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Illaunbaun Wind Farm - Environmental Impact Assessment Report

Chapter 15: Landscape and Visual Impact

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF PLATES

ACRONYMS

AOD	Above Ordnance Datum
CCC	Clare County Council
CDP	County Development Plan
CWES	County Clare Wind Energy Strategy
DoEHLG	Department of Environment, Heritage and Local Government
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency
GLVIA	Guidelines for Landscape and Visual Impact Assessment
HF	Heritage Feature
IEMA	Institute of Environmental Management and Assessment
LCA	Landscape Character Area
LCT	Landscape Character Type
LCV	Local Community View
LVIA	Landscape and Visual Impact Assessment
MR	Major Route
NIAH	National Inventory of Architectural Heritage
NPWS	National Parks and Wildlife Service
OSI	Ordnance Survey Ireland
pNHA	Proposed Natural Heritage Area
SAC	Special Area of Conservation
SID	Strategic Infrastructure Development
SNH	Scottish Natural Heritage (now NatureScot)
SPA	Special Protection Area
SR	Scenic Route
VP / VRP	Viewpoint / Viewshed Reference Point
WES	Wind Energy Strategy
ZTV	Zone of Theoretical Visibility

GLOSSARY OF TERMS

Term	Definition
Cumulative Impact	The combined effect of multiple developments on the landscape or visual amenity.
Heritage Landscape	Areas prioritised for natural and cultural heritage, often highly sensitive to change.
Landscape Character	The distinct and recognisable pattern of elements in the landscape that makes one area different from another.
Landscape Character Area (LCA)	A defined geographical area with a consistent landscape character.
Landscape Character Type (LCT)	A classification of landscapes based on shared features and qualities.
Landscape Impact Assessment (LIA)	Evaluation of changes to the physical landscape and its character due to a proposed development.
Magnitude of Impact	The scale and extent of change caused by a development.
Mitigation	Measures taken to avoid, reduce, or remedy adverse effects.
Photomontage	A visual representation combining photographs and digital models to show how a development will appear.
Scenic Route	A designated road or path offering views of high landscape value.
Sensitivity of Receptor	The degree to which a landscape or viewer is susceptible to change.
Settled Landscape	Areas where people live and work, typically more robust to development.
Significance of Effect	The importance of an impact, determined by combining sensitivity and magnitude.
Skylining	The visual effect of an object, such as a wind turbine, appearing on or above the skyline when viewed from a distance, often increasing its prominence.

Strategic Area (Wind Energy)	A location identified in planning policy as suitable for wind energy development due to favourable conditions.
Viewshed Reference Point (VRP)	A specific location used to assess the visual impact of a development.
Visual Impact Assessment (VIA)	Assessment of how a development affects views and visual amenity experienced by people.
Visual Intrusion	When a new element interrupts a view without blocking it.
Visual Obstruction	When a new element blocks a view, either partially or fully.
Zone of Theoretical Visibility (ZTV)	A map showing areas from which a development may be visible, based on terrain data.

15 LANDSCAPE AND VISUAL IMPACT

15.1 INTRODUCTION & SCOPE

This chapter 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 changes in the physical landscape brought about by the Proposed Development, which may alter its character, and how this is experienced. This requires a detailed analysis of the individual elements and characteristics of a landscape that go together to make up the overall landscape character of that area. By understanding the aspects that contribute to landscape character, it is possible to make judgements in relation to its quality (integrity) and to identify key sensitivities. This, in turn, provides a measure of the ability of the landscape in question to accommodate the type and scale of change associated with the Proposed Development without causing unacceptable adverse changes to its character.

Visual Impact Assessment (VIA) relates to assessing effects 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).

Cumulative landscape and visual impact assessment is concerned with additional changes to the landscape or visual amenity caused by the Proposed Development in conjunction with other developments (associated or separate to it), or actions that occurred in the past, present or are likely to occur in the foreseeable future.

15.1.1 STATEMENT OF AUTHORITY

This Landscape and Visual Impact Assessment was prepared by Karen O'Neill, a Landscape Architect at Macro Works Ltd, and was reviewed by Richard Barker, Principal Landscape Architect at Macro Works Ltd, in Cherrywood, Dublin. Macro Works is a specialist LVIA company with over 20 years of experience in the appraisal of effects from a variety of energy, infrastructure and commercial developments. Relevant experience includes LVIA work on over 140 onshore wind farm proposals throughout Ireland, including six Strategic Infrastructure Development (SID) wind farms. Macro Works are affiliated with the Irish Landscape Institute.

15.1.2 DESCRIPTION OF THE PROPOSED DEVELOPMENT

The Proposed Development comprises six wind turbines located approximately 2.9 km from the Atlantic coastline and 4.2 km north-east of Milltown Malbay, Co. Clare, within a 150 ha site characterised by upland peatland and coniferous forestry. The Proposed Development is located in a visually open upland setting interspersed with forestry, bog, and pasture. The surrounding landscape includes agricultural land, dispersed rural dwellings, and other existing wind energy developments.

The turbines comprising the Proposed Development will have a maximum blade tip height of 150 m and a hub height of up to 91.5 m. The site elevation ranges from 115 mOD in the east to over 200 mOD on higher ground in the west and north, where two hills provide locally elevated terrain.

The layout has been optimised to minimise environmental effects while maximising wind resource, using existing forestry tracks where feasible. The Proposed Development includes turbine foundations, crane hardstands, a 38 kV substation with control building, internal site roads, underground cabling, two borrow pits, and a temporary construction compound. Tree felling will be required within the footprint, with compensatory afforestation to be addressed via separate licensing.

A detailed description of the proposed project assessed in the EIAR is contained in Chapter 5: Project Description.

15.2 APPROACH TO ASSESSMENT

15.2.1 RELEVANT LEGISLATION AND GUIDANCE

This LVIA uses methodology that is in accordance with that prescribed in the following guidance documents:

- Environmental Protection Agency. (2022). *Guidelines on the information to be contained in environmental impact statements*. Environmental Protection Agency.
- Landscape Institute & Institute of Environmental Management and Assessment. (2013). *Guidelines for landscape and visual impact assessment* (3rd ed.). Routledge.
- NatureScot. (2021). *Assessing the cumulative landscape and visual impact of onshore wind energy developments*. NatureScot. (Originally published by Scottish Natural Heritage).
- Department of the Environment, Heritage and Local Government. (2006). *Wind energy development guidelines*. Department of the Environment, Heritage and Local Government. https://www.gov.ie/en/publication/ee5ec-wind-energy-development-guidelines/
- Department of the Environment, Heritage and Local Government. (2019). *Wind energy development guidelines: Draft revised*. Department of the Environment, Heritage and Local Government. https://www.gov.ie/en/publication/ee5ec-wind-energy-development-guidelines/
- Landscape Institute. (2019). *Photography and photomontage in landscape and visual impact assessment* (Technical Guidance Note 06/2019). Landscape Institute.
- NatureScot. (2017). *Visual representation of wind farms: Best practice guidelines* (Version 2.2). NatureScot. (Originally published by Scottish Natural Heritage).

15.2.2 ASSESSMENT METHODOLOGY

Production of this Landscape and Visual Impact Assessment involved baseline work in the form of desktop studies and fieldwork comprising professional evaluation by qualified and experienced

Landscape Architects, as detailed in the preceding Statement of Authority. This entailed a desktop survey, fieldwork, and appraisal, as outlined below.

15.2.2.1 DESKTOP SURVEY

- Establishing an appropriate Study Area from which to study the landscape and visual impacts of the proposed wind farm;
- Review of a Zone of Theoretical Visibility (ZTV) map, which indicates areas from which the project is potentially visible in relation to terrain within the Study Area;
- Review of relevant County Development Plans, particularly with regard to sensitive landscape and scenic view/route designations;
- Review of Study Area mapping and on-line sources to identify key settlements and transport routes as well as heritage amenity and tourism locations where visitors are likely to be sensitive to changes in views;
- Selection of potential Viewshed Reference Points (VRPs) from key visual receptors to be investigated during fieldwork for actual visibility and sensitivity;
- Data to inform the assessment was extracted from the following data sources:
    - Clare County Council (CCC) Clare County Development Plan 2023-2029 (CCC 2023);
    - National Parks and Wildlife Service mapping (NPWS 2023);
    - The Heritage Council – Heritage mapping (Heritage Council 2023);
    - Ordnance Survey Ireland (OSI) maps (OSI 2023);
    - Coillte Recreation map (Coillte 2023);
    - Discover Ireland (Discover Ireland 2023);
    - The National Inventory of Architectural Heritage (NIAH) survey data (NIAH 2023); and
    - Sport Ireland Trails (Sport Ireland 2023).

15.2.2.2 FIELDWORK

- Recording of a description of the landscape elements and characteristics within the Study Area.
- Selection of a refined set of viewpoints for assessment. This includes the capture of reference images and grid reference coordinates for each VRP location for the visualisation specialist to prepare photomontages.

15.2.2.3 APPRAISAL

- Consideration of the receiving landscape with regard to overall landscape character as well as the salient features of the Study Area including landform, drainage, vegetation, land use and landscape designations.

- Consideration of the visual environment including receptor locations such as centres of population and houses; transport routes; public amenities, facilities and heritage features and designated and recognised views of scenic value.
- Consideration of design guidance and planning policies.
- Consideration of potentially significant effects and the mitigation measures that could be employed to reduce such effects.
- Assessment of the significance of residual landscape impacts.
- Assessment of the significance of residual visual impacts aided by photomontages prepared at all of the selected VRP locations.
- Assessment of cumulative landscape and visual effects in combination with other relevant surrounding developments that are existing, permitted or proposed.

15.2.3 DEFINITION OF STUDY AREA

Both the current 2006 Wind Energy Development Guidelines and the revised 2019 Guidelines specify different *radii* for examining the zone of theoretical visibility (ZTV) of proposed wind farm projects based on turbine height. By default, the ZTV radius has also been used to define the Study Area. The extent of the Study Area is influenced by turbine height, as follows:

- 15 km radius for blade tips up to 100 m;
- 20 km radius for blade tips greater than 100 m and;
- 25 km radius where landscapes of national and international importance exist.

In the case of the Proposed Development, the blade tips are up to 150 m high and, thus, the minimum ZTV radius recommended is 20 km from the outermost turbines. Sites of national or international importance in the vicinity of the site are located within 20 km; therefore the radius of the Study Area will remain at 20 km. Notwithstanding the full 20 km extent of the LVIA Study Area, there will be a particular focus on receptors and effects within the Central Study Area where there is higher potential for significant impacts to occur. When referenced within this assessment, the 'Central Study Area' is the landscape within c. 5 km of the Site (Figure 15-1).

Figure 15-1: Extent of Study Area.

15.2.4 ASSESSMENT CRITERIA FOR LANDSCAPE IMPACTS

The classification system used by Macro Works Ltd. to determine the significance of landscape and visual impacts is based on the IEMA Guidelines for Landscape and Visual Impact Assessment (2013). When assessing the potential impacts on the landscape resulting from a wind farm development, the following criteria are considered:

- Landscape character, value and sensitivity;
- Magnitude of likely impacts; and
- Significance of landscape effects.

The sensitivity of the landscape to change is the degree to which a particular landscape receptor (Landscape Character Area (LCA) or feature) can accommodate changes or new features without

unacceptable detrimental effects to its essential characteristics. Landscape Value and Sensitivity is classified using the following criteria outlined in Table 15-1: Landscape Value and Sensitivity.

Table 15-1: 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.

The magnitude of a predicted landscape impact (Table 15-2) is a product of the scale, extent or degree of change that is likely to be experienced as a result of the Proposed Development. 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 proposal site boundary that may have an effect on the landscape character of the area.

Table 15-2: Magnitude of Landscape Impacts

Magnitude of Impact	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 overall change of the landscape in terms of character, value and quality.

Magnitude of Impact	Description
High	Change that would be more limited in extent and scale with the loss of important landscape elements and features, that may also involve the introduction of new uncharacteristic elements or features that contribute to an overall 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 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.
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.

The significance of a landscape impact is based on a balance between the sensitivity of the landscape receptor and the magnitude of the impact. The significance of landscape impacts is arrived at using the following matrix set out in Table 15-3: Landscape Impact Significance Matrix .

Table 15-3: Landscape Impact Significance Matrix

Magnitude	Sensitivity of Receptor				
	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

** Note: Judgements deemed 'substantial' and above are considered to be 'significant impacts' in EIA terms.*

15.2.5 ASSESSMENT CRITERIA FOR VISUAL IMPACTS

As with the landscape impact, the visual impact of the proposed wind farm will be assessed as a function of receptor sensitivity versus magnitude. In this instance, the sensitivity of visual receptors, weighed against the magnitude of visual effects.

15.2.5.1 VISUAL SENSITIVITY

Unlike landscape sensitivity, visual sensitivity has an anthropocentric basis. Visual sensitivity is a two-sided analysis of receptor susceptibility (people or groups of people) versus the value of the view on offer at a particular location.

To assess the susceptibility of viewers and the amenity value of views, the assessors use a range of criteria and provide a four-point weighting scale to indicate how strongly the viewer/view is associated with each of the criterion. Susceptibility criteria are extracted directly from the aforementioned Guidelines for Landscape and Visual Assessment (2013), whilst the value criteria relate to various aspects of a view that might typically be related to high amenity including, but not limited to, scenic designations. These are set out below:

Susceptibility of receptor group to changes in view. This is one of the most important criteria to consider in determining overall visual sensitivity because it is the single category dealing with viewer susceptibility. In accordance with the IEMA Guidelines for Landscape and Visual Assessment (3rd edition 2013) 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 focused 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; and
- 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; and
- People at their place of work whose attention may be focused on their work or activity, not their surroundings, and where the setting is not important to the quality of working life.

Values typically associated with views:

- **Recognised scenic value of the view** (County 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, at least, a public consultation process is required;
- **Views from within highly sensitive landscape areas**. Again, highly sensitive landscape designations are usually part of a county's Landscape Character Assessment, which is then

incorporated with the County Development Plan and is therefore subject to the public consultation process. Viewers within such areas are likely to be highly attuned to the landscape around them;

- **Intensity of use, popularity**. Whilst not reflective of the amenity value of a view, this criterion relates to the number of viewers likely to experience a view on a regular basis and whether this is significant at county or regional scale;
- **Connection with the landscape**. This considers whether or not receptors are likely to be highly attuned to views of the landscape i.e. commuters hurriedly driving on busy national route versus hill walkers directly engaged with the landscape enjoying changing sequential views over it;
- **Provision of 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**. Remote and tranquil viewing locations are more likely to heighten the amenity value of a view and have a lower intensity of development in comparison to dynamic viewing locations such as 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 obvious human interventions;
- **Presence of striking or noteworthy features**. A view might be strongly valued because it contains a distinctive and memorable landscape feature such as a promontory headland, lough or castle;
- **Historical, cultural or spiritual value**. Such attributes may be evident or sensed at certain viewing locations that 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 other similar views might be afforded in the local or the national context;
- **Integrity of the landscape character in view**. This criterion considers 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 criterion considers whether there is special sense of wholeness and harmony at the viewing location; and
- **Sense of awe**. This criterion considers whether the view inspires an overwhelming sense of scale or the power of nature.

Those locations where highly susceptible receptors or receptor groups are present and which are deemed to satisfy many of the view value criteria above are likely to be judged to have a high visual sensitivity and vice versa.

15.2.5.2 VISUAL IMPACT MAGNITUDE

The magnitude of visual effects is determined on the basis of two factors: the visual presence of the proposal and its effect on visual amenity.

Visual presence is a somewhat quantitative measure relating to how noticeable or visually dominant the proposal is within a particular view. This is based on a number of aspects beyond simply scale in relation to distance. Some of these include the extent of the view as well as its complexity and the degree of existing contextual movement experienced such as might occur where turbines are viewed as part of / beyond a busy street scene. The backdrop against which the project is presented and its relationship with other focal points or prominent features within the view is also considered. Visual presence is essentially a measure of the relative visual dominance of the proposal within the available vista and is expressed as such, i.e. minimal, sub-dominant, co-dominant, dominant, highly dominant.

