to six years after implementation of the proposed screen planting measures) and represents the predominant phase of the project's lifespan - in this case, over 30 years. Therefore, the post-mitigation residual duration of effect is classified as long-term.

VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
VP1	Local road at Ballinteosig: This is a locally elevated view afforded from the townland Ballinteosig that affords views to the east across the rolling agricultural land. The rolling ridges to the east contain the view in the background and are cloaked in pastoral fields and intervening hedgerow vegetation.	Medium	The proposed development is visible along the distant rolling terrain, approximately 1.5 km to 4 km from this visual context. Whilst the proposed development is visible from this location and has the potential to draw the eye, the proposed panels will not present a highly prominent visual presence due to their low-lying nature and distance from the viewpoint. Nevertheless, the proposed development contrasts with the more typical rural land uses within this view and will result in an increased intensity of built development in this area. Overall, the magnitude of visual effect is deemed Low. The proposed mitigation screen planting will have a limited screening effect from this location; therefore, the residual magnitude of effect remains Low.	Slight / Negative / Short-term	Slight / Negative / Long-term
VP2	L3803 at Knocknagappagh: This view is afforded from the intersection of the L3803 and the L78123 and is representative of the local community receptors. This local landscape context is relatively well contained by a combination of rolling terrain to the southeast and surrounding vegetation.	Medium-low	The proposed panels will be visible to the south-east along a locally rolling hill, whilst glimpsed views of panels may be afforded through the winter vegetation to the south. The panels along the rolling hill will form the most visible aspect of the development, albeit they do not present a highly prominent visual presence. Nonetheless, the panels are viewed against the skyline at a distance of approximately 700 m, where they appear as a thin band along the skyline. The panels follow the profile of the rolling terrain,	Slight / Negative / Short-term	Slight / Negative / Long-term



VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
			which aids in visually assimilating them into the view. Overall, the panels will result in an increased intensity of built development in this area; however, the apparent scale and extent of the development are not readily discernible from this viewpoint. Thus, the magnitude of visual effect is deemed Medium-Low. Once the proposed mitigation screen planting has fully established, the enhanced hedgerow vegetation located along the site's perimeter will further screen and soften the proposed panel array, with only the panels along the most elevated section of the ridge remaining residually visible. Consequently, the magnitude of effect is expected to reduce to Low once the proposed mitigation screen planting has fully matured.		
VP3	R634 at Kncoknagappagh: This is a locally elevated view afforded from a brief section of the R634 scenic route in the townland of Knocknagappagh. This section of the route offers a pleasant view to the south/south-west. The view is representative of the scenic route and extends across an area of scrub in the near foreground to more open pastoral fields, partially contained by a low, rolling hill in the middle ground. In the distance, views are afforded of further areas of rolling	High-medium	The proposed panels will be visible to the south-west of the local road, occupying much of the visible extent of the farmed field beyond the foreground scrub. The panels will form a noticeable built feature here and will present a relatively broad lateral extent. Whilst the proposed panels do not block or obstruct the distant views, they will increase the intensity of built development in this area and result in a modest detracting from the scenic amenity	Substantial-moderate / Negative / Short-term	Moderate-slight / Negative / Long-term



VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
	farmland, forestry, and intervening vegetation.		afforded from here. Thus, the magnitude of visual effect is deemed High–medium. Once the proposed mitigation screen planting has fully established, there will be a notable reduction in the visible panel area, with the nearby hedgerow to the north largely screening the panels. A new section of hedgerow is also proposed along the ridge of the middle-ground rolling hill, which will screen the proposed panels on the more elevated ground and will eliminate any sky-lining effects where built structures have the potential to be viewed along the skyline. The proposed hedgerow vegetation will be maintained at a height of 3–4 m to provide sufficient screening measures whilst retaining visibility of the distant views. Thus, the residual magnitude of effect will reduce to Medium–low.		
VP4	L7829 at Ballydaniel (1): This is a pleasant view afforded across the working rural landscape, representative of local community receptors in the surrounding vicinity. The depicted view is oriented to the south and west, where the terrain descends and allows for views across the surrounding rolling areas of pastoral farmland and intervening vegetation. To the east, the view is contained by a nearby dwelling and surrounding vegetation located at a slightly	Medium	To the east, in the direction of the nearby dwelling, visibility of the panels is entirely screened by the rolling terrain and surrounding intervening vegetation. In contrast, to the west and south, a broad view is afforded across the central solar parcels, where the land slopes away from the local road corridor. The panels will form a prominent feature within this view, although they do not block or obstruct the wider views across the surrounding landscape. Nonetheless, they will result in a clear degree of visual change	Substantial-moderate / Negative / Short-term	Substantial-moderate / Negative / Long-term



VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
	elevated position in comparison with the local road context. To the north, the view is well contained by the surrounding roadside vegetation.		within this local rural context, with the built forms representing a marked change from the more typical verdant, pastoral fields that characterise the views of the surrounding landscape. Overall, the magnitude of visual effect prior to the establishment of the proposed mitigation screen planting is deemed High–medium. Once the proposed mitigation screen planting measures have fully established, the nearest lines of panels will be screened and softened, whilst the new areas of native woodland further to the south will also screen and soften other sections of panels within this central part of the proposed development. Nevertheless, the proposed panels will remain highly visible and will become one of the principal land uses within this context. Overall, the magnitude of effect remains High–medium.		
VP5	Local road at Knocknagappagh: This is a view afforded from a local road that serves several dwellings and a nearby farmstead. The view has been selected as a representative view from local residential dwellings in the immediate surroundings. It is oriented to the north of a local road intersection and is well contained by the surrounding roadside	Medium-low	Filtered views of the panel area are afforded both to the east and west here through the adjacent roadside hedgerows. The panels to the east appear more prominently from this local context, as they are located slightly uphill from the local road and receive a lesser degree of screening from the winter hedgerow vegetation. Whilst the panels will generate a slight sense of enclosure here, the filtered views afforded,	Moderate / Negative / Short-term	Slight / Negative / Long-term



VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
	vegetation and terrain, with limited visibility of the wider landscape.		combined with the offsets from the local road, somewhat mitigate this. Overall, the panels will contribute to an increase in the perceived degree of built development in this local rural context. Thus, the magnitude of effect is deemed Medium. Once the proposed mitigation screen planting has fully established along the existing field boundaries, the panels to both the east and west will be largely screened. It should be noted that a new section of hedgerow is also proposed along the perimeter of the array to the west to allow for further screening from the rear of the nearby dwelling. Thus, once the proposed mitigation screen planting has fully established, the residual magnitude of effect will reduce to Low.		
VP6	L3803 at Barnaviddane: This is a view afforded from a local road in the townland of Barnaviddane, representative of surrounding local community receptors. The view has two aspects: to the west, it is relatively contained at the roadside by a clipped hedgerow, with brief views afforded into the pastoral field located just beyond. To the east, a view is afforded across a nearby residential landholding, backed by rolling pastoral terrain and layers of intervening vegetation.	Medium-low	To the west, the proposed panels are clearly visible, rising above the nearby clipped roadside hedgerow and viewed against the skyline, presenting a jagged-edge profile. The built panels will be a noticeable feature in this aspect of the view but are slightly set back from the roadside, which marginally diminishes their perceived visual presence. To the east, the central parts of the proposed solar development are visible along the rolling terrain to the east of the adjacent residential landholding. A broad	Substantial-moderate / Negative / Short-term	Moderate / Negative / Long-term



VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
			view of the proposed development is afforded here, with the proposed panel array representing a clear departure from the more typical verdant tones of the surrounding landscape. Overall, the panels will generate a degree of enclosure in this local landscape context, with the potential for surrounding receptors to perceive that they are contained within a large solar farm development. Nonetheless, the overall perceived scale of the development is diminished here due to the dispersed nature of the proposed arrays, with pastoral fields visible between many of the larger arrays. The proposed panels are also low-lying structures and result in a limited degree of obstruction or blocking of views. Overall, the magnitude of visual effect here is deemed high–medium Once the proposed mitigation screen planting has fully established, the panels to the west will be fully screened from this viewpoint as a result of the new and bolstered sections of hedgerow. Thus, the main residual effect relates to views of the panels to the east. Whilst the proposed mitigation screen planting to the east will further screen and soften this part of the array, the sloping nature of the landscape here will limit its effectiveness. On balance, the residual		



VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
			magnitude of visual effect will reduce to Medium.		
VP7	R634 at Ballydaniel: This is a view afforded from a section of the R634 regional road in the townland of Ballydaniel, representative of a scenic route receptor. It should be noted that there is not a strong sense of scenic amenity afforded from views to the west of the regional road, with much of the visual amenity here relating to views across the wider rolling landscape to the east. To the west, along this section of the regional road corridor, views are characterised by linear clusters of dwellings and short-range views across the surrounding pastoral fields.	Medium	The proposed panels will be clearly visible along this section of the regional road in the neighbouring pastoral lands to the west, where the roadside vegetation is low and clipped and provides little in the way of screening. Whilst the panels are slightly set back from the regional road corridor, they will still be a prominent built feature here and present a clear contrast to the more traditional pastoral land uses that characterise views from this location. Nonetheless, the panels do not block or obstruct any sensitive viewing aspects. Overall, the magnitude of visual effect is deemed Medium. Once the proposed mitigation screen planting has fully established, the enhanced roadside hedgerow and native woodland screening will entirely screen the panels from this section of the scenic route. Indeed, the regional road context will present as a typical rural road corridor, albeit with a marginally high degree of containment. Thus, following the establishment of the mitigation screen planting, the residual magnitude of visual effect will reduce to Low.	Moderate / Negative / Short-term	Slight / Negative / Long-term
VP8	L7829 at Ballydaniel (2): This is a view afforded from the L7829 local road, representative of local community receptors	Medium	A broad view across the central parts of the array is afforded from this landscape context. Whilst the nearby dwellings and surrounding vegetation		



VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
	travelling along the road and of surrounding residential receptors located both east and west of it. Whilst views to the east are contained by the adjacent linear cluster of dwellings, broad, pleasant views are afforded to the west across the rolling surrounding pastoral landscape. Indeed, although the depicted view is afforded some degree of containment, surrounding residential receptors here, many of whom are locally elevated above the road, are afforded open views across the working rural landscape to the west, which forms the principal aspect of visual amenity.		will entirely screen the panels to the east, extensive parts of the development will be visible to the west, with the development presenting as one of the principal built features in that direction. Nonetheless, some notable visual amenity offsets have been incorporated into the design of the proposed array to diminish its visual presence, with large setbacks included to both the east and west of this residential cluster. As a result, the proposed panels will not appear highly prominent from this local context; however, they will be perceived as the principal land use here, occupying much of the surrounding visible pastoral lands in the fore- to middle-ground to the west. Overall, the proposed development will result in a marked degree of visual change in this local context, although the low-lying nature of the panels will not block or obstruct any views to the east. On balance, the magnitude of visual effect is deemed High-medium. In combination with the proposed mitigation-by-design measures, which include offsets from the nearest surrounding dwellings, it is also proposed to include linear corridors of native woodland planted along the perimeter of the proposed array to further screen and soften the development from surrounding receptors, whilst still maintaining visibility of the distant landscape	Substantial-moderate / Negative / Short-term	Moderate / Negative / Long-term



VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
			to the east. Once fully established, the proposed mitigation screen planting will diminish the perceived scale and extent of the development; however, due to the locally elevated nature of the surrounding residential receptors, they will still likely afford broad views across the development to the east. Overall, the residual magnitude of effect will reduce to Medium once the proposed mitigation screen planting has fully established.		
VP9	L6040 at Ardsallagh: This is a locally elevated view afforded from lands to the east of the River Blackwater corridor. The view has been selected to represent the wider Blackwater corridor and is presented as one of the few potential parts of the surrounding corridor that could afford visibility of the proposed development in the DTM ZTV. The view extends west, where the terrain dips away towards the Blackwater River, which is not visible from this viewpoint. In the distance, the sloping terrain to the west of the Blackwater contains views in the background.	Medium	Whilst the initial ZTV identified some limited potential for visibility of the proposed development here, the proposed array will be entirely screened by the rolling terrain and dense layers of intervening vegetation. Thus, the magnitude of visual effect is deemed negligible by default.	Imperceptible / Neutral / Short-term	Imperceptible / Neutral / Long-term
VP10	R634 at Garryduff: This is a brief view afforded through a gap in hedgerow vegetation along the R634 at Garryduff. Filtered views across the surrounding landscape to the south are afforded here,	Medium	The proposed development is largely screened here by the nearby roadside hedgerows, rolling terrain, and intervening vegetation throughout the surrounding landscape. Indeed, only glimpses of the panels may be visible from this	Slight-imperceptible / Neutral / Short-term	Slight-imperceptible / Neutral / Long-term



VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
	where the landscape presents as a typical rural setting of pastoral lands and intervening vegetation. There is a marginally heightened degree of visual amenity due to the long-distance views afforded from this location; however, it should be noted that this section of road is not classified as a designated scenic route.		location, where they will appear as small-scale features on distant lands, well set back from the regional road corridor. Thus, the magnitude of effect is deemed Low–negligible. The proposed mitigation screen planting will have a limited screening effect here, as the regional road is slightly elevated. Thus, the magnitude of effect remains unchanged.		
VP11	Ballymackibbot Cross Roads: This is a view afforded from Ballymakibbot Cross Road, adjacent to the local national school and a linear cluster of residential dwellings. It represents a wider part of the settlement of Inch, which is contained within an enclosed valley context further to the east. The depicted view extends east along the alignment of the local road corridor, where dense winter vegetation partially truncates the view. Visibility of the more elevated, rolling distant farmlands is afforded through and over the near vegetation to the east, forming the background in this aspect of the view.	Medium-low	The proposed development will be visible on the distant lands to the east at distances ranging from approximately 1 km to 3 km. Whilst the built tone and texture of the panels will contrast with the more typical bucolic views afforded in this direction, they will not be a highly prominent feature due to their distance from this local context. Indeed, even if viewed from this location, the panels will likely be perceived as an alternative form of rural land use and will result in only a marginal increase in the intensity of built development within the scene. On balance, the magnitude of visual effect is deemed Low. Due to the elevated nature of the site in relation to this viewing context, the proposed mitigation screen planting will have a limited screening effect here. Thus, the magnitude of effect remains unchanged.	Slight / Negative / Short-term	Slight / Negative / Long-term



VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
VP12	L3803 at Inch: This is a heavily contained visual setting that represents the settlement of Inch and its surrounding local community. The settlement is contained in all directions by steeply sloping escarpments that define the River Tourig valley.	Medium	The proposed development is almost entirely screened from this location by the steeply sloping valley sides and surrounding scrubby vegetation. The only visible aspect of the proposed development will be a brief view of the stock-proof fence located to the north-east, which is likely to go unnoticed. Thus, the magnitude of visual effect is deemed Negligible.	Imperceptible / Neutral / Short-term	Imperceptible / Neutral / Long-term
VP13	Local road intersection at Park National School: This is a view afforded from a local road intersection at Ballydaniel, adjacent to Park National School, and is representative of surrounding local community receptors. To the north, a view is afforded across the nearby pastoral fields but is contained at a short distance by a low ridge in the terrain. To the south-east, a view is afforded across a similar context and is contained at a short distance by stacked layers of hedgerow vegetation.	Medium-low	The proposed panels will be visible to the north and are set back a notable distance from the crossroads and nearby school. Only the nearest rows of panels are visible here, with all other aspects of the development fully screened. Indeed, the full extent of the proposed development is considerably diminished from this viewpoint. Whilst the panels will contrast with the more traditional forms of rural land use, they will have a limited impact on the visual amenity afforded from here. Overall, the panels will result in an increase in the intensity of built development, and thus the magnitude of visual effect is deemed medium-low. Once the proposed mitigation screen planting has fully established along the perimeter of the site, the panels will be fully screened from this location. Whilst the enhanced vegetation will result in a marginal increase in the degree of enclosure, it will not appear out of character in	Moderate-slight / Negative / Short-term	Slight-imperceptible / Negative / Long-term



VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
			this rural environment. Thus, the residual magnitude of effect will reduce to low-negligible.		
VP14	L78281 at Ballygalvin: This is a view afforded from a partially contained local road in the townland of Blalygalvin. The principal viewing aspect here is to the south, aligned with the orientation of the adjacent dwelling. Whilst the roadside hedgerow to the south, offers a degree of containment, views of the rolling pastoral lands are afforded over the top of the hedgerow vegetation from this local context.	Medium-low	The proposed panels will only be briefly visible from this location, rising just above the nearby roadside hedgerow. The panels are set back from the perimeter hedgerows to diminish their visual presence from the adjacent dwelling and for users of the road. Where visible, the panels will be viewed against distant terrain and vegetation and do not break the skyline. Overall, the panels will have a limited effect on the visual amenity afforded from this location, and thus the magnitude of visual effect is deemed no greater than low. Once the enhanced surrounding hedgerows have fully established, they will fully screen the panels from view. Thus, the residual magnitude of effect will reduce to Negligible.	Slight / Negative / Short-term	Imperceptible / Negative / Long-term
VP15	L6013 at Castlemiles: This is a view afforded from a local road to the south-east of VP14, in the townland of Castlemiles. The view is representative of surrounding local community receptors and extends to the west across an adjacent pastoral field that rises to a low ridge, partially containing the more westerly aspect of the view. To the	Medium-low	The proposed panels in this southern solar parcel will be visible here, albeit only a modest extent of the array is seen, with the nearest rows of panels screening the development further to the west. Nevertheless, the built panel structures will be a notable feature and contrast with the more traditional forms of agriculture visible throughout the surrounding landscape. It should also be noted that the panels have been slightly	Moderate-slight / Negative / Short-term	Slight / Negative / Long-term



VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
	south-west, brief views of distant rolling pastoral lands are afforded.		set back from the field boundary to diminish their perceived visual presence from the adjacent dwelling to the east. Overall, the magnitude of visual effect is deemed no greater than Medium. Once the proposed mitigation screen planting has fully established, the new and enhanced hedgerow will fully screen the panels from this local road context. Nevertheless, the nearest dwelling to the east, being elevated above the road, will likely still afford views across this parcel. On balance, the residual magnitude of visual effect is deemed Low.		
VP16	L7828 at Ballydaniel: This is a view afforded from the L7828 local road in the townland of Ballydaniel, adjacent to several residential dwellings located both north and south of the road. The depicted view is oriented to the north and extends across a broad area of open farmland that gently rises to a low brow further in the distance.	Medium-low	A relatively extensive view of the central portion of the proposed development is afforded from this landscape context, with the visible area of panels stretching across the wider landscape to the north. Indeed, the proposed development will become the principal land use in this local context and will markedly increase the intensity of built development experienced by surrounding local receptors. It should be noted that the proposed array has been set back from the nearest visible dwelling to diminish any strong sense of visual enclosure at that dwelling. Nevertheless, views to the north will still be dominated by the panels. Overall, the magnitude of visual effect is deemed High-medium.	Substantial-moderate / Negative / Short-term	Slight / Negative / Long-term



VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
			Once the proposed mitigation screen planting has fully established, the proposed array will be largely screened from view by the enhanced hedgerow and the new section of hedgerow located to the north of the local road. Whilst there is still potential for glimpse views of the panels, the visual presence of the development will be considerably reduced. Nonetheless, the proposed mitigation will also generate some degree of enclosure in comparison with the baseline context. On balance, the residual magnitude of effect is deemed Medium–low.		
VP17	Ardagh Cemetery: This is a well-contained view afforded from a local road adjacent to Ardagh Cemetery. The local context is enclosed by dense, mature tree lines and vegetation. The most open visibility relates to views to the east, where boundary vegetation is limited. Filtered views through the tree lines are also afforded across the surrounding pastoral lands to the west and south.	Medium	The clearest potential views of the development relate to views to the east, where the boundary vegetation is limited. The panels will be visible here, offset by one pastoral field, and whilst they will contrast with the surrounding pastoral land uses, they will not present a highly prominent visual presence. To the west and south, there is potential for glimpse views of the proposed development; however, these parts of the site are unlikely to draw the eye. Overall, the brief views of panels here will marginally detract from the visual setting of the cemetery, and thus the magnitude of visual effect is deemed no greater than Medium–low.	Moderate-slight / Negative / Short-term	Slight-imperceptible / Negative / Long-term



VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
			Once the proposed mitigation screen planting has fully established, the panels visible to the east will be fully screened by the enhanced hedgerow vegetation, whilst other potentially visible panels will also be further softened and screened by the proposed mitigation measures. Thus, the residual magnitude of effect will reduce to Low–negligible.		
VP18	L3808 at Cornaveigh: This is a brief view afforded from an entrance to a residential landholding from the L3808, which is otherwise heavily contained by dense roadside vegetation. The depicted view is representative of surrounding residential receptors on the southern side of the Tourig valley. The view extends north across the river valley context, with its lower reaches heavily contained by dense, mature vegetation. Further to the north, the terrain rises rapidly on the south-facing slopes of the Tourig valley, where the surrounding landscape is largely cloaked in pastoral farmland.	Medium	The proposed panels will be briefly visible from the roadside, with surrounding residential receptors afforded the most notable degree of panel visibility. Only the south-easternmost solar parcel is visible here, with only half of its extent seen. Nonetheless, the visible panels encompass a notable area of land to the north of the River Tourig and represent a departure from the more traditional verdant forms of agriculture. The panels are offset from this local context across the river corridor and will likely be perceived as an alternative form of land use, where they do not block or obstruct any sensitive views or viewing aspects. On balance of the reasons outlined above, the magnitude of visual effect is deemed Medium–low. The proposed mitigation screen planting will have a limited screening effect from this locally elevated view; thus, the residual magnitude of effect remains Medium–low.	Moderate-slight / Negative / Short-term	Moderate-slight / Negative / Long-term



VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
VP19	N25 Youghal Bypass at Tourig River: This view is located along the N25, with views oriented to the west, representative of the major route and designated scenic route. This section of the N25 has a relatively open character, providing pleasant views to the west. Views extend downhill across the River Tourig and the rolling landscape beyond, which is largely agricultural land interspersed with swathes of dense, mature riparian vegetation.	High-medium	Only a very brief glimpse of one of the southernmost solar parcels may be visible from this location, albeit at a distance of approximately 3 km to the west and well screened by intervening vegetation. Indeed, the panels will be difficult to discern and are unlikely to draw the eye, with views extending across the River Tourig Valley. Thus, the magnitude of visual effect is deemed Low–Negligible. The proposed mitigation screen planting will have a limited screening effect here; consequently, the residual visual effect is expected to remain Low–Negligible..	Slight-imperceptible / Negative / Short-term	Slight-imperceptible / Negative / Long-term
VP20	L3804 local road at Drishane Beg: This is a heavily contained view from a local road at Drishane Beg, representative of the surrounding local community. Whilst the depicted view is well contained by the nearby clipped hedgerow vegetation, surrounding residential receptors, most notably those to the south of the local road, afford pleasant views across the River Tourig Valley to the north.	Medium	Whilst the proposed development is not readily visible in the depicted view, the outline view indicates the potential for glimpsed views across the valley towards the proposed development. Nonetheless, the proposed arrays will only be partially visible and are dispersed across the surrounding landscape, with the perceived scale of the development heavily diminished. Thus, the magnitude of visual effect from this local context is deemed no greater than Low. The proposed mitigation screen planting will have a limited effect here due to the locally elevated nature of these dwellings;	Slight / Negative / Short-term	Slight / Negative / Long-term



VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
			consequently, the residual visual effect is expected to remain Low.		
VP21	L3804 local road at Youghal Park: This is a brief view afforded through an agricultural field entrance along a well-contained section of local road in the townland of Youghal Park. The view is representative of local community receptors located along this section of the road and affords visibility across the River Tourig Valley towards the south-facing sloping valley sides, which form the background of the view.	Medium	The proposed solar farm will be visible along the south-facing slopes of the wider River Tourig Valley at a distance of just under 1 km. The southernmost parcels of panels will be visible, while the majority of the wider development is heavily screened by the intervening terrain. The proposed development does not appear incongruous in terms of its scale or function within this robust working rural context, and the low-lying nature of the panel structures will not block or obstruct views of the wider landscape. Although there will be a slight intensification of built development here, the proposed development will not notably detract from the working pastoral qualities of this view. Thus, the magnitude of visual effect is deemed Low. The proposed mitigation screen planting will have a limited screening effect due to the sloping nature of the site. Consequently, the residual magnitude of effect remains Low.	Slight / Negative / Short-term	Slight / Negative / Long-term
VP22	Local road at Drishane More: This is a locally elevated view from a sloping local road in the townland of Drishane More, representative of surrounding local community receptors located to the south of the wider River Tourig Valley. Open views are afforded to the north,	Medium	Several of the proposed solar parcels will be visible on the northern side of the Tourig River Valley, contained within rolling pastoral fields bound by established hedgerow vegetation. The proposed panels are well contained within the established agricultural field network, although	Slight / Negative / Short-term	Slight / Negative / Long-term



VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
	channelled along the local road corridor across rolling pastoral terrain, with the background contained by further areas of rolling terrain on the northern side of the River Tourig Valley		their built tone and texture will contrast with the more verdant tones of the surrounding pastoral landscape. Whilst the proposed panels will result in an increase in the intensity of built development here, they do not appear out of place in this robust rural setting, and the perceived scale of the overall development is heavily diminished by the dispersed nature of the proposed array. Thus, the magnitude of visual effect is deemed Low. The proposed mitigation screen planting will have a limited screening effect due to the locally elevated nature of this view. Nonetheless, the enhanced vegetation and new hedgerows will further soften the built forms and help anchor the development into the existing rural context. The residual magnitude of effect is therefore expected to remain Low.		
VP23	L7844 at Clasheel: This is a locally elevated view from a road crossroads in the townland of Clasheel, representative of surrounding local community receptors. The depicted view is oriented to the north, where the terrain begins to descend towards the wider Tourig River Valley. The sloping terrain and intervening vegetation screen much of the fore- to mid-ground context of the view, with	Medium	The proposed panels are visible within the established field networks on the south-facing slopes of the wider Tourig River Valley. Two of the proposed solar parcels are visible here, separated by a distance of approximately 1 km. The proposed panels will not be a visually prominent feature, although they have the potential to draw the eye as an alternative form of land use. Overall, the proposed development will increase the intensity of development in this	Slight / Negative / Short-term	Slight / Negative / Long-term



VP NO.	EXISTING VIEW	VP SENSITIVITY	MAGNITUDE OF VISUAL EFFECT (PRE & POST MITIGATION)	PRE MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT	POST MITIGATION SIGNIFICANCE / QUALITY / DURATION OF EFFECT
	the background characterised by sloping pastoral fields and low hedgerow vegetation.		scene but will not appear out of place within the working rural character of this view. Thus, the magnitude of visual effect is deemed Low. Due to the elevated nature of this viewing context and the sloping nature of the visible solar parcels, the proposed mitigation screen planting will have a limited screening effect; however, the enhanced hedgerow vegetation will visually soften the proposed development and reduce its overall visual mass. Overall, the residual magnitude of effect is expected to remain Low.		
VP24	L38101 west of Youghal: This view is taken adjacent to a cluster of residential dwellings along the L38101, situated on locally elevated lands to the west of the centre of Youghal, representative of the town's main area of population. A more open view across the wider landscape is afforded to the north, whilst views to the north-west and west are partially contained by a low rise in the rolling terrain and surrounding intervening vegetation, resulting in heavily filtered views of the distant landscape.	Medium	The proposed development will be barely discernible from this location and is viewed well offset from the most notable aspect of visual amenity, which lies to the north. Thus, the magnitude of visual effect is deemed Negligible.	Imperceptible / Neutral / Short-term	Imperceptible / Neutral / Long-term

1.6.8 Cumulative Effects

With regard to potential cumulative landscape effects generated by the proposed development, it is important to note that the study area encompasses no other relevant solar farm developments.

Nonetheless, a permitted wind farm development (ACP Ref. 309121-21) is located to the north of the site, with the nearest turbine situated approximately 1.8 km north of the nearest section of the proposed development (refer to Figure 1.15 below). The farthest consented turbine associated with the development is located over 5.5 km northwest of the proposed development site.