For wind energy developments, a strong visual presence is not necessarily synonymous with adverse impact. Instead, the 2012 Fáilte Ireland survey entitled 'Visitor Attitudes On The Environment – Wind Farms' found that

> "Compared with other types of development in the Irish landscape, wind farms elicited a positive response when compared to telecommunication masts and steel electricity pylons"…. and that "most (tourists) felt that their presence did not detract from the quality of their sightseeing, with the largest proportion (45%) saying that the presence of the wind farm had a positive impact on their enjoyment of sightseeing…".

The purpose here is not to suggest that turbines are either inherently liked or disliked, but rather to highlight that the assessment of visual impact magnitude for wind turbines is more complex than just the degree to which turbines occupy a view. Furthermore, a clear and comprehensive view of a wind farm might be preferable in many instances to a partial, cluttered view of turbine components that are not so noticeable within a view. On the basis of these reasons, the visual amenity aspect of assessing impact magnitude is qualitative and considers such factors as the spatial arrangement of turbines both within the scheme and in relation to surrounding terrain and land cover. It also examines whether the project contributes positively to the existing qualities of the vista or results in distracting visual effects and disharmony.

It should be noted that, as a result of this two-sided analysis, a high order visual presence can be moderated by a low level of effect on visual amenity and vice versa. Given that wind turbines do not represent significant bulk, visual impacts result almost entirely from visual 'intrusion' rather than visual 'obstruction' (i.e. the blocking of a view). The magnitude of visual impacts is classified in the following table:

Table 15-4: Magnitude of Visual Impact

Criteria	Description
Very High	The proposal obstructs or intrudes into a large proportion or critical part of the available vista and is without question the most noticeable element. An extensive degree of visual change will occur within the scene completely altering its character, composition and associated visual amenity
High	The proposal obstructs or intrudes into a significant proportion or important part of the available vista and is one of the most noticeable elements. A considerable degree of visual change will occur within the scene substantially altering its character, composition and associated visual amenity
Medium	The proposal represents a moderate intrusion into the available vista and is a readily noticeable element. A noticeable degree of visual change will occur within the scene perceptibly altering its character, composition and associated visual amenity
Low	The proposal intrudes to a minor extent into the available vista and may not be noticed by a casual observer and/or the proposal would not have a marked effect on the visual amenity of the scene
Negligible	The proposal would be barely discernible within the available vista and/or it would not influence the visual amenity of the scene

15.2.6 VISUAL IMPACT SIGNIFICANCE

As stated above, the significance of visual impacts is a function of visual receptor sensitivity and visual impact magnitude. This relationship is expressed in the same significance matrix included for Landscape Impact Significance at Table 15-3: Landscape Impact Significance Matrix above.

15.2.7 QUALITY AND TIMESCALE OF EFFECTS

In addition to assessing the significance of landscape effects and visual effects, Guidelines on the information to be contained in Environmental Impact Reports (EPA, 2022) require that the quality of the effects is also determined. This could be negative/adverse, neutral, or positive/beneficial. 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.

Landscape and Visual effects are also categorised according to their duration:

- Temporary – Lasting for one year or less;
- Short Term – Lasting one to seven years;
- Medium Term – Lasting seven to fifteen years;
- Long Term – Lasting fifteen years to sixty years; and
- Permanent – Lasting over sixty years.

15.2.8 ASSESSMENT CRITERIA FOR CUMULATIVE EFFECTS

The Nature Scot, formerly Scottish Natural Heritage (SNH), Guidance relating to 'Assessing the Cumulative Effects of Onshore Wind Farms (2012) identify that cumulative impacts on visual amenity consist of combined visibility and sequential effects. The same categories have also been subsequently adopted in the Landscape Institute's 2013 revision of the Landscape and Visual Impact Assessment Guidelines. The principal focus of wind energy cumulative impact assessment guidance relates to other wind farms – as opposed to other forms of development. This will also be the main focus herein, albeit with a subsequent consideration of cumulative impacts with other forms of notable development (existing, permitted or proposed), particularly within the Central Study Area.

> "Combined visibility occurs where the observer is able to see two or more developments from one viewpoint. Combined visibility may either be in combination (where several wind farms are within the observer's arc of vision at the same time) or in succession (where the observer has to turn to see the various wind farms).
>
> Sequential effects occur when the observer has to move to another viewpoint to see different developments. The occurrence of sequential effects may range from frequently sequential (the features appear regularly and with short time lapses between, depending on speed of travel and distance between the viewpoints) to occasionally sequential (long time lapses between appearances, because the observer is moving very slowly and / or there are large distances between the viewpoints.)".

Based on guidance contained within the Nature Scot Guidelines, formerly SNH Guidelines relating to the Cumulative Effects of Wind Farms (2021) and the DoEHLG Wind Energy Guidelines (2006), cumulative impacts can be experienced in a variety of ways.

Table 15-5 provides Macro Works' criteria for assessing the magnitude of cumulative impacts, which are in accordance with the SNH Guidelines (2018).

Table 15-5: Magnitude of Cumulative Impacts

Magnitude of Impact	Description
Very High	• The proposed wind farm will strongly contribute to wind energy development being the defining element of the surrounding landscape. • It will strongly contribute to a sense of wind farm proliferation and being surrounded by wind energy development. • Strongly adverse visual effects will be generated by the proposed turbines in relation to other turbines.
High	• The proposed wind farm will contribute significantly to wind energy development being a defining element of the surrounding landscape. • It will significantly contribute to a sense of wind farm proliferation and being surrounded by wind energy development.

Magnitude of Impact	Description
	• Significant adverse visual effects will be generated by the proposed turbines in relation to other turbines.
Medium	• The proposed wind farm will contribute to wind energy development being a characteristic element of the surrounding landscape. • It will contribute to a sense of wind farm accumulation and dissemination within the surrounding landscape. • Adverse visual effects might be generated by the proposed turbines in relation to other turbines.
Low	• The proposed wind farm will be one of only a few wind farms in the surrounding area and will be viewed in isolation from most receptors. • It might contribute to wind farm development becoming a familiar feature within the surrounding landscape. • The design characteristics of the proposed wind farm accord with other schemes within the surrounding landscape and adverse visual effects are not likely to occur in relation to these.
Negligible	• The proposed wind farm will most often be viewed in isolation or occasionally in conjunction with other distant wind energy developments. • Wind energy development will remain an uncommon landscape feature in the surrounding landscape. • No adverse visual effects will be generated by the proposed turbines in relation to other turbines.

15.3 BASELINE ENVIRONMENT

15.3.1 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. This also includes reference to any relevant landscape character appraisals and the current landscape policy context (both are generally contained within County Development Plans). The only relevant County Development Plan in this instance is County Clare, which covers the entire Study Area.

A description of the landscape context of the proposed wind farm Site and Study Area is provided below under the headings of landform and drainage, vegetation and land use, centres of population, transport routes and public amenities and facilities as well as the immediate site context. Additional descriptions of the landscape, as viewed from each of the selected viewpoints, are provided under the detailed assessments later using a similar structure. 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 below.

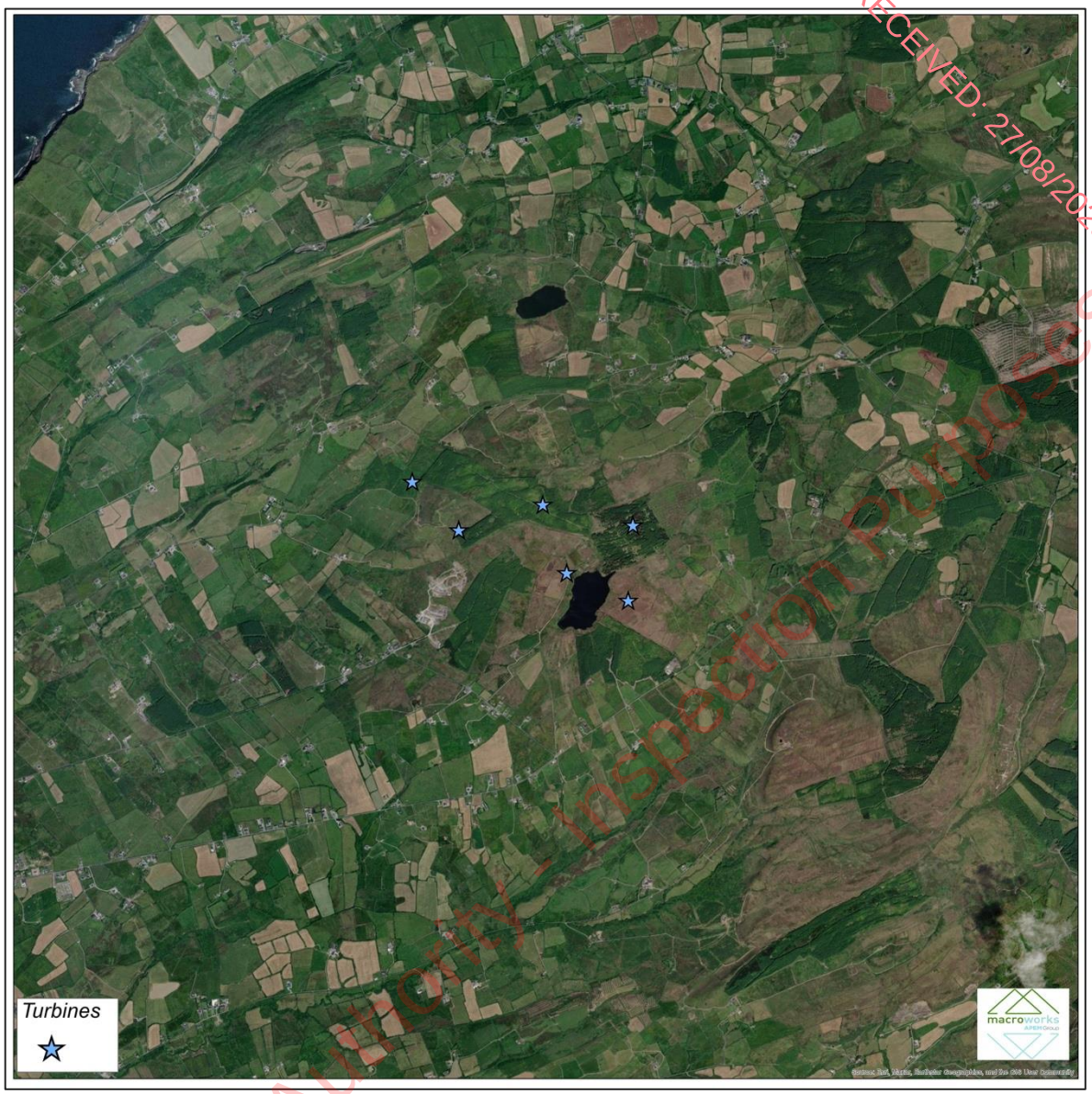

Figure 15-2 Aerial photograph showing the landscape context of the site and its immediate surrounds.

15.3.1.1 LANDFORM AND DRAINAGE

On a broad scale, the Study Area is characterised by a notable variance of landform, which arises from wide lowland coastal areas along the Atlantic Coast, to mountain tops over 350 m AOD; ranges mostly angled in a north-west/south-east direction. In terms of drainage, there is an abundance of rivers, streams and, to a lesser extent, loughs and lakes sporadically dispersed throughout the Study Area. However, it is also worth noting that a large portion of the Study Area to the west is occupied by the Atlantic Ocean.

The Site is located in an upland area of western County Clare, on lands between two relatively shallow hill peaks – Knockabullaunduff and Slievenalicka. Thus, landform within the Site is notably upland and sloping, with considerable variance in elevation. Most of the Site rests between 160 m – 198 m AOD, with a dip in elevation toward the south-east of the Site, where Lough Keagh

sits (Figure 15-2 refers). The Central Study Area is characterised by a mixture of landform, where undulating hillscapes generally occupy the landscape to the east, and lowland coastal plains along the rugged Atlantic coast occupy the landscape to the west. Located just over 2.5 km south-east of the Site is Slieveacurry, an elevated ridgeline which sits at 255 m AOD, with the foothills of Slievecallan and Ben Dash beginning slightly beyond. Plate 15-1 refers.

Given that the Site is situated on a hill peak, elevations begin to decrease away from the Site on all sides, and the drainage patterns within the landscape generally follow. Watercourses in the immediate vicinity of the Site generally flow in two directions – north-east and south-west. The watercourses to the immediate west of the site flow into the Cleedagh River, subsequently flowing downstream into the Cloonbony River which enters the sea at Spanish Point. The watercourses to the immediate north of the Site flow into the Clooneyogan North River which flows directly into the sea just south of Lahinch. On a broader scale, the northern half of the Study Area generally drains into the Inagh River, which flows past the Site to the north at a distance of c. 6 km, in a north westerly towards the estuary at Liscannor Bay, north of Lahinch. To the south of the Site, watercourses generally drain toward the Annagh River, which passes to the south at a distance of c. 4 km, heading south-west toward the coast. Toward the west of the Site there are several smaller river waterbodies, many of which drain directly into the sea. The most notable waterbodies within the Study Area, besides Lough Keagh, located within the Site Boundary, are Aillbrack Lough, a small lake located approx. 1 km north of the nearest turbine, Lickeen Lough located approximately 10 km north-east and Doo Lough located approximately 8.5 km south-east.

Plate 15-1 Topography of the Central Study Area.

15.3.1.2 VEGETATION AND LAND USE

The main wind farm Site area occupies approx. 165 ha, much of which is cloaked in transitional moorland or cutover peat, with a large portion also occupied by commercial forestry plantations. In addition, contributing to land-cover on site is Lough Keagh waterbody located toward the south-east portion of the site boundary. Coniferous forestry is located primarily on the southern and western slopes, and central plateau of the Proposed Development site, with the parcels of forestry relatively mature in age. Areas toward the peripheries of the Site show evidence of clear-felled forestry thus, there are large portions of transitional scrubland and grassland with patches of exposed peatland in these areas. The forestry on site is relatively densely planted, with the peripheries of the planted

areas showing patches of exposed peatland in areas where planting failed to establish. A notable land use in the immediate vicinity of the site is that of the operational rock and stone extraction pit located in lands adjacent to the Site along to the south-west.

On a broader scale, the vegetation and land uses within the wider Study Area follow the varied topography as described previously, which can be divided into quadrants for the purposes of describing it. Throughout the north-western and south-western coastal contexts, shoreline farmland mixes with riparian scrub with an urban presence in the form of seaside towns scattered along the coastline, between which are rural residences and holiday homes vying for coastal views. The Slievecallan and Ben Dash uplands in the south-eastern quadrant contain significant portions of mountain moorland on its elevated slopes and ridges, alongside dense patches of conifer plantations, and less commonly, areas of upland grazing. Pastoral farmland is the dominant land use in much of the low-lying and transitional parts of the Study Area, whilst blocks of conifer forest tend to cloak the foothills of the mountain ranges within the Study Area. Much of the elevated mountainous parts of the Study Area are cloaked in extensive areas of moorland and upland heath.

Of particular note is that the south-eastern and south-western quadrants of the Study Area have become synonymous with wind energy developments in recent decades and numerous turbines are contained within predominantly the elevated moorland areas, between conifer plantations. A large portion of the south-western and north-western quadrants is dominated by the Atlantic Ocean, given the Site's relatively close proximity to the coastline. The south-eastern and south-western quadrant are therefore predominantly occupied coastal cliffs interspersed by lowland coastal towns with occasional patches of coastal marsh alongside agricultural grazing, where drainage allows.

Doonbeg, Quilty, Miltown Malbay, Lahinch, Ennistymon, Doolin and Lisdoonvarna are some of the settlements that account for the notable areas of urban landcover within the Study Area. Agricultural pastures, commercial forestry and energy related land uses account for the primary land uses in the eastern half of the Study Area, whereas tourism and recreation related to the coastline accounts for the primary activity in the western half of the Study Area. Plate 15-2 and Plate 15-3 refer.

Plate 15-2 Landcover of the Site.

Plate 15-3 Landcover of the surrounding landscape.

15.3.2 LANDSCAPE POLICY CONTEXT AND DESIGNATIONS

15.3.2.1 DEPARTMENT OF ENVIRONMENT, HERITAGE AND LOCAL GOVERNMENT WIND ENERGY DEVELOPMENT GUIDELINES (2006)

The Wind Energy Development Guidelines (2006) provide guidance on wind farm siting and design criteria for a number of different landscape types. The site of the Proposed Development is considered to be located within a relatively complex landscape setting that is most consistent with the 'Transitional marginal landscape' type than other landscape types from the Wind Energy Development Guidelines. However, the wider context does encompass characteristics from a mix of the landscape types including, 'Hilly and flat farmland', 'Coast' and 'Mountain moorland'.

The most relevant recommendations for the 'Transitional Marginal Land' landscape type are set out below.

Transitional Marginal Land:

Location – "As wind energy developments, for reasons of commercial viability, will typically be located on ridges and peaks, a clear visual separation will be achieved from the complexity of lower ground. However, wind energy developments might also be located at lower levels in extensive areas of this landscape type, where they will be perceived against a relatively complex backdrop. In these situations, it is important to minimise visual confusion such as the crossing by blade sets of skylines, buildings, utility lines and varied landcover."

Spatial extent - "Wind energy developments in these landscapes should be relatively small in terms of spatial extent. It is important that they do not dominate but achieve a balance with their surrounds, especially considering that small fields and houses are prevalent." The examples of appropriate and inappropriate types of spatial extent for wind energy developments outline that small extents with irregular spacing and random layout is deemed more appropriate in these areas, considering the topography and undulations in these types of landscapes.

"4(a) Wind energy development with regular spacing and linear layout - may not be appropriate due to the undulation of land form as well as limited field pattern."

"4(b) Wind energy development with irregular spacing and random layout - is more appropriate given the relative undulation of the setting."

"4(c) Large wind energy development straddling two landscape character types within the same visual unit - this creates a visual ambivalence and, thus, negative tension between the two character types involved."

Spacing - "All options are possible, depending on the actual landscape characteristics. However, irregular spacing is likely to be most appropriate, given the complexity of landform and land cover typical of these landscapes, and the absence of extensive swaths of fields of regular and rectilinear pattern."

Layout - "The likely location of wind energy developments on ridges suggests a linear or staggered linear layout whereas on broader hilltops they could be linear or clustered. Grid layouts are less likely to succeed aesthetically unless there is an open continuity of similar landcover."

Height - "In small-scaled enclosed areas, short turbines are preferred in order to avoid their spatial dominance and to ensure visual balance. However, where the upper ground is relatively open and visually extensive, taller turbines may be more appropriate. In terms of perceived height, the profile can be even or uneven, depending on the profile and visual complexity of the terrain involved. The more rugged and undulating, the greater the acceptability of an uneven profile provided it does not result in significant visual confusion and conflict."

Cumulative - "This would have to be evaluated on a case-by-case basis, but great caution should be exercised. The spatial enclosure often found in transitional marginal landscapes is likely to preclude the possibility of seeing another wind energy development. However, should two or more wind energy developments be visible within a confined setting a critically adverse effect might result, depending on turbine height and wind energy development extent and proximity."

Most design options appear to be appropriate for 'Transitional Marginal Land' vary depending on the specific site. In respect of the above guidance, the modest spatial extent, with irregular spacing and 'random' layout of the Proposed Development is in keeping with that recommended for this landscape type.

15.3.2.2 CLARE COUNTY DEVELOPMENT PLAN 2023-2029

The current Clare County Development Plan contains a Landscape Character Assessment which divides the county into 26 different Landscape Character Types (LCTs) which are grouped into Upland Types, Lowland Types and Coastal Types. These LCTs are then used as the basis to determine 21 geographically distinct Landscape Character Areas (LCAs). For most counties there are much fewer generic LCTs than LCAs. The fact that this trend is reversed for County Clare is more an indication of the diverse range of its landscapes than a divergent approach to landscape character assessment.

The Proposed Development is contained entirely within one the Moorland Hills LCT, described in the Landscape Character Assessment of County Clare (2004) as:

> "lower hills commonly fringe the upland hills and gently slope from the uplands proper. Elevation is generally between 100 and 200 m, with core areas around 150 m. Land cover is predominately blanket bog, heath and quite extensive areas of coniferous forestry, with evidence of cutover turf activity. Where discernible, field enclosures are usually low earth banks or post and wire fencing. Settlement is limited and communication routes are generally poor. Where forestry is absent, this type is very open with wide views available over lower landscapes…".

The Moorland Hills LCT is bound to the north and west by the Coastal Farmland and Inlands LCT, to the south by the Upland Hills LCT and to the east by the Low Drumlin Farmland LCT. Figure 15-3, indicates the location of the Site in relation to the County Clare Landscape Character Types.

Correspondingly, the Site is contained within 'LCA17 – Slieve Callan Uplands,' bounded closely to the north by 'LCA3 – Cliffs of Moher and Lahinch', closely to the west by 'LCA20 – Malbay Coastal Farmland' and to the east by 'LCA16 – Cullenagh River Farmlands' (Figure 15-4 refers). These LCAs are described as follows:

LCA17 – Slieve Callan Uplands

The key characteristics of this landscape include:

- 'Land rises to moorland hills of Sliabh Callan and Ben Dash.
- Mix of pasture, silage and coniferous habitats.
- Very little settlement, concentrated along communication routes and in outer parts of the area.
- Areas become increasingly rural as one travels eastwards, away from the coast.
- Communications is aligned along valleys.
- Uplands very exposed, valleys contained but unenclosed. Long views south from Ben Dash towards Shannon Estuary.

This area has a strong sense of remoteness, particularly to the further north one travels. The north-west slopes of Sliabh Callan have not been extensively planted. This combined with the sparse planting on Sliabhcurry contributes to the framing of the Inagh River valley and permits open long views across the valley. Forestry is the principal detractor when it has been planted insensitively. Telegraph poles and pylons, frequently located on the higher ground, also tend to be visible within this open landscape. The upland areas are very sensitive, again due to their open and exposed nature. Valley areas are less sensitive partly due to infrastructure and forestry development already located within these areas.'

LCA3 – Cliffs of Moher and Lahinch

The key characteristics of this landscape include:

- 'An area of coastal plateau and farmland gently sloping inwards towards the coast and rivers.
- Liscannor stone walls with slatey appearance are highly distinctive and widely used throughout the area.

- Popular tourist centres at Cliffs of Moher, Lahinch and Liscannor.
- Extensive coastal views are afforded from bays and plateau.
- Away from the coastal road, it is increasingly remote and an isolated sense is retained.
- Character of sea strongly affects the area.

The condition of this area is variable, with some areas degraded due to tourism pressures such as the approach to the Cliffs of Moher. The cliffs are spectacular, and the cliff top is very sensitive to development. The tourism pressures associated with the high number of visitors is apparent through the trampling effect along the cliffs… (with) considerable urban sprawl of highly unsympathetic housing styles that detract from the towns and their environs… Away from the main tourism routes, this area feels increasingly remote and though highly exposed, is still largely intact. However, due to the lack of natural screening by vegetation and the exposed landscape, this area is highly sensitive and development at higher levels would be very visible.'

LCA20 – Malbay Coastal Farmland

The key characteristics of this landscape include:

- 'Gently undulating pastoral farmland.
- Indented coastline, with some wide sandy bays.
- Strong Atlantic influence through the open and windswept character, reinforced by minimal tree cover and hedgerows.
- Views to Sliabh Callan, often framed by shallow valleys and along the coastline.
- Scattered but frequent settlement. Often individual houses but several small villages and larger settlements including Spanish Point and Miltown Malbay.

The more hilly areas in the east are in better condition, with more traditional field patterns evident, and less tourist development. The least intact areas are those around Spanish Point where tourist development has degraded the coastal landscape... The coastal areas to the south are in slightly better condition.'

LCA16 – Cullenagh River Farmlands

The key characteristics of this landscape include:

- 'Drumlin farmlands drained by Cullenagh river catchment by a series of small loughs.
- Buckthorn, more deciduous trees and more woody vegetation present with thick hedgerows in parts.
- Drumlins orientated east-west.
- Attractive intimate area with rural intact feel.
- Main settlement at Inagh at crossroads, otherwise scattered.'

This is a generally intact, rural landscape that has few detractors. The low drumlins, streams, loughs and river valley combined with hedgerows help create a diverse and well-wooded landscape.'

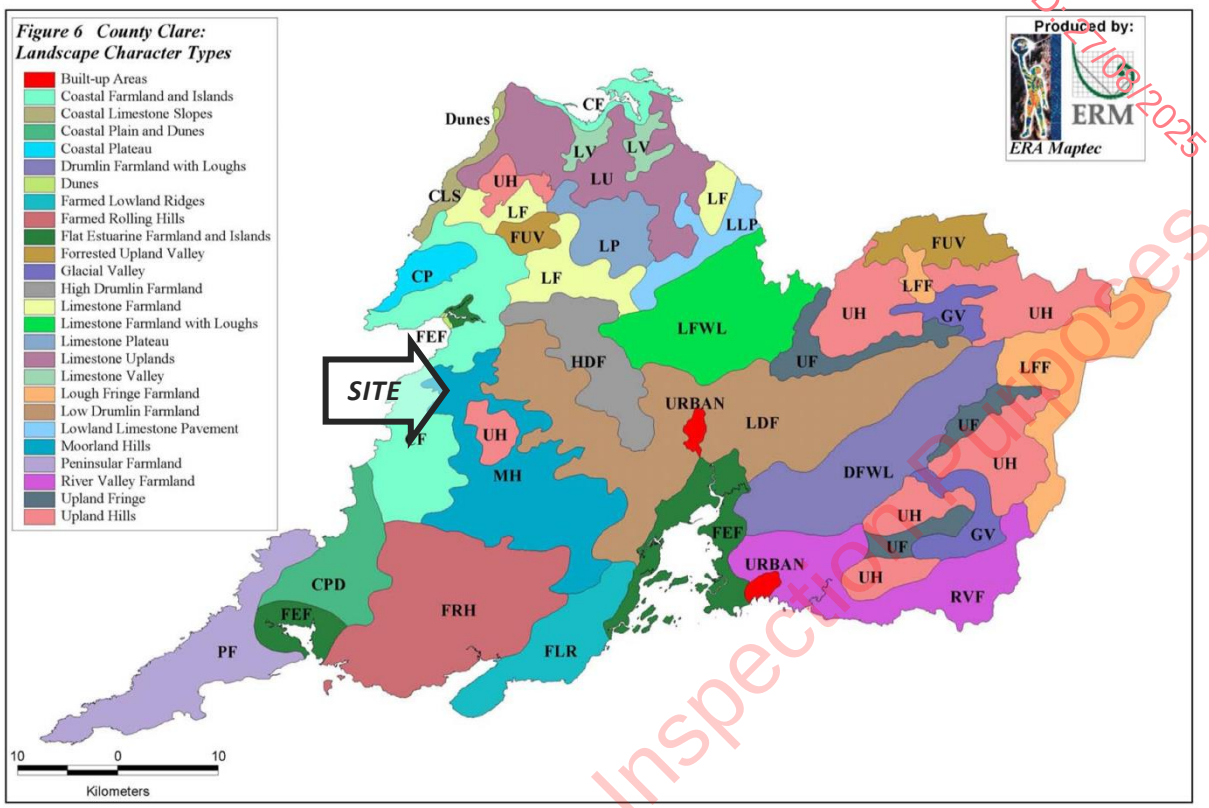

Figure 15-3: Map of Landscape Character Types within County Clare (extract from Landscape Character Assessment of Co. Clare (2004))

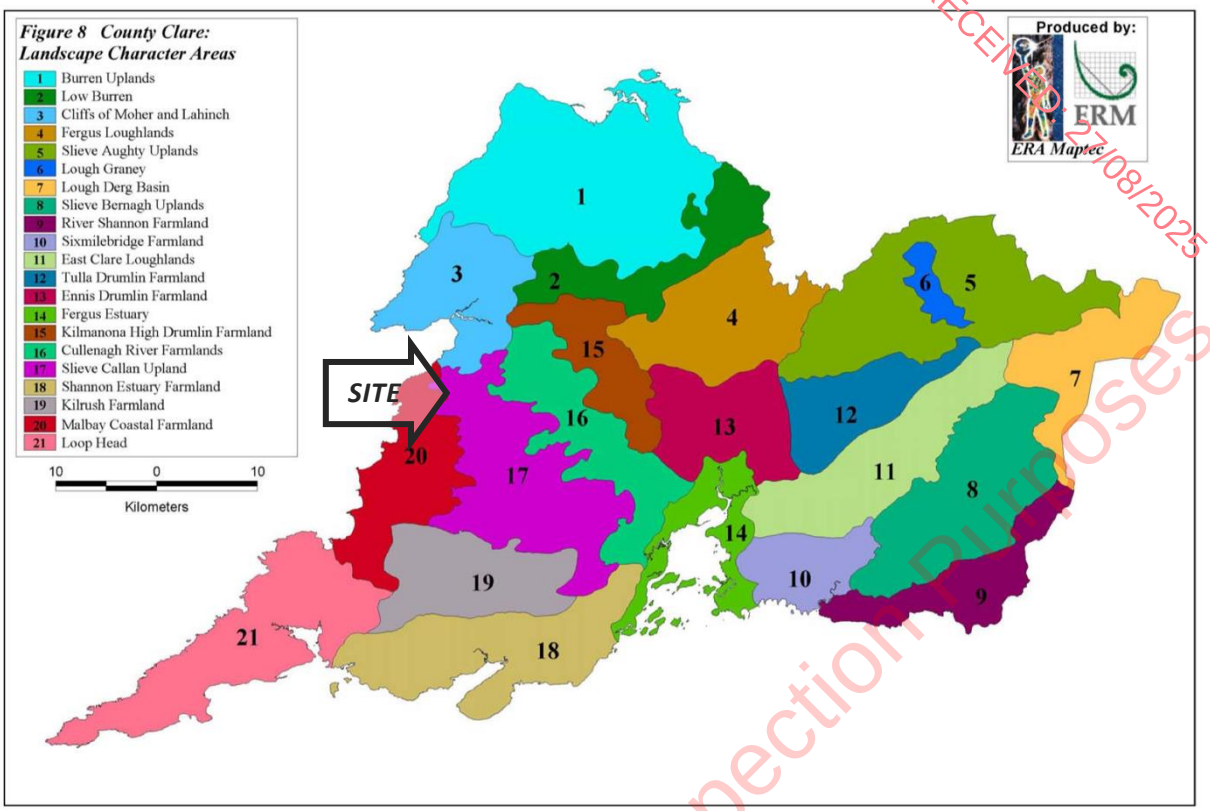

Figure 15-4: Map of Landscape Character Areas within County Clare (extract from Landscape Character Assessment of Co. Clare (2004))

Whilst the County Landscape Character Assessment provides an objective appraisal of the various landscapes of County Clare, it does not apply the more subjective aspect of landscape sensitivity. Instead, landscape policy is driven by determining which of three categories a particular landscape falls into and these are based around the various LCAs. The landscape of County Clare is subdivided into three 'Living Landscape types' which are outlined below:

- Settled landscapes – areas where people live and work;
- Working Landscapes – intensively settled and developed areas within Settled Landscapes or areas with a unique natural resource; and
- Heritage Landscapes – areas where natural and cultural heritage are given priority and where development is not precluded but happens more slowly and carefully.

By implication, 'Working Landscapes' are more robust areas of strategic development whilst 'Heritage Landscapes' such as the Burren are highly sensitive. Permissive or protective landscape objectives are applied accordingly. The remainder, and majority of the county, falls into the settled landscapes category by default. The landscape related objectives for this category seek to strike a balance between appropriate development and retaining landscape character and amenity.

The Site and the overwhelming majority of the Central Study Area are contained within the 'Settled Landscapes' category. The relevant landscape objectives from the Clare County Development Plan are provided below:

A – To permit development in these areas that will sustain economic activity, and enhance social well-being and quality of life – subject to conformity with all other relevant provisions of the Plan and the availability and protection of resources.

B – That selection of appropriate sites in the first instances within this landscape, together with the consideration of the details of siting and design, are directed towards minimising visual impact.

C – That particular regard should be given to avoiding intrusions on scenic routes and on ridges or shorelines. Developments in these areas will be required to demonstrate:

1) That the site has been selected to avoid visually prominent locations;
2) That site layouts avail of existing topography and vegetation to reduce visibility from scenic routes, walking trails, public amenities and roads;
3) That design for buildings and structures reduce visual impact through careful choice of form, finishes and colours and that any site works seek to reduce visual impact of the development.