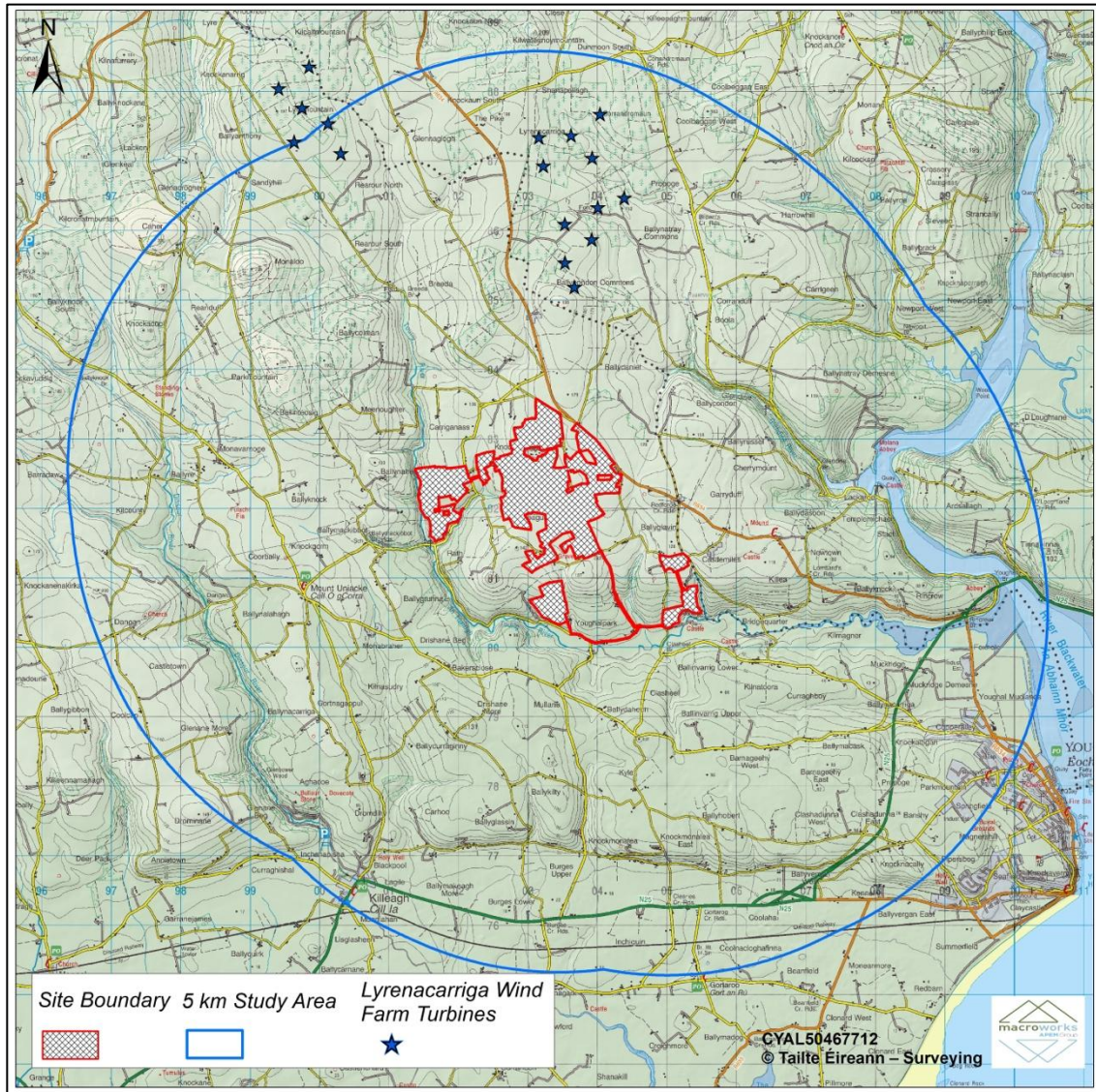


Figure 1.15: Location of the proposed development in relation to the consented wind farm development

With regard to potential cumulative landscape effects, the principal interaction relates to the introduction of an additional form of renewable energy infrastructure within a study area that already accommodates a consented wind energy development. Whilst both developments contribute to the broader renewable energy resource of the area, they occupy distinctly different landscape settings and are separated by a sufficient distance to ensure that each is perceived as an individual development rather than as a single, expansive renewable energy complex.

The proposed renewable energy park occupies relatively rolling agricultural lands some of which is partially and intermittently enclosed by mature and well-established hedgerow network. The receiving landscape is characterised by a strong pattern of pastoral fields, scattered farmsteads and local road corridors, with landscape enclosure reinforced by mature hedgerows and intermittent tree belts, principally in the more southern and western extent of the proposed renewable energy park. By comparison, the consented wind farm occupies slightly more elevated lands to the north, where the landscape character transitions towards extensive commercial conifer forest plantations. Consequently, the turbines are associated with a markedly different landscape context and are experienced as elements emerging from a more elevated, forested skyline rather than from more typical rolling agricultural landscape occupied by the proposed renewable energy park.

The contrasting landscape settings, together with the physical separation between the developments, ensure that there is little potential for the two developments to be perceived as a continuous area of renewable energy infrastructure. Instead, each development retains its own distinct landscape identity, with the proposed renewable energy park reading as an agricultural solar development and the consented wind farm remaining visually and physically associated with the more elevated working forested landscape to the north.

Furthermore, the proposed renewable energy park has been designed to respond appropriately to the existing landscape structure through the retention and reinforcement of the mature hedgerow network, the provision of additional native planting and the maintenance of appropriate setbacks from surrounding roads and sensitive receptors. As demonstrated throughout the Landscape and Visual Impact Assessment, the landscape effects generated by the proposed renewable energy park are highly localised and diminish rapidly beyond approximately 500m-1 km from the site boundary owing to the contained nature of the site and the effectiveness of the surrounding vegetation. Consequently, there is limited opportunity for the proposed development to materially influence the wider landscape character within which the consented wind farm is experienced.

Overall, whilst the proposed development will contribute to a modest increase in the overall extent and intensity of renewable energy infrastructure within the study area, the developments remain clearly separated both spatially and in terms of landscape character. The robust and modified nature of the receiving landscape is capable of accommodating both developments without giving rise to a materially different cumulative landscape character.

Potential cumulative visual effects principally relate to locations from which both the proposed renewable energy park and the consented wind farm may be visible in-combination. Given the relative proximity of the nearest turbine, which rise to a height of 150m, there is potential for combined visibility to occur from sections of the local road network and nearby receptors surrounding the proposed renewable energy park. However, the nature of this cumulative visibility is strongly influenced by the characteristics of the receiving landscape and the differing visual roles of each development.

Within the immediate surroundings of the proposed renewable energy park, where visibility of the solar arrays is greatest, the proposed development will generally form the dominant foreground element within the view. By contrast, the consented wind turbines will typically be perceived as distant background features located on the more elevated land to the north, visually separated from the solar development by intervening agricultural fields, stacked hedgerows and changes in topography. The turbines therefore remain visually distinct from the proposed renewable energy park rather than appearing as physically connected infrastructure.

Whilst the submitted photomontages do not include for the consented wind turbines, it is clear that there will be some potential for combined views of the proposed renewable energy park and the consented turbines, with the elevated lands to the north that contain the turbines often visible in the background of views afforded of the proposed development. Nonetheless, what is also evident is the clear separation distances and contrasting landscape contexts between the proposed and consented developments ensure that the developments remain readily distinguishable. The turbines occupy the distant skyline beyond the agricultural landscape containing the proposed renewable energy park, maintaining a strong perception of separation between the two forms of renewable energy development.