The Proposed Development is not located in a sensitive Heritage Landscape. However, coastal areas located approximately 3 km west of the site are designated as 'Heritage Landscape', and this Heritage Landscape area extends along a coastal corridor in both northerly and southerly directions, encompassing all inland areas within approximately 1 km of the coastline. The Burren National Park whose extents are located (15 to 20 km) to the north-east of the site is also designated as a Heritage Landscape. This LVIA is cognisant of these sensitive landscape designations and assesses landscape and visual effects from these areas in Section 15.4.3.

The Proposed Development conforms with other relevant provisions of the Clare CDP in that the Site is located primarily in an area identified as a 'Strategic Area' for wind farm development. The site's classification as a 'Strategic Area' was a key consideration in the selection of the site as being deemed appropriate for the intended use.

Within the Clare County Development Plan (2023-2029), the following policies apply to landscape:

CDP14.1 Development Plan Objective: Landscape Character Assessment

It is an objective of Clare County Council: To encourage the utilisation of the Landscape Character Assessment of County Clare and other relevant landscape policy and guidelines and to have regard to them in the management, enhancement and promotion of the landscapes of County Clare.

CDP14.2 Development Plan Objective: Settled Landscapes

It is an objective of the Development Plan: To permit development in areas designated as 'settled landscapes' that sustain and enhance quality of life and residential amenity and promote economic activity subject to:

- Conformity with all other relevant provisions of the Plan and the availability and protection of resources;
- Selection of appropriate sites in the first instance within this landscape, together with consideration of the details of siting and design which are directed towards minimising visual impacts;

- Regard being given to avoiding intrusions on scenic routes and on ridges or shorelines.

Developments in these areas will be required to demonstrate:

- That the site has been selected to avoid visually prominent locations;
- That the site layouts avail of existing topography and vegetation to reduce visibility from scenic routes, walking trails, water bodies, public amenities and roads; and
- That design for buildings and structures reduce visual impact through careful choice of forms, finishes and colours, and that any site works seek to reduce visual impact.

15.3.2.3 CLARE COUNTY COUNCIL WIND ENERGY STRATEGY 2023 – 2029

A wind energy strategy for County Clare is included within the current Clare County Development Plan in Volume 6. Map E of the current County Development Plan identifies wind energy designations in County Clare. Volume 6 of the CCDP 2017-2023 'County Clare Wind Energy Strategy (CWES)' contains general and specific objectives for wind energy development. Relevant objectives to landscape and visual are set out below.

General Objective WES One: Development of Renewable Energy Generation: It is the objective of the Council to support, in principle and in appropriate scales and locations, the development of wind energy resources in County Clare. It is an objective of the Council to ensure the security of energy supply by accommodating the development of wind energy resources in appropriate areas and at appropriate scales within the County.

General Objective WES Three: County Partnership Approach: Clare County Council will seek to promote wind energy in appropriate sites in the County and will work with agencies such as the Clare County Development Board, Clare Enterprise Board, Limerick Clare Energy Agency, Shannon Development, I.D.A and Enterprise Ireland to encourage investment in research and technology associated with wind farms and other renewable energy technology.

General Objective WES Six: Infrastructure Development Proposals: Proposals for the development of infrastructure for the production, storage and distribution of electricity through the harnessing of wind energy will be considered in appropriate sites and locations, subject to relevant policy, legislation and environmental considerations.

Section 4 and Annex B of the current wind energy strategy outlines advice on Landscape Capacity for wind energy developments, based on Landscape Character Areas (LCA's). Section 1.4 of the CWES defines wind farm project size, and on the basis of the definitions outlined below, the proposed six-turbine development would be categorised as a 'Medium' size project:

- Small – 1 to 5 turbines
- Medium – 6 to 10 turbines
- Large – 11 to 25 turbines
- Very Large – more than 25 turbines

In the CWES, landscape sensitivity is rated on a five-point scale; High, Medium to High, Medium, Medium to Low and Low.

The wind energy strategy states the following relating to wind energy capacity for the relevant LCAs:

LCA17 – Slieve Callan Uplands

The majority of this landscape area is designated 'Acceptable in Principle' for wind development, with parts of this LCA designated as 'Strategic Areas' for wind development, within which the Site is located. The overall sensitivity to wind farm development is Medium/Low, with the appropriate scale of wind farms designated as Large, indicating that the landscape has the capacity to absorb wind farm developments comprising of between 11 - 20 turbines. It is outlined that

> "The rolling hills, low settlement, extensive plantations reduce the overall sensitivity of this LCA to wind farm development. The area could accommodate a number of large or medium wind farms subject to careful siting to avoid significant impacts on skylines."

LCA3 – Cliffs of Moher and Lahinch

The majority of this landscape area is designated 'Not Normally Permissible' for wind development primarily along the coastline, with parts of this LCA toward the east within 'Open to Consideration' areas. The overall sensitivity to wind farm development is High, with the appropriate scale of wind farms designated as small, indicating that the landscape has the capacity to absorb wind farm developments comprising up to 5 turbines. It is outlined that

> "The eastern part of this area has some limited capacity for wind energy development and is included in the Open for Consideration Category. However, the coastal parts of this LCA are highly sensitive to such development".

LCA20 – Malbay Coastal Farmland

A large portion of this landscape area is designated 'Not Normally Permissible' for wind development primarily along the coastline, with parts of this LCA toward the east within 'Open to Consideration' areas. The overall sensitivity to wind farm development is High, with the appropriate scale of wind farms designated as small, indicating that the landscape has the capacity to absorb wind farm developments comprising up to 5 turbines. It is outlined that

> "The open exposed character of this area and its significance as a tourism and recreational area increase the overall sensitivity. Large or medium wind farms would be highly visible particularly close to the coastal area. There may be some limited capacity to accommodate small wind farms further east where the landform is more undulating".

LCA16 – Cullenagh River Farmlands

A large portion of this landscape area is designated 'Not Normally Permissible' for wind development. The overall sensitivity to wind farm development is Medium, with the appropriate

scale of wind farms designated as small, indicating that the landscape has the capacity to absorb wind farm developments comprising up to 5 turbines. It is outlined that

> "The landform offers some capacity to accommodate small wind farms that reflect the small scale of the area. Sites away from the river valley itself would be preferable using the drumlins as screening to avoid dominating the area".

According to the Wind Energy Designation map included within the Wind Energy Strategy (Figure 15-5 refers), the proposal site is contained entirely within an area identified in the County Clare WES as being a 'Strategic Area' in terms of wind energy development. Furthermore, this area is surrounded on all sides by an 'Acceptable in Principle' area. The areas deemed 'Not Normally Permissible' are further west and generally hug the coastline. The relevant 'Strategic Area' designation is referenced in the following manner:

'These key areas are considered to be eminently suitable for wind farm development and are of strategic importance because of;

- Good/excellent wind resources
- Access to grid
- Distance from properties and
- Outside any Natura 2000 sites

Projects within these areas must:

- Demonstrate conformity with existing and approved wind farms to avoid visual clutter.
- Be designed and developed in line with the Wind Energy Development Guidelines, Guidelines for Planning Authorities (DoEHLG, 2006) in terms of siting, layout and environmental studies.
- Provide a Habitats Directive Assessment under Article 6 of the Habitat Regulations if the site is located in close proximity to a Special Area of Conservation or Special Protection Area.
- Be developed in a comprehensive manner, avoiding the piecemeal development of the areas designated as 'strategic'.

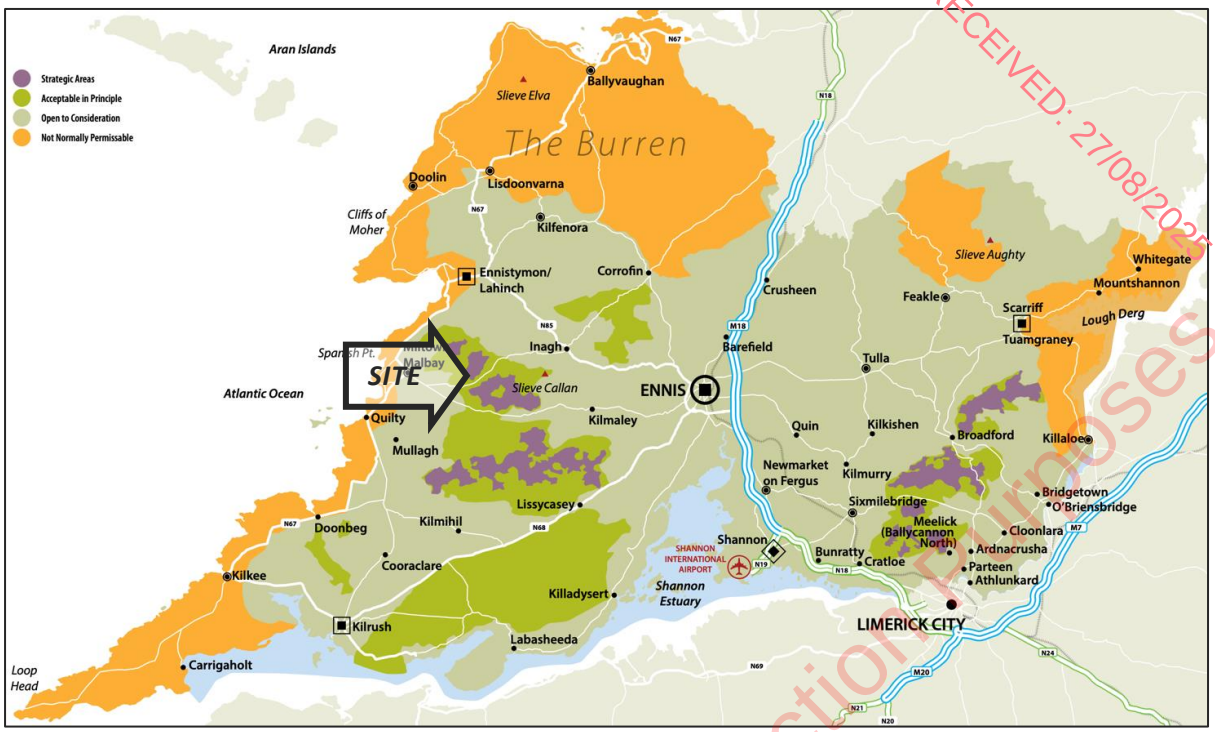

Figure 15-5 'Wind Energy Designations' map from Volume 6 of the Clare County Development Plan showing 'Areas of Wind Energy Potential' in County Clare in relation to the Proposed Development.

15.3.2.4 LOCAL AUTHORITY RENEWABLE ENERGY STRATEGY (LARES)

In addition to the Wind Energy Strategy included as Volume 5 of the current Clare County Development Plan, a Local Authority Renewable Energy Strategy has been prepared, and is included as Volume 5 of the current County Development Plan. It is stated that

> "This Renewable Energy Strategy provides the necessary framework to maximise the County's renewable energy potential and to assist it in becoming an energy secure, low carbon county, to meet renewable energy targets, with the potential to export excess energy".

The LARES for County Clare contains limited information about wind energy development but instead references the County Clare Wind Energy Strategy as the primary guidance document for wind development within the county.

15.3.2.5 SCENIC AMENITY

Scenic Routes and Views relevant to the project, as derived from Appendix 5 of the County Clare CDP are outlined in Table 15-6 below.

Section 14.5 of the County Clare CDP (2023-2029) relates to scenic views within County Clare. This section of the CDP contains a Landscape Designations Map (Map 14A) which outlines the Designated Scenic Routes within the County. In relation to scenic routes the County Development Plan states:

CDP13.7 – Development Plan Objective: Scenic Routes

It is an objective of Clare County Council:

1) To protect sensitive areas from inappropriate development while providing for development and change that will benefit the rural community;

2) To ensure that proposed developments take into consideration their effects on views from the public road towards scenic features or areas and are designed and located to minimise their impact;

3) To ensure that appropriate standards of location, siting, design, finishing and landscaping are achieved.

Table 15-6 Schedule of relevant scenic routes/views (within 20 km)

View number and description/ location	Direction of visual amenity	Distance of view from site	Proposed Development within Field of View and/or indicating visibility in Zone of Theoretical Visibility (ZTV) Maps
County Clare			
No.1 - Coast Road from county boundary (along the Kinvarra Road) to Quilty including the R479 spur to Doolin	West	2.7 km	Field of View faces away from the Site. The ZTV shows partial, intermittent visibility along this route.
No.3 - R480 from Ballyvaughan to Leamaneh Castle	South/South-west	17.7 km	The field of view faces the Site but route is setback a significant distance. The ZTV shows partial visibility from this route.
No.4/No.5 - R476 from Leamaneh Castle to Corofin	South	15 km	The field of view faces the Site but route is setback a significant distance. The ZTV shows intermittent and partial visibility along this route, with large portions of the route shielded by landform.
No.6 - Series of roads from junction of R476 through Porkabinna to Castletown and south west to Seshymore, northwards from Carran through Rannagh townland	South-west	19 km	Field of view faces toward the Site but route is setback a significant distance. Small portion of route is in ZTV.
No.14 - Series of roads from junction at Ballynalacken Castle through townlands of Ballynalacken, Carrownacleary,	South/West	18.7 km	The field of view faces the site but route is setback a significant distance. Small portion within ZTV.

View number and description/ location	Direction of visual amenity	Distance of view from site	Proposed Development within Field of View and/or indicative visibility in Zone of Theoretical Visibility (ZTV) Maps
Ballynahown, Poulnagun and Cloughan			
No.15 - R474 from Connolly to Miltown Malbay	North/South/West	3.8 km	Field of view faces toward the Site. Approx. half of the route is within ZTV.
No.31 – Wood Road, Corofin	East	17.6 km	Field of view faces away from the Site. Not in ZTV as it is shielded entirely by landform.

15.3.2.6 NATIONAL PARKS & WILDLIFE SERVICE (NPWS)

Only those NPWS designations within approx. 5 km of the Site (i.e. the Central Study Area) are considered worthy of consideration in this section, as it is highly unlikely that any proposed development will have the capacity to generate significant landscape or visual impacts upon an NPWS designation more than approx. 5 km from the Site.

The nearest NHA, and only designated site within the Central Study Area is more than 4.5 km south-east of the Site (i.e. Slievecallan Mountain Bog NHA). Meanwhile there are no pNHAs, SPAs or SACs in the Central Study Area.

15.3.3 VISUAL BASELINE

Only those parts of the Study Area that potentially afford views of the Proposed Development are of interest to this part of the assessment. Therefore, the first part of the visual baseline is establishing a 'Zone of Theoretical Visibility' and subsequently, identifying important visual receptors from which to base the visual impact assessment.

15.3.3.1 ZONE OF THEORETICAL VISIBILITY (ZTV)

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 20 km Study Area.

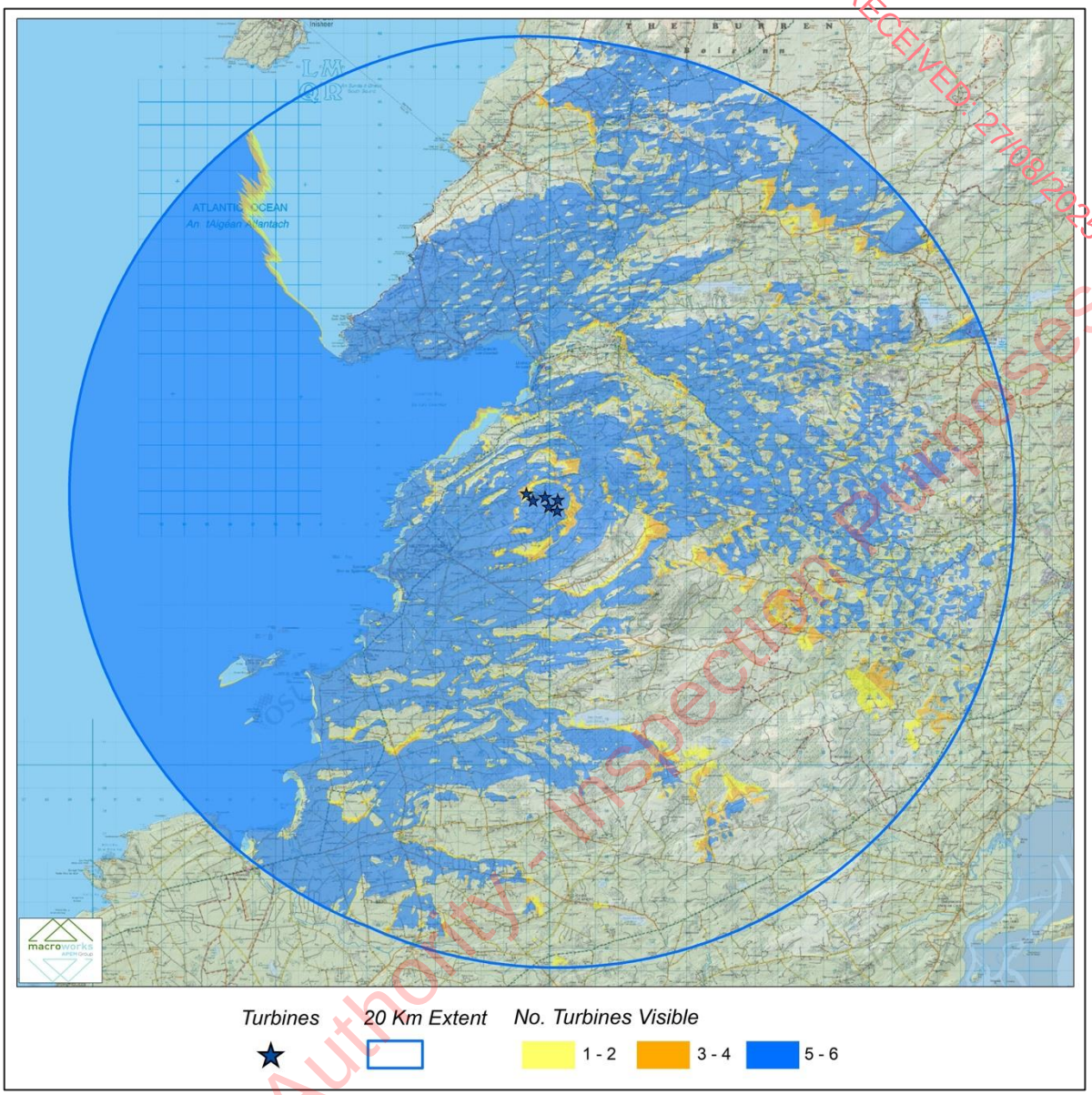

Figure 15-6 Bare-ground Zone of Theoretically Visibility (ZTV) Map.

The following key points are illustrated by the 'bare-ground' ZTV map (Figure 15-6 refers):

- One key point to note is that a significant portion of the Study Area to the west is occupied by the Atlantic Ocean, which is afforded large portions of potential visibility of the Proposed Development, on account of sea-level being low-lying. However, this area is only relevant to waterborne receptors, of which, there are very few.
- The pattern of the ZTV map on land is characteristic of hilly landscapes such as this, which tends to have a high degree of visual absorption afforded by the surrounding topography. Screening in this type of landscape is also generally much higher than indicated by the ZTV map once vegetation screening is also accounted for, especially where conifer plantations populate the upland areas.

- Given the location of the Site on a hill peak that slopes on all sides, with elevations decreasing particularly to the west, north-west and south-west along the coastline, theoretical visibility is experienced predominantly in these areas, where the landscape is generally low-lying along the coast. Most of the coastal landscape within the Study Area will experience some degree of theoretical visibility.
- There is very little potential for theoretical visibility to the south-east of the Site. The elevated landscape in the direction of Slieve Callan and Ben Dash toward the south-east of the Study Area provide a considerable amount of screening which limits the visibility of the site in the surrounding lowland areas. Visibility is limited to the east and north of the Study Area, where the intermittent upland terrain results in only sporadic visibility beyond about 10 km.
- Within the Central Study Area, both the N85 and N67, including where the Wild Atlantic Way aligns this route, are partially and sporadically within ZTV pattern. The N68 is not within the ZTV pattern.
- The settlements of Spanish Point, Miltown Malbay and Quilty are entirely within ZTV pattern, with the settlements of Ennistymon, Lahinch and Lisdoonvarna only partially within ZTV. This is expected given their generally low-lying coastal nature. In reality, it is likely that much of the lower-lying terrain that is 'in ZTV' will not be afforded views of the scheme due to the degree of intervening screening afforded by vegetation and buildings, particularly within these settlements.

The most important point to reiterate in respect of this 'bare-ground' ZTV map is that it is theoretical. Any proposed development, include wind energy developments, have the potential to be screened by intervening or surrounding vegetation (e.g. roadside hedgerows), as well as buildings, walls and embankments in proximity to the viewer, resulting in a much lesser degree of actual visibility. For these reasons, the ZTV represents the very worst-case scenario.

15.3.3.2 VIEWS OF RECOGNISED SCENIC VALUE

Views of recognised scenic value are primarily indicated within County Development Plan in the context of scenic route designations, but they might also be indicated on touring maps, guidebooks, roadside rest stops or on post cards that represent the area. The relevant scenic designations contained in the current Clare County Development Plan have been identified above in Section 15.3.2 'Landscape Policy Context and Designations'.

All of the scenic routes that fall inside the ZTV pattern (Table 15-6 refers) were investigated during fieldwork to determine whether actual views of the Proposed Development might be afforded. Where visibility may occur, a viewpoint has been selected for use in the visual impact appraisal later in this chapter.

Table 15-7 Rational for selection of scenic designations within Clare County Development Plan

Scenic Route Reference:	Relevance to visual impact appraisal?	VRP No.
County Clare		
No.1 - Coast Road from county boundary (along the Kinvarra Road) to Quilty including the R479 spur to Doolin	County Clare designated scenic route and designated as a section of the Wild Atlantic Way. Sporadic patches of the route in ZTV, its significance as part of the Wild Atlantic Way and its proximity to the Site at certain points justifies inclusion for assessment. Multiple VRPs selected to represent this route.	VRP1 VRP2 VRP4 VRP5 VRP16 VRP18
No.3 - R480 from Ballyvaughan to Leamaneh Castle	County Clare designated scenic route. Route is in ZTV however not within identified field of vision and distance between this route and the Site justifies exclusion from assessment.	N/A
No.4/No.5 - R476 from Leamaneh Castle to Corofin	County Clare designated scenic route. Route is intermittently in ZTV however not within identified field of vision and distance between this route and the Site justifies exclusion from assessment.	N/A
No.6 - Series of roads from junction of R476 through Porkabinna to Castletown and south west to Seshymore, northwards from Carran through Rannagh townland	County Clare designated scenic route. Very small portion in ZTV. Not within identified field of vision and distance between this route and the Site justifies exclusion from assessment.	N/A
No.14 - Series of roads from junction at Ballynalacken Castle through townlands of Ballynalacken, Carrownacleary, Ballynahown, Poulnagun and Cloughan	County Clare designated scenic route. Very small portion in ZTV. Not within identified field of vision and distance between this route and the Site justifies exclusion from assessment	N/A
No.15 - R474 from Connolly to Miltown Malbay	Field of view faces toward the Site. Proximity and ZTV visibility justifies inclusion for assessment.	VRP19

15.3.3.3 CENTRES OF POPULATION

The nearest settlement to the Site is Milltown Malbay, a small town located just under 4 km south-west of the Site, with just over 800 residents, making it the second largest settlement within the Study Area. The next nearest settlement to the Site is Lahnich, located approximately 4.7 km north of the Site, along the Atlantic Coast. Ennistymon is an inland town located nearly 7 km north/north-east of the Site and has a population of just over 1000 residents, making it the largest settlement within the Study Area.

There is a selection of smaller settlements and service centres in the Wider Study Area, namely the small village of Quilty (9.5 km south-west), Spanish Point (6.6 km south-west), Liscannor (6.8 km north-west), Doolin (14 km north/north-west) and Lisdoonvarna (over 16 km north/north-east), many of which are dispersed along the N67 and hug the Atlantic coastline. These are relatively small settlements but are a mix of typologies.

Quilty, Spanish Point, Lahinch and Liscannor are situated along the Atlantic coast and comprise a mixture of holiday homes, mobile homes and permanent dwellings. In Quilty, the settlement pattern generally linear and follows the route of the N67 national road but is also centred around Quilty beach. In Spanish Point, Lahinch and Liscannor the settlement patterns are focussed around their respective beaches, or in the case of Liscannor, the pier. In these coastal towns comprise of small clusters of housing centred radially around the local road network, which most of which lead directly to the coast. In the inland settlements, namely Miltown Malbay, Ennistymon, Doolin and Lisdonvarna, the settlement patterns tend to be more consolidated with dwellings somewhat condensed around the town/village centres, gradually becoming radial following the road network away from the centres. The inland towns/settlements generally tend to service a wider, distributed permanent rural population, while the settlements closer to the coastline appear to service a more transient visiting population that peaks through the summer months.

In addition, a modest rural population is present in the wider Study Area, outside of towns/villages, comprising small linear clusters of residential dwellings and cross-road settlements, alongside small clusters of residential development throughout the Study Area, which are focused around transport or landscape features with no public services associated with them, being ribbons of residences along roads, valleys and shorelines.

15.3.3.4 TRANSPORT ROUTES

The nearest major route to the Proposed Development is the N67 national road, located some 3 km west of the Site at its nearest point. The N67 forms part of the Wild Atlantic Way and runs along the coastline in a general north/south direction through the western half of the Study Area, connecting all of the coastal towns along the western coast of County Clare. A number of smaller regional and local transport routes fork off this national road, connecting coastal towns to inland areas, and generally heading in the direction of Ennis, located outside of the Study Area.

The R460 regional road is oriented north-east-south-west through the Central Study Area and is just over 3 km south-east of the Site, at its nearest point. The R474 regional road also passes through the Study Area, at a distance of 3.7 km south, in a general east-west direction, providing a transport link between Ennis and Miltown Malbay. Aside from the aforementioned major routes, the central Study Area comprises a web of local roads, the nearest of which pass by the site to the south-east and north-west. The L1074 passes the site to the south at a distance of approximately 500 m south-east at its nearest point, whereas the second local road is unnamed and passes the site to the north-west, at a distance of just over 1 km at its nearest point.

Outside of the central Study Area, the most notable transport routes include the N85 and N86 national routes. The N85 passes through the Study Area at a distance of just over 6 km north-east of the Site at its nearest point, and is oriented east-west, providing a transport link between Ennis and Lahinch. A portion of the N68 also skirts through the Study Area toward the south-east, setback some 17 km from the Site. Other notable major routes in the wider surrounds of the Study Area include the R483, R484, R482, R478, R481, R476 and R477.

15.3.3.5 TOURISM, HERITAGE AND PUBLIC AMENITIES

The most notable amenity feature contained within the Study Area is that of the 'Wild Atlantic Way' touristic driving route, which follows a network of coastal roads along Ireland's west coast from Donegal to Cork. A portion of this route occurs within the Study Area and generally follow coastal roads. The route enters the Study Area north of Doolin, following the N67 national route through Liscannor, Lahinch, Spanish Point, Quilty, then proceeds south toward Doonbeg where it exits the Study Area. The Wild Atlantic Way passes the Site at just over 3 km west, along the N67 between Lahinch and Miltown Malbay, as outlined in Figure 15-7 below. Along the Wild Atlantic Way within the Study Area are the Cliffs of Moher, which are designated as one of two 'Signature Points' along the route. Loop Head and the Cliffs of Moher are designated as 'Signature Points' along the Wild Atlantic Way, with a total of seventeen general 'Discovery Points' in the County. As indicated by the ZTV included in Section 15.3.3.1, there is some theoretical potential for visibility of the Proposed Development from the cliffs, therefore VRP2 at the visitor centre, and VRP3 at Moher Tower (Hag's Head), have been included in the visual assessment to assess potential visual impacts.

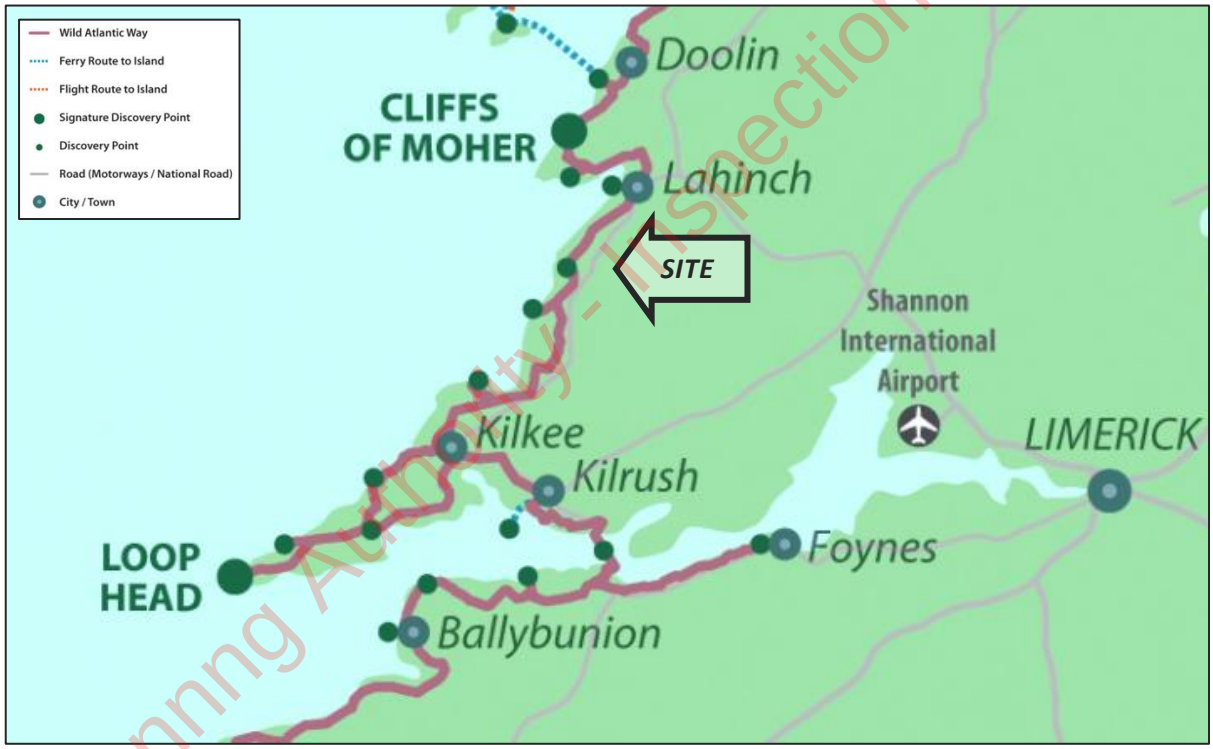

Figure 15-7 Wild Atlantic Way Route[1] in relation to the Proposed Development.

There are a number of recreational cycle/walking trails within the Study Area, some of which are outlined in Appendix 6 of the Clare CDP (2023-2029) as recreational routes. The Cliffs of Moher Walking Trail and Burren Way walking trail occur along the Atlantic coastline to the west of the Site. The Burren Way is a 123 km walking trail located in the Burren area of North Clare. The route brings one from Ballyvaughan in the north, to Doolin along the western side of the Burren, the trail then

[1] Failte Ireland 'Wild Atlantic Way Map'. Available at: https://www.failteireland.ie/FailteIreland/media/WebsiteStructure/Documents/2_Develop_Your_Business/Key%20Projects/WAW_NationalMap_4.pdf?ext=.pdf

begins to travel east, away from the coastline and proceeds south as far as Lahinch. The Cliffs of Moher Coastal Walk is a 20 km route which begins in Doolin and hugs the coastline as far as the small fishing village of Liscannor via the Cliffs of Moher Experience. In addition, large portions of the Wild Atlantic Way and the Burren Way are also waymarked as part of the EuroVelo Cycling Route. Other portions of the route follow local roads throughout the Study Area. A portion of the Mid-Clare Way, a 154 km loop trail also falls within the Study Area, toward the south-east. The Mid Clare Way, also known as Slí na Mearacan, is an extensive looped route around the midlands of County Clare. Beginning at Newmarket-on-Fergus, the Way enters the Study Area at the historic Dysert O'Dea, then follows the River Fergus valley via Ben Dash, proceeding outside the Study Area toward Clarecastle.