Beyond the immediate vicinity of the proposed renewable energy park, opportunities for cumulative visual effects reduce substantially. The submitted LVIA demonstrates that visibility of the proposed renewable energy park diminishes rapidly beyond approximately 1 km from the site boundary as a result of the contained nature of the site, the surrounding mature hedgerow network (which will be enhanced as part of the landscape mitigation proposals) and the intervening landform. Consequently, many locations from which the consented wind turbines are likely to be prominent, particularly within the northern and more elevated extents of the study area, have limited or no theoretical visibility of the proposed renewable energy park. In these locations, the consented wind farm will continue to be experienced largely independently of the proposed development.

Overall, the differing scales, viewing distances and landscape settings of the two developments reduce the likelihood of visual clutter or the perception of an over-concentration of renewable energy infrastructure. Instead, the developments will generally be viewed as separate renewable energy projects occupying different parts of the wider robust working landscape context.

Overall, the proposed renewable energy park will result in a localised increase in the apparent scale and intensity of renewable energy infrastructure, most noticeably within the immediate surroundings of the site where combined visibility with the consented wind farm is possible. However, the robust nature of the receiving landscape, the contained visibility of the proposed renewable energy park, the separation distance between the developments and the contrasting landscape contexts within which they are experienced ensure that cumulative landscape and visual effects remain relatively limited. Accordingly, cumulative landscape and visual effects generated by the proposed development are assessed as Not Significant.

1.6.9 **Monitoring**

1.6.9.1 *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 and building work.

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.

1.6.9.2 *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.

1.7 CONCLUSIONS

In terms of landscape impacts, the proposed development is of a sizable scale, comprising several landholdings; however, it is considered to have only a modest physical impact as it is consolidated within the existing hedgerow network and will not require significant excavation works to construct either the solar panels or the access and maintenance tracks. Nonetheless, there will be some localised excavation works to facilitate the proposed site compounds for the substation and BESS development, both of which will require areas of cut and fill and will result in localised modifications to the existing terrain.

In terms of impacts on landscape character, the proposed development represents the introduction of a new and relatively unfamiliar form of built development into a rural setting. Nevertheless, the solar array will hug the ground plane and be consolidated within the existing field pattern, which will be enhanced as part of a comprehensive mitigation strategy. Indeed, the comprehensive landscape mitigation proposals, which comprise new areas of woodland, new and enhanced hedgerows, and the management of grasslands for biodiversity purposes, will result in some localised positive landscape effects.

Furthermore, whilst the proposed development is relatively broad in scale and comprises several distinct solar parcels, the most notable of these being the central parcel, the full scale and intensity of the entire development will never be fully apparent due to the dispersed nature of the site and the dense layers of intervening vegetation located between each of the proposed parcels. In fact, the most notable landscape effects will occur at the site scale and within its immediate surrounding landscape; thus, the greatest landscape effects generated by the proposed development will be localised to the immediate environs of the site. It should also be noted that where the proposed development will result in the most pronounced effects on landscape character, these areas present as modified, typical working rural settings that are neither highly rare nor particularly susceptible to change. Indeed, as evidenced by the broad-scale field patterns within the central parts of the site, this landscape has undergone large-scale change over the past century due to agricultural practices, with historical maps highlighting a previously more intricate field network (refer to Figure 1.16 below).

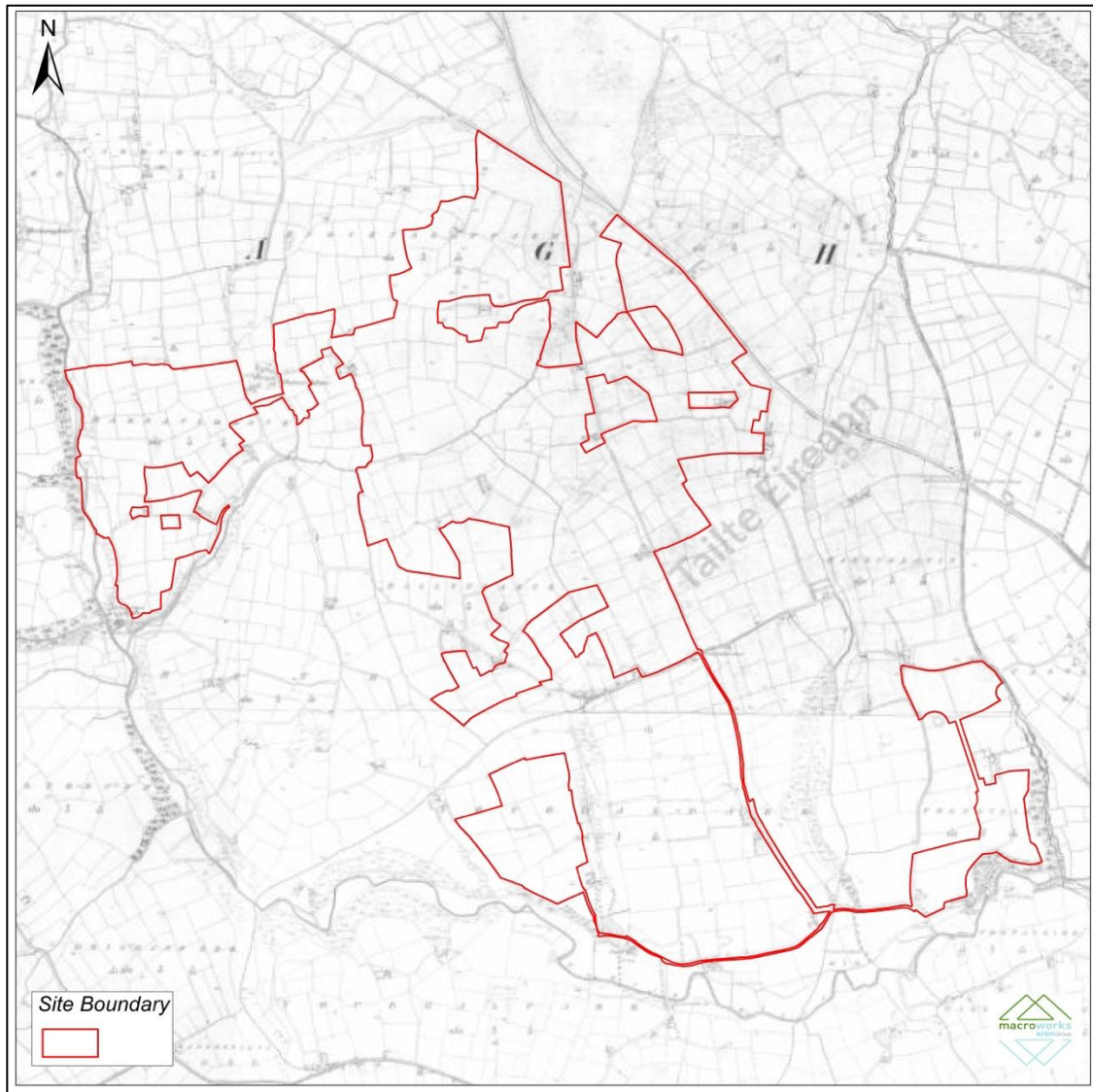


Figure 1.16 Historical maps showing a much more intricate field pattern within the central parts of the site

Whilst the proposed development will present as an unfamiliar development type in this context, it represents a form of agricultural diversification and will not appear incongruous within this working landscape setting. The site and its immediate surroundings constitute a productive, modified rural landscape with associated landscape values. Whilst the proposed development may slightly alter the 'landscape fabric' of the area, it does not markedly affect the prevailing landscape pattern or the overarching rural landscape character of the area. It is also important to note that, once decommissioned, there will be little evidence, aside from the proposed substation, which will continue to form part of the national grid, that the proposed solar development ever existed. Therefore, combined with the 'High-Medium' magnitude of operational-stage landscape effect, the overall significance of operational-stage landscape effect is deemed to be 'Moderate' and of a Negative quality within the immediate surrounds of the site, reducing to Slight and Imperceptible within the wider surrounding study area.

Visual Impacts at 24 viewpoints throughout the immediate and wider landscape context, representing various viewing distances, angles and receptor types. The notable number of viewpoints was representative of the scale and dispersed nature of the proposed development, which occupies several landholdings.

Whilst some localised parts of the landscape are considered sensitive to change, such as certain contained sections of the river corridors or locally elevated lands within the immediate and wider landscapes, much of the site's immediate context comprises a typical working rural landscape that is neither highly rare nor distinctive in any sense. The typical nature of this landscape context is further reinforced through the visual receptor sensitivity judgements, where all but two of the representative viewpoints were classified as having a Medium or Medium-Low receptor sensitivity. Representative viewpoints classified as High-Medium corresponded to locally elevated views from scenic view or route designations. However, it should be noted that the nearest scenic route designation to the proposed development, Scenic Route S45, does not exhibit any particularly distinctive sense of scenic amenity. Whilst pleasant views are afforded from sections of this route in the vicinity of the site, they tend to be typical views across locally elevated lands dominated by routine rural agricultural practices.

The overall significance of visual effect ranged between 'Substantial-Moderate' and 'Imperceptible', with the majority of representative viewpoints classified with a residual significance of effect of Slight or less. Indeed, the most notable residual visual effects will occur along the L7829 in the immediate surrounds of the site due to its locally elevated nature, as the proposed panels will fully enclose sections of this local road both east and west. Viewpoints VP4 and VP8 were selected as representative viewpoints from this local road. It should be noted that considerable offsets were incorporated at the early design stage along this local road corridor, as it was identified as a constraint to the proposed project at an early stage due to its locally elevated nature and its potential to afford clear views across wider parts of the site. The proposed development will therefore generate a considerable degree of visual change along this local road corridor, with the nearest solar arrays dominating many of the views. However, the proposed comprehensive mitigation screen planting measures, combined with the offsets provided, will diminish the perceived visual presence of the proposed development from the nearest surrounding receptors, whilst maintaining views of the wider surrounding landscape.

Viewpoints VP3 and VP7 were both selected to represent the nearest scenic route to the proposed development — Scenic Route S45 to the north of the site. Whilst a pleasant pastoral aesthetic is experienced along this scenic route, it should be noted that views afforded from this route within the study area tend to be typical in nature and influenced by surrounding working land uses. Views from this route to the north of the site, within the townland of Knocknagappagh, were identified as a constraint to the project at an early stage due to the potential for clear views of the panels and possible skylining effects along a nearby locally rolling hill. As a result, early-stage reverse ZTV analysis was undertaken (refer to Figure 1.13) to eliminate the potential for skylining effects from this scenic route. In this regard, a large area of panels was removed from the brow of the hill, and a new hedgerow was proposed along the ridge of the rolling hill. As evidenced in the post-mitigation photomontage for VP3, the potential for skylining effects is fully eliminated once the proposed mitigation screen planting has fully established, while the other landscape mitigation measures substantially diminish the overall perceived scale and extent of the proposed development from this scenic route designation.

Overall, while the proposed development will, due to its scale and extent, result in some higher-ranging landscape and visual effects, these effects will tend to be localised to the immediate vicinity of the site. However, appropriate mitigation measures have been incorporated throughout the site to diminish the development's residual effects at surrounding receptors, in line with the policies and objectives outlined in the current Cork County Development Plan (CDP). Indeed, it is considered that the development is suitably sited within a robust rural context and does not conflict with landscape or visual-related policy in the current Cork County Development Plan.

1.7.1 **Overall Significance of Effect**

Based on the landscape and visual effect judgements provided throughout this LVIA, the proposed Greenhills Renewable Energy Park comprising the solar farm, BESS, substation and grid connection, underground cabling and other ancillary development is not considered to give rise to any significant residual effect. Instead, landscape effects are not considered to exceed 'Moderate' significance, even in the immediate context of the site and residual visual effects are not considered to exceed 'Substantial-moderate' significance, with a large majority of visual effects classified as 'Moderate-slight' or less.

1.8 **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.