Quilty, Spanish Point, Lahinch and Liscannor are all seaside villages which attract a notable number of visitors during summer months, as is indicated by the multiple caravan/camping parks and mobile home parks as well as B&Bs in and near each town. Furthermore, there are several beaches dispersed along the coastline within the Study Area, which also serve tourists throughout the summer months, alongside other typical seaside recreational facilities. There is a visitor centre at the Cliffs of Moher approximately 11 km north-west, which serves as the most well-known entry point to the walkway as there is bus/coach parking that transports hundreds of tourists to the area daily. Additionally, Doonbeg golf Club, also known as the Trump International Golf Links is located approximately 19 km south-west of the Site. This golf resort hosts a variety of national and international visitors annually. Other golf courses within the Study Area include Spanish Point Golf Club and Lahinch Golf.

A number of heritage features also occur within the Study Area, the nearest of those being the remnants of the 14th Century Dough Castle, which occurs along the southern banks of the Inagh River, approximately 7 km north of the Proposed Development. Further north, the well preserved Doonagore Castle sites, just south of Doolin, some 14 km from the site. Along the Cliffs of Moher Walking Trail, is Moher Tower, the ruined remains of a watchtower which stands on Hag's Head, nearly 11 km from the Site. To the south-west of the Site, Tromora Castle ruins stand, south of Quilty and approximately 11 km from the Proposed Development. To the east, the 15th Century Dysert O'Dea Castle, Monastery and newly opened archaeology centre are located some 18 km from the Site.

Recreation, tourism and heritage within the Study Area all generally pertain to outdoor activities and locations focussed along or in proximity to the Atlantic Coastline.

15.3.3.6 IDENTIFICATION OF VIEWSHED REFERENCE POINTS

Viewshed Reference Points (VRP's) are the locations used to study the visual impacts of a proposal 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:

- KV - Key Views (from features of national or international importance);

- SR - Designated Scenic Routes and Views;
- LCV - Local Community views;
- CP - Centres of Population;
- MR - Major Routes;
- AF/HF - Amenity and heritage features.

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 Table 15-8 and Figure 15-8 below.

Table 15-8 Outline Description of Selected Viewshed Reference Points (VRPs)

VP No.	Name	Representative of	Direction
VP01	N67 at Lisdoonvarna	SR, CP, MR, LCV	S/SW
VP02	R478 at Cliffs of Moher Visitor Centre	KV, SR, HF, MR	SE
VP03	Moher Tower at Hag's Head along Cliffs of Moher Walking Trail	KV, AF/HF	SE
VP04	R478 north of Lahinch	SR, LCV, MR	S
VP05	R478 at Lahinch Golf Club	SR, CP, LCV, MR	S
VP06	Port of Liscannor	SR, CP, LCV	SE
VP07	N85 east of site	MR, LCV	W
VP08	Local road at Lackamore, north of site	LCV	S/SW
VP09	Local road at Fahanlunaghta Beg, north-east of site	LCV	SW
VP10	Local road at Illaunbaun, east of site	LCV	W
VP11	Kilfarboy Church and Graveyard, west of site	HF	E
VP12	R460 at Cloonanaha, east of site	LCV	W
VP13	Local road at Tooreen, south-east of site	LCV	W/NW
VP14	Local road at Slievenalicka, south-west of site	LCV	N/NE
VP15	Local road at Rockmount National School, Slievenalicka, south of site	LCV	N
VP16	N67 at Fintra Beg, west of site	SR, MR	E
VP17	Local road at Ballynew, south of site	LCV	N
VP18	N67 at Miltown Malbay	SR, CP, MR, LCV	NE
VP19	R474 at Knockloskeraun, south-west of site	SR, LCV, MR	NE
VP20	R482 at Spanish Point	CP, LCV, AF	NE
VP21	N67 at Quilty	SR, CP, MR, LCV	NE

VP No.	Name	Representative of	Direction
VP22	Local road at Doo Lough, south of site	LCV	N

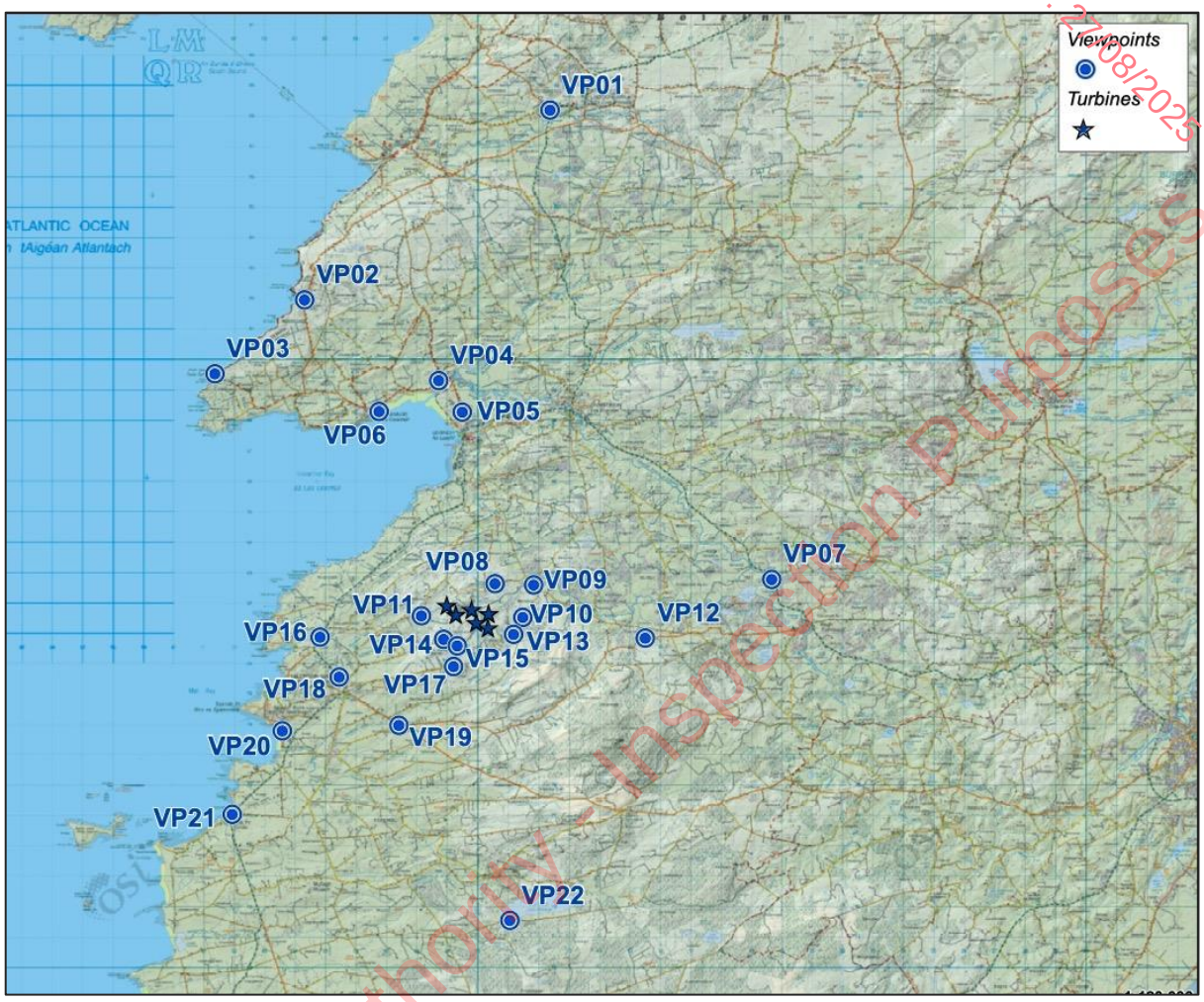

Figure 15-8 Viewpoint location map

15.3.3.7 CUMULATIVE BASELINE

Cumulative impacts of wind farms tend to be adverse rather than positive, as they relate to the addition of moving manmade structures into a landscape and viewing context that already contains such development. Based on guidance contained within the Nature Scot, formerly SNH Guidelines relating to the Cumulative Effects of Wind Farms (2021) and the DoEHLG Wind Energy Guidelines (2006/2019 revision), cumulative impacts can be experienced in a variety of ways.

In terms of landscape character, additional wind energy developments might contribute to an increasing sense of proliferation. A new wind farm might also contribute to a sense of being surrounded by turbines with little relief from the view of them. The term 'skylining' is used in the Nature Scot, formerly SNH Guidelines to describe the effect:

> "Where an existing windfarm is already prominent on a skyline the introduction of additional structures along the horizon may result in development that is

proportionally dominant. The proportion of developed to non-developed skyline is therefore an important landscape consideration."

In terms of visual amenity, there is a range of ways in which an additional wind farm might generate visual conflict and disharmony in relation to other wind energy developments. Some of the most common include visual tension caused by disparate extent, scale or layout of neighbouring developments. A sense of visual ambivalence might also be caused by adjacent developments traversing different landscape types. Turbines from a proposed wind farm that are seen stacked in perspective against the turbines of nearer or further developments tend to cause visual clutter and confusion. Such effects are exacerbated when, for example, the more distant turbines are larger than the nearer ones and the sense of distance is distorted. Table 15-5 as outlined in Section 15.2.8 provides criteria for assessing the magnitude of cumulative impacts.

There are 6 operational and 3 consented wind farms within 20 km of the Site, therefore there is some potential for cumulative impact. Table 15-9 below, outlines their locations in relation to the Proposed Development and provides further information on these wind farms. The nearest operational windfarm is Boolinrudda Wind Farm, which is located approximately 4 km south-east of the Site, at its nearest point. The next nearest wind farm is the permitted Slaghabooly Wind Farm, located approximately 9.9 km south-east of the Site. Beyond these two, all other Wind Farms are more than 10 km from the Proposed Development.

The cumulative developments are considered throughout the visual impact assessment where they are contained in the same view as the Proposed Development.

Table 15-9 Cumulative Windfarms within the Study Area (as of September 2023).

Wind Farm	Status	No. of Turbines	Turbine Heights (m)	Approximate Distance to the Site Boundary (km)	Direction from the Proposed Development
Boolinrudda	Operational	29	125 m	c. 4 km	South-east
Slaghabooly	Permitted	11	131 m	c. 9.9 km	South-east
Booltiagh (I & II)	Operational	19	92 m (Phase I) 120 m (Phase II)	c. 10.4 km	South-east
Glenmore	Operational	12	136.5 m	c. 13.2 km	South-east
Letteragh	Permitted	6	136.5 m	c. 13.7 km	South-east
Boolynaghleragh (I & II)	Operational	16	107 m (Phase I) 126 m (Phase II)	c. 15.6 km	South-east
Kiltumper	Operational	2	120.5 m	c. 13.5 km	South/South-east
Cahermurphy	Operational	3	150 m	c. 11.5 km	South
Gortbofarna	Permitted	1	44.15 m	c. 10.7 km	East/North-east

15.4 ASSESSMENT OF POTENTIAL IMPACTS

15.4.1 DO NOTHING EFFECT

In this instance, the Do-Nothing effect would be that the receiving landscape stays in the same or similar condition as it currently is.

15.4.2 LANDSCAPE IMPACTS

Landscape impacts are assessed on the basis landscape sensitivity weighed against the magnitude of physical landscape effects within the Site and effects on landscape character within the wider landscape setting. This wider setting is considered in respect of the immediately surrounding landscape (<5 km) as well as the broader scale of the Study Area (5-20 km).

15.4.2.1 LANDSCAPE CHARACTER, VALUE AND SENSITIVITY

Landscape value and sensitivity are considered in relation to a number of factors that accord with the Guidelines for Landscape and Visual Impact Assessment 2013, which are set out below and discussed relative to the proposed project Site and Wider Study Area.

Central Study Area (approx. <5km)

In broad brushstrokes, the central Study Area is principally a landscape of transition from the lowland areas of the Atlantic coastline toward the west, to the rolling landscape surrounding Slieve Callan further east. As a result, the site and Central Study Area are characterised by typical foothill land uses and landscape features such as rolling hills, marginal moorlands, blocks of conifer forest and pastoral farmland. Land-use in the vicinity of the site appears predominantly centred on productive, economically-progressive values rather than any compelling naturalistic or aesthetic values. This takes the form of intensively managed agricultural practises, followed by commercial conifer plantations alongside segments of cutaway/exploited bogland, as well as a large wind farm, an open cast quarry and human settlement, primarily in and around the towns of Miltown Malbay and Lahinch.

The northern half of the Central Study Area is a more typical lowland landscape comprising a patchwork of small to medium-sized pastoral fields bound by networks of hedgerow vegetation. It has working characteristics that relate to the subsistence of the local rural population and encompasses the settlement of Lahinch located in a low-lying estuarine basin just south of the River Inagh. Whilst there are several parts of this low-lying landscape context that contain large patches of densely planted coniferous forestry obstructing inland views, broad views and vistas across the distant rolling landscape and uplands are often afforded from low lying sections of road, typically along the Wild Atlantic Way.

To the south, the landscape pattern slightly changes and is characterised by much broader land uses and landscape features, including larger pastoral fields, extensive blocks of conifer forest, elevated hilltops and the settlement of Miltown Malbay. This part of the Study Area is where the transition towards the elevated uplands is much more noticeable as is evident by Slieveacurry, an elevated ridgeline which sits at 255 m AOD being located just over 2.5 km south-east, with the foothills of Slievecallan and Ben Dash beginning slightly beyond. However, despite the change in the land

formations and slight changes in land uses, the landscape values in this part of the Study Area are similar to the landscape to the north. This part of the central Study Area is principally a working transitional setting, although it contains some more susceptible recreational landscape features such as the Wild Atlantic Way.

In terms of scenic amenity value, two locally recognised and one nationally recognised scenic routes traverse the central Study Area, the most notable of which occurs in the western half of the Study Area, along the coastline, in the form of the Wild Atlantic Way. Furthermore, a number of sections of road included as part of the nationally recognised Wild Atlantic Way are also designated as scenic routes by Clare County Council. Scenic Route No. 1 in the CCDP is a scenic route which follows almost the entire Wild Atlantic Way route on its leg through Co. Clare, passing the site to the west, at a distance of c. 2.7 km, at its nearest point. Another scenic route within the Study Area is Scenic Route No. 15, which travels along the R474 in a general south-east to north-west direction, passing the site at a distance of c. 3.8 km to the south. Whilst the central Study Area presents a notable degree of scenic amenity at a local level, one of the most notable aspects of scenic amenity from these routes and within the central Study Area is toward the west – in the opposite direction to the Proposed Development. Scenic amenity within the Study Area typically pertains to views of the rugged Atlantic coastline, for which these scenic routes are designated. Notwithstanding there are some uphill views toward the east, where the distant rolling ridgelines of Slieve Callan and its surrounding foothills interrupt the lowland coastal plain.

The moderate landscape integrity and condition is reflected in planning policy context associated with the central Study Area, as previously set out in Section 15.3.2. Notably, in that regard, the central Study Area is overwhelmingly deemed to be a ‘Settled landscapes – areas where people live and work,’ by Clare County Council. In terms of landscape designations, the central Study Area is contained within both the 'Moorland Hills’ landscape type in County Clare, highlighting the transitional nature of this landscape context. Furthermore, the site and much of the more elevated parts of the landscape to the east/south-east are located within ‘LCA 17 – Slieve Callan Uplands’ with large portions designated ‘Acceptable in Principle’ for wind development, and patches of land designated as ‘Strategic Areas’ for wind development. The Proposed Development is located within a ‘Strategic Area’ for wind development. The overall sensitivity to wind farm development in this LCA is Medium/Low, with the appropriate scale of wind farms designated as Large, indicating that the landscape has the capacity to absorb wind farm developments comprising of between 11 - 20 turbines. Notwithstanding, the bordering LCAs, LCA3 – Cliffs of Moher and Lahinch, and LCA20 – Malbay Coastal Farmland, primarily comprise of lands designated ‘Not Normally Permissible’ for wind development primarily along the coastline, with areas further inland, toward the east designated as ‘Open to Consideration’ areas. The overall sensitivity to wind farm development in both of these coastal LCAs is High, with the appropriate scale of wind farms designated as small, indicating that the landscape has the capacity to absorb wind farm developments comprising up to 5 turbines. Whilst some parts of the central Study Area, principally the coastal lands on the western periphery of the central Study Area, are more susceptible to change than the working transitional lands that cloak large parts of the central Study Area to the north, south and east, it is not considered that the site and central Study Area represents a 'highly sensitive' landscape setting.

Instead, the central Study Area is heavily influenced by typical working land uses, even those more elevated lands in its eastern half. The site is located in a robust transitional landscape, where typical productive rural landscape values outweigh more scenic and naturalistic values, that might be deemed rarer and more vulnerable and can be found further north-west and south-west along the County Clare coastline.

On balance of the reasons outlined above, the landscape sensitivity of the central Study Area is deemed to be **Medium** due to its robust working transitional character, albeit with some localised parts of the central Study Area which are much more susceptible to change, such as the Wild Atlantic Way which passes through the western portion of the central Study Area.

Wider Study Area (Approx. >5 km)

The Wider Study Area is considerably more diverse, in terms of landscape sensitivity, integrity and value, compared to those areas within 5 km of the Site. It should be noted that wind energy is present as a visible, but sub-dominant, element of the landscape across the Wider Study Area, with 6 operational wind farms at present.

A large proportion of the landscape character within the western half of the study is influenced by the coastline, given the sites proximity to the Atlantic Ocean. The eastern half of the wider Study Area, however, chiefly possesses landscape characteristics very similar to those set out above for the central Study Area. However, it does contain some small loughs and undulating terrain exceeding 200 m AOD, with increasingly large portions of land cloaked in either commercial conifer plantations, or patchwork pastoral fields. Whilst a number of prominent landscape areas and features are located within the wider Study Area, it is principally contained in typical rural lands, the most prominent of which across the entire Study Area is pastoral farmland.

Characterised by the Atlantic coastline, the western half of the winder Study Area possess a strong degree of naturalistic and aesthetic quality, with scenic amenity generally centred around the coastline. This is evident by the number of Scenic Route designations that are located within the western half of the Study Area. On the other hand, toward the south-eastern peripheries, the landscape possesses several substantial and visible wind energy developments. Be that as it may, it is a landscape with multiple scenic designations and recreational facilities, some of which (e.g., the Wild Atlantic Way) are nationally recognised, and internationally renowned for its scenic, naturalistic and recreational strength.

On balance of the reasons outlined above, it is considered the wider Study Area is richly diverse in terms of its landscape values and sensitivities. Whilst the landscape in the immediate vicinity of the site and in the western half of the Study Area is predominantly a typical ‘settled’ rural landscape, the wider Study Area is typically cloaked in a medium to high sensitivity classifications within the Clare CDP. These higher designations come as a result of the highly prominent landscape features in the wider environs, such as the Cliffs of Moher, the Atlantic Coastline and extents of the Burren landscape to the north. Whilst these landscape features have a considerable visual influence over the wider landscape context, it is important to note that the Proposed Development is located in an area deemed as a ‘strategic area’ for wind energy development, which speaks to the robust nature of the landscape in its immediate surrounds. On balance of these factors, it is considered that the

landscape of the wider Study Area has an overriding **High-medium** landscape sensitivity, albeit some parts of the Study Area, such as the coastline, has a landscape sensitivity of High and in some cases Very High, typically in the immediate vicinity of the Burren and Cliffs of Moher. Conversely, there are also discrete areas that have Medium or Medium-low landscape sensitivity.

15.4.2.2 MAGNITUDE OF LANDSCAPE EFFECT

The proposed turbines, as well as the ancillary development, such as access and circulation roads, areas for the proposed onsite electrical substation and hard standing for the proposed turbines will directly impact the physical landscape of the Proposed Development site, as well as its character. However, the only envisaged landscape impact upon the Wider Study Area (i.e., outside the Site) will be the likely impact upon landscape character from the proposed turbines.

15.4.2.3 CONSTRUCTION-STAGE EFFECTS ON THE PHYSICAL LANDSCAPE

It is considered that the Proposed Development will have a modest physical impact on the landscape within the Site, as none of the proposed features have an extensive physical 'footprint'.

The topography and land cover of the Site will remain largely unaltered. Aside from the 6 no. of proposed turbines, construction will be limited to an electrical substation and control building, 1 No. met mast, numerous access tracks, turbine hardstands and a temporary construction compound.

Excavations will tie into existing ground levels and will be the minimum required to ensure efficient working. Any temporary excavations or stockpiles of material will be re-graded to marry into existing site levels and reseeded appropriately, in conjunction with advice from the project ecologist. The internal track layout will consist of approx. 880 m of upgraded access tracks and approx. 3700 m of new access tracks. The internal access track layout has been designed to avoid environmental constraints, and every effort has been made to minimise the length of necessary roadway by utilising and upgrading the existing site access track. Furthermore, the road layout has been designed to follow the natural contours of the land wherever possible reducing potential for areas of excessive 'cut and fill'. There will be an intensity of construction stage activity associated with the access tracks and turbine hardstands consisting of the movement of heavy machinery and materials, but this will be temporary/short term in duration and transient in location. Thus, the construction stage effects on landscape character from these activities will be minor.

As part of the Proposed Development, approx. 131,400 m^2 (13.14 ha) of trees will need to be felled within the Site, the overwhelming majority of which will be conifer plantations in various stages of the harvesting cycle. Notwithstanding, the commercial conifers that are proposed to be felled to facilitate the Proposed Development have been planted specifically in order for them to be felled and harvested upon maturity. Thus, even in a 'Do Nothing' scenario, where the Proposed Development does not eventuate, this commercial conifer plantation will still be felled and harvested in due course; as is the objective of such land use.

The proposed electrical substation and control building will have a compound spanning an area of 7,750 m^2 but will be located within the bounds of the site. The substation compound will be constructed from engineered stone material, using similar construction techniques as for the turbine

hardstands. In this regard, the most notable construction stage landscape impacts resulting from the proposed on-site substation relate to the minor levelling of the site to form a level platform.

All internal site cabling will be underground in ducts, with routing primarily follow the site access tracks. Indeed, the land cover of the site will only be interrupted as necessary to build the structures of the proposed wind farm and to provide access. Impacts from land disturbance and vegetation loss at the site are considered to be modest in the context of this transitional foothill landscape setting that is influenced by an array of working rural land uses, including that of a nearby quarry.

Site activity will be at its greatest during the construction phase due to the operation of machinery on site and movement of heavy vehicles to and from site. This phase will have a more notable and apparent impact on the character of the site and cable routes than the operational phase but will be 'short-term' in nature. There will be some long-term/permanent effects on the physical landscape in the form of turbine foundations and hardstands, the existing/upgraded access tracks and a substation, but only the on-site substation and mast are likely to remain in perpetuity as part of the national grid network. It is likely that, with the exception of some residually useful access tracks, all other development features will be removed from the site, and it will be reinstated / restored to the prevailing land cover. Thus, the construction stage landscape effects of the Proposed Development are largely reversible.

As the construction stage of the Proposed Development is estimated to take approximately 12-18 months, construction-stage impacts are considered short-term, by the EPA Guidance terms (i.e., effects lasting from one to seven years). In summary, the magnitude of construction-stage effects on the physical landscape of the site are deemed to be **High-medium**, with a Negative quality of effect and short-term in duration.

As outlined in Section 15.2.4, the significance of landscape impacts is a function of landscape sensitivity weighed against the magnitude of the landscape impact. This is established on the basis of the significance graph (Table 15-3: Landscape Impact Significance Matrix) in conjunction with professional judgement. Accordingly, when combined with a Medium landscape sensitivity of the receiving environment of the central Study Area, the Proposed Development is deemed to have a **Moderate** significance of construction-stage effects on the physical landscape. These will have a Negative quality of effect and be short-term in duration.

15.4.2.4 OPERATIONAL & DECOMMISSIONING STAGE EFFECTS ON LANDSCAPE CHARACTER

For most commercial wind energy developments, the greatest potential for landscape impacts to occur is as a result of the change in character of the immediate area, due to the introduction of tall structures with moving components. Thus, in some instances, wind turbines that may not have been a characteristic feature of the area become a new defining element of that landscape character.

In this instance, wind turbines are not just a familiar feature of the Central and Wider Study Area, but the sizeable Boolinrudda Wind Farm, with a total of 29 turbines, is located within 5 km of the Site, while in the Wider Study Area there are a further 5 operational wind farms at present. Thus, existing wind turbines contribute in a palpable and apparent manner to the landscape character of

the Study Area. The existing wind farms ensure that the Proposed Development will not be a new or unfamiliar feature of its wider landscape setting. The effect, therefore, is one of intensification of an established land use type in this landscape and for wind energy development to become gradually more of a characteristic feature of this undulating rural landscape.

In terms of scale and function, the Proposed Development assimilates into the context of the Central Study Area, which consists of a range of productive rural land uses, including that of a quarry. Although it represents a higher level of built development than currently exists on the Site, it will not detract significantly from its productive elevated rural character. It is important to note that in terms of duration, with the exception of the proposed Electrical Substation and access tracks, the Proposed Development represents a long term, but not permanent, impact on the landscape and it is reversible. The expected operational lifespan of the project is approximately 30-35 years. Within 2-3 years of Decommissioning, there would be little evidence that a wind farm ever existed on the Site.

The Decommissioning phase will have similar temporary impacts as the construction phase, with the movement of large turbine components away from the Proposed Development. There may be a minor loss of roadside and trackside vegetation that has grown during the operation phase of the Proposed Development, but this will be reinstated upon completion of Decommissioning. Areas of hard standing that are of no further use will be reinstated and reseeded to blend with the prevailing land cover in the direct vicinity at that time. As 6 No. turbines are being projected for this Proposed Development, such scale of development can be assimilated into this landscape context without undue conflicts of scale with underlying landform and land use patterns. This is further underlined by the scale of the proposed turbines at 150 m tip height, they will be approx. three-quarters of the height of many onshore turbines currently proposed within Ireland.

On balance of the reasons outlined above, the magnitude of Operational & Decommissioning-stages effects on Landscape Character are deemed to be Medium-low within the Central Study Area, reducing at increasing distances beyond this threshold, as the wind farm becomes a proportionally smaller feature of a wider landscape context.

As outlined in Section 15.2.4 above, the significance of landscape impacts is a function of landscape sensitivity weighed against the magnitude of the landscape impact. This is established on the basis of the significance graph (Table 15-3: Landscape Impact Significance Matrix)in conjunction with professional judgement.

For these reasons the magnitude of the landscape impact is deemed to be **High-medium** within the site and its immediate environs of the site (c.1 km) reducing to **Medium** for the remainder of the Central Study Area. The quality of the landscape effects is deemed **Negative**. Beyond 5 km from the Site, the magnitude of landscape impact is deemed to reduce to **Low** and **Negligible** at increasing distances, as the wind farm becomes a proportionately smaller and integrated component of the overall landscape fabric.

15.4.2.5 SIGNIFICANCE OF POTENTIAL LANDSCAPE EFFECTS

The significance of landscape impacts is a function of landscape sensitivity weighed against the magnitude of landscape impact. This is derived from the significance matrix (Table 15-3: Landscape Impact Significance Matrix) used in combination with professional judgement.

Based on a Medium landscape sensitivity judgement within the central Study area, and a High-medium magnitude of construction stage landscape impact, the significance of impact is considered to be **Substantial-moderate/Negative/Short-term** within and immediately around the site during construction but reducing quickly with distance and broader context.

Based on a Medium sensitivity judgement and a High-medium / Medium magnitude of operational stage landscape impact, the localised significance of impact is considered to be **Moderate/Negative/Long-term** within and immediately surrounding the site. Thereafter, significance will reduce to Moderate and Slight at increasing distances as the development becomes a progressively smaller component of the wider landscape fabric even in the context of higher sensitivity landscape units / features such as the Uplands to the east and west and the coastline in the south-east quadrant of the Study Area.

15.4.3 VISUAL IMPACTS

In the interest of brevity and so that this chapter remains focussed on the outcome of the visual assessment (rather than a full documentation of it), the visual impact assessment at each of the 26 selected representative viewpoint locations has been placed into **Technical Appendix A15-01**. This section should be read in conjunction with both **Technical Appendix 15-01** and the associated photomontage set contained in a separate booklet accompanying the EIAR. The photomontage file was prepared when Illaunbaun Wind Farm was known as Clare 4N Wind Farm. A summary table is provided below, which collates the assessment of visual impacts (Table 15-10 below). A discussion of the results is provided thereafter.

Table 15-10 Summary of Visual Impact Assessment at Representative Viewpoint Locations (refer to Technical Appendix 15-01)

Visual Impact Summary				
VP No.	**Distance to nearest turbine**	**Visual Receptor Sensitivity**	**Magnitude of Visual Impact**	**Significance / Quality / Duration of Impact**
VP01	16.7 km (T5)	Medium	Low-negligible	Slight-imperceptible/ Negative/ Long-term
VP02	11.1 km (T4)	High-medium	Low	Moderate-slight / Negative/ Long-term
VP03	10.8 km (T4)	High	Low	Moderate-slight / Negative / Long Term
VP04	7.4 km (T4)	Medium	Low	Slight / Negative / Long-term

Visual Impact Summary				
VP05	6.4 km (T4)	Medium	Medium-low	Moderate-slight / Negative / Long-term
VP06	6.8 km (T4)	Medium-low	Medium-low	Moderate-slight / Negative / Long-term
VP07	9.4 km (T2)	Medium-low	Negligible	Imperceptible / Neutral / Long Term
VP08	1.0 km (T2)	Medium-low	High-medium	Moderate / Negative / Long Term
VP09	1.8 km (T2)	Medium-low	Negligible	Imperceptible / Neutral / Long Term Post forest felling (Moderate-slight / Negative / Long term)
VP10	1.1 km (T2)	Medium-low	High-medium	Moderate / Negative / Long Term
VP11	0.9 km (T4)	Medium-low	High-medium	Moderate / Negative / Long Term
VP12	5.2 km (T6)	Medium-low	Negligible	Imperceptible / Neutral / Long Term
VP13	0.9 km (T6)	Medium-low	High-medium	Moderate-slight / Negative / Long Term
VP14	0.9 km (T1)	Medium-low	High-medium	Moderate-slight / Negative / Long Term
VP15	1.0 km (T3)	Medium-low	High-medium	Moderate / Negative / Long Term
VP16	4.3 km (T4)	Medium	Medium-low	Moderate-slight / Negative / Long Term
VP17	1.6 km (T3)	Medium-low	High-medium	Moderate / Negative / Long Term
VP18	4.2 km (T4)	Medium	Medium-low	Moderate-slight / Negative / Long Term
VP19	4.1 km (T1)	Medium	Medium-low	Moderate-slight / Negative / Long Term
VP20	6.8 km (T4)	Medium-low	Low	Slight / Negative / Long Term
VP21	9.8 km (T4)	Medium	Low-negligible	Slight-imperceptible / Negative / Long Term
VP22	9.6 km (T6)	Medium-low	Negligible	Imperceptible / Neutral / Long Term

15.4.4 VISUAL IMPACT SUMMARY BY RECEPTOR TYPE

The visual impacts will be summarised below by receptor type.

15.4.4.1 VISUAL IMPACTS ON LOCAL COMMUNITY VIEWS

Local Community views are considered to be those experienced by those people who live, work and move around the area within approximately 5 km of the Site (i.e., the Central Study Area). These are generally the people that are most likely to have their visual amenity affected by a wind energy development due to proximity to the turbines, a greater potential to view turbines in various directions, or having turbines as a familiar feature of their daily views. Be that as it may, it is worth reiterating that wind turbines in the Central Study Area are already a common/daily feature of local community views. Owing to proximity, local community views understandably tend to have the highest likely visual impact significance of all receptors within the Study Area.

In total, of the 22 viewpoints assessed as part of this LVIA, 11 are from within 5 km of the Site. Five of these eleven viewpoints experienced the highest visual impact assessed for the Proposed Development: that of 'Moderate' Visual Impact Significance. This is primarily owing to the proximity of these five representative receptors to the proposed turbines (i.e., all less than 1.6 km distance), but also due to the variable terrain in the area, and the lack of substantial vegetative screening at those locations. All remaining viewpoints within the Central Study Area recorded a 'Moderate-slight' visual impact significance, for similar reasons, while tending to be generally 2-5 km from the Site, with the exception of VP13 and VP14.

Overall, whilst the turbines will present at a considerable scale from some of the nearest local community receptors, they do not generate any notable sense of over-bearing, nor do they appear out of place in this robust transitional foothill landscape that is influenced by typical foothill land uses such as commercial forestry and agricultural farmland. Thus, it is **not considered that the Proposed Development will generate significant visual impacts at local community receptors**.

15.4.4.2 VISUAL IMPACTS ON DESIGNATED VIEWS

Due to the varied and complex nature of the landscape within the Study Area, which comprises numerous notable landscape features, there are many scenic routes and scenic views within the 20 km study extent. As previously set out in Section 15.3.3.2, above, all of the scenic routes and views that fall inside the ZTV pattern were investigated during fieldwork to determine whether actual views of the Proposed Development might be afforded. Where visibility may occur, a viewpoint has been selected for use in the visual impact assessment. This resulted in nine representative viewpoints from those designated views. Of these nine, two were deemed to have an 'Slight-imperceptible' and one was deemed to have 'Slight' visual impact significance. The remaining six were deemed to have a 'Moderate-slight' visual impact significance, many of which are afforded broad sweeping panoramas influenced by a range of productive land uses in addition to existing wind energy development.

It is worth noting that, in reality, these routes are experienced as a journey and not as a series of fixed views. Thus, the representative viewpoints typically reflect the worst-case scenario in terms of

turbine visibility. Furthermore, for many of these scenic routes, the proposed turbines have the potential to be heavily and, in some cases, entirely screened by surrounding terrain and vegetation.

The proposed turbines will be intermittently visible from a number of scenic routes within the Study Area; however, the turbines will typically be viewed in the context of the robust foothill landscape west of the principal ridgeline of Slieve Callan, and in many cases, the turbines are viewed in the opposite direction to the main aspect of scenic amenity from these routes. The significance of visual impact at all scenic routes and scenic view designations within the Study Area ranges from 'Moderate-slight' to 'Slight-imperceptible'. Thus, impacts at scenic designations within the Study Area are **not considered to be significant**.

15.4.4.3 VISUAL IMPACTS ON CENTRES OF POPULATION

Of the two settlements within the Central Study Area (i.e. Lahinch and Miltown Malbay), portions of each both fall within the ZTV and resulted in selected viewpoints. Both of the VPs chosen to represent Lahinch and Miltown Malbay (i.e. VP5 and VP18, respectively) recorded the likely visual impact significance: 'Moderate-slight.'

Although there are multiple settlements within the Wider Study Area, some did not fall within the ZTV pattern (i.e. will not have potential visibility of the proposed turbines). Those that did fall within the ZTV pattern and were selected for representative viewpoints include the County Clare settlements of Lisdoonvarna (VP1), Spanish Point (VP20) and Quilty (VP21) and were all deemed to have a visual impact significance of 'Slight' or lower, which is principally a consequence of their distance from the site. However, the settlement of Liscannor (VP6) recorded a visual impact significance of 'Moderate-slight' - the highest such visual impact associated with this receptor type, due to the degree of visibility afforded from this location where all 6 of the turbines will be visible.

As a result of the reasons outlined above, it is **not considered that the Proposed Development will result in significant visual impacts at Centres of Population** within the Study Area.

15.4.4.4 VISUAL IMPACTS ON MAJOR ROUTES

As previously set out in Section 15.3.3.4, there are two major routes within the Study Area, namely the N67 and N85. In total, of the 22 viewpoints assessed as part of this LVIA, nine are from major routes, with five occurring along national roads, and four occurring along regional roads. Of these, the highest likely visual impact experienced is 'Moderate-slight' in five instances – VP2, VP5, VP16, VP18 and VP19, all of which, exempting VP19, form part of the Wild Atlantic Way. VP2 and VP5 occur along the R478 whilst VP16 and VP18 occur along the N67, near Miltown Malbay, and finally, VP19 occurs along the R474. In the case of VP2, this is owing to the elevated broad nature of the view. For VP5 it is owing to the visibility of the Proposed Development over in the foreground context of Lahinch town. With regard to VP16 and VP18, this impact is primarily owing to the proximity of these two receptors to the proposed turbines (i.e., within 5 km distance), but also the lack of substantial roadside hedgerows at those sections, affording open views of relatively flat landscape afforded from these locations. Finally, with regard to VP19, which occurs along the R474 just outside of Miltown Malbay, and is generally well populated whilst also being designated as a scenic route, the predicted impact is owed to the intermittent visibility of turbines at this location.

The remaining four viewpoints along major routes which were also assessed were the N85 (one viewpoint), a further two viewpoints from the N67, and an additional one from the R478. At all of these viewpoints, the visual impacts experienced ranges from 'Imperceptible' (in one viewpoint) to 'Slight-imperceptible' (in two viewpoints) to 'Slight' (in one case).

On balance, it is **not considered that the Proposed Development will generate significant visual impacts in respect of major routes**.

15.4.4.5 VISUAL IMPACTS ON TOURISM, RECREATIONAL & HERITAGE FEATURES

As previously set out in Section 15.3.3.5, there are numerous tourism, recreational & heritage features within the Study Area. In total, of the 22 viewpoints assessed as part of this LVIA, 12 represent this receptor type.

Notably, 6 of these 12 viewpoints are from the Wild Atlantic Way, the highest likely visual impact along which is deemed to be 'Moderate-slight', in instances such as VP2 which also represents the Cliffs of Moher Visitor Centre, or in instances where there are clear and close views of the Proposed Development. Notably, one viewpoint from along the Wild Atlantic Way is likely to experience 'Slight-imperceptible' visual impact significance (VP21 at Quilty) with a further two viewpoints deemed to have a 'Slight' visual impact significance (VP4 at Lisdoonvarna and VP20 at Spanish Point). Further tourism receptors such as VP3 at Moher Tower (Hag's Head) also recorded a visual impact significance of 'Moderate-slight' due largely to the sensitivity of the receptor in relation to its tourism and heritage value. Notwithstanding, the scenic amenity at this location pertains to views along the Atlantic coastline in the direction of the Cliffs of Moher, facing north from this location as opposed to south-east, in the direction of the Proposed Development. One further viewpoint (VP11) was captured from a local graveyard and resulted in a likely visual impact significance of 'Moderate' on account of its proximity to the Proposed Development.

On balance of the above, whilst there are a number of relevant tourism, recreational and heritage features within the Study Area, the amenity associated with these typically relates to views facing away from the site. In instances where views are oriented in the direction of the Proposed Development, the turbines generally do not detract or block any aspect of scenic amenity, but rather contribute to a characteristic view of wind turbines in this broader upland area. In this respect, the turbines represent a marginal increase in the extent of wind development visible from many of these locations.

On balance, it is **not considered that the Proposed Development will generate significant visual impacts in respect of tourism, recreational & heritage features**.

15.4.5 VISUAL IMPACTS CONCLUSION

Based on the visual impact assessment outlined in sections 15.4.4.1 to 15.4.4.5 above and in Table 15-10, the residual visual impacts range between 'Moderate' to 'Imperceptible'. The most notable visual impacts occur at local community receptors, which account for all five of the 'Moderate' visual impact significance classifications and principally relate to their close proximity to the Proposed Development, where clear uphill views are afforded. Nonetheless, in all instances where the proposed turbines are viewed at a close distance, they do not present with a strong sense of

overbearing, nor do they appear over-scaled or incongruous in this robust foothill landscape setting that comprises broad landscape features and land uses patterns. Furthermore, residences in the vicinity of the Proposed Development tend to be oriented facing away from the site, to benefit from distant views of the coastline from this locally elevated area.

In relation to susceptible scenic designations in the surrounds of the site, the Proposed Development will be clearly visible from some of the scenic route designations nearest to the site. Nevertheless, the proposed turbines are often viewed in the opposite direction to the main aspect of scenic amenity from these routes and do not block or obstruct other sensitive viewing aspects. Even where clearly visible from some of the highly scenic view designations in the wider surrounds of the Study Area, the proposed turbines appear well accommodated in terms of their scale and function in this robust foothill landscape and will not result in a notable detraction in the scenic amenity of the wider landscape, which is currently influenced by a range of other anthropogenic land uses, including existing wind energy development, major routes and extensive areas of commercial conifer forestry.

Overall, it is **not considered that the Proposed Development will result in significant visual impacts at any surrounding receptors**. Nonetheless, there will be some near-significant visual impacts (Moderate) at the nearest local receptors. Whilst the turbines will be often viewed in the context of some of the sensitive and susceptible sections of the Atlantic coastline, there is a strong sense that the turbines are located within a robust landscape, as opposed to the more scenic and naturalistic lowland coastal areas. The results of this landscape and visual assessment tend to highlight why the Proposed Development site is also located within a 'Strategic Area' for wind energy development, in the Clare CDP.

15.4.6 CUMULATIVE IMPACTS

There are nine existing, permitted and in-planning wind farms contained within the Study Area. These are typically clustered toward the south-east of the Proposed Development, with one outlier located north-east. The cumulative developments are outlined in Table 15-9, which also indicates where they lie in relation to the Proposed Development.

A cumulative Zone of Theoretical Visibility (ZTV) map is also provided as Figure 15-9 and indicates parts of the Study Area with visibility of the Proposed Development in isolation, as well as existing, permitted and in-planning turbines only. Combined visibility between the Proposed Development and other developments is also indicated and this is the most relevant category to the cumulative impact assessment.

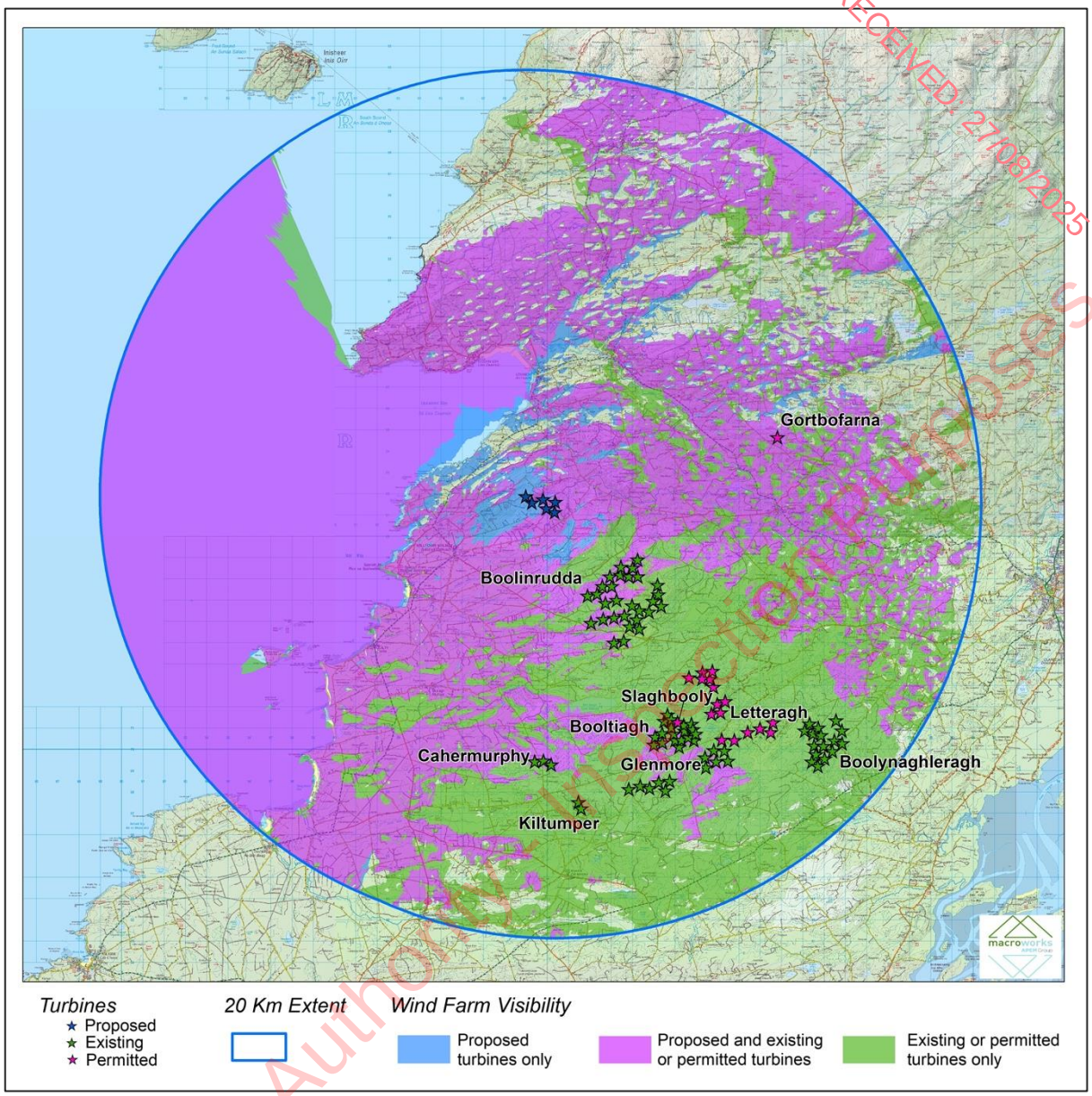

Figure 15-9 Cumulative bare-ground Zone of Theoretically Visibility (ZTV) Map

The cumulative ZTV map indicates that the majority of the central, north-western and south-western portions of the Study Area will have combined theoretical visibility of the Proposed Development in conjunction with other wind energy developments. This is partly due to the low-lying landform in these parts of the Study Area that incline gently towards the uphill areas that accommodate these wind energy developments. It is also due to the relatively near proximity and scale of other wind developments in the area. Despite the presence of eight wind energy developments within the south-eastern portion of the Study Area, combined visibility with the Proposed Development is generally sporadic toward the east and north and accounts for only about 50% of the overall Study Area, excluding those portions offshore. eastern Study Area. Based on the sporadic 'sand ripple' nature of the cumulative ZTV pattern toward the east and north of the Study Area, any combined visibility is likely to relate only to partial visibility (partial blade sets) of either the proposed and/or cumulative developments.

The greatest potential for cumulative impacts to occur is in relation to the existing Boolinrudda turbines on Slieve Callan which are located just under 4 km from the Proposed Development at their nearest point, making this the nearest wind energy development to the site. The existing turbines can frequently be seen in the photomontage set, but never in a visually confusing manner, with clear separation and scale differences between the schemes removing any ambiguity about their proximity to one another, with significant distances between the two made clear. It can also be considered that the assessment provided in Section 15.4.3 is a cumulative one with respect to the surrounding existing developments, because their presence and visual interaction with the proposed turbines is accounted for. From VP2, VP3, VP4 and VP6, which are all located north-west of the Proposed Development and afford long distance views of the landscape to the south-east, the existing Boolinrudda Wind Farm can be seen in the distance. In these instances, the existing turbines are viewed beyond the proposed turbines, on the upland terrain in the background with a clear separation distance between them and the Proposed Development. From VP22, which is oriented north, the existing turbines are viewed at a closer distance with a greater degree of visibility of the existing scheme than of the Proposed Development. Again, there is a clear sense of perspective and separation between the existing wind farms and the Proposed Development from this location. Thus, there are no instances where the existing and Proposed Development present as a singular scheme, and there is no undue scale/distance confusion.

To the south-east of the Proposed Development, there is a cluster of developments located on or around the foothills of Slieve Callan and Ben Dash. This cluster of wind development comprises seven wind farms, five of which are operational and two are permitted. These wind farms include Slaghabooly, Lettergah, Boolynaghleragh, Glenmore, Booltiagh, Cahermurphy and Kiltumper. Cahermurphy and Kiltumper are slightly isolated from the other developments but are still part of the cluster given that they share a similar landscape context to the others. These developments are all well beyond 10 km away from the Proposed Development with the exception of Slaghabooly, which is located c. 9.9 km from the site. These developments are contained within a different landscape context to the Proposed Development, and this serves to reinforce the low level of visual and perceptual connection between them and the Proposed Development. Likewise, the permitted single turbine development Gortbofarna is also contextually and perceptually divided by the Inagh River valley estuary, undulating intervening topography, and just over 10 km of physical separation. Aside from the general cumulative effect of contributing to wind farm intensity and dispersal throughout the Study Area, these distant wind farms will not generate significant cumulative impacts in conjunction with the Proposed Development.

15.4.7 CUMULATIVE IMPACT CONCLUSION

Based on the reasons outlined above, it is considered that the Proposed Development will contribute to cumulative impacts in a very minor way at the scale of the Study Area where turbines are already a familiar feature and the Proposed Development represents marginal intensification. Within the Central Study Area, there is only potential for cumulative impacts with the existing development at Boolinrudda wind farm on account of all other wind farms being located over 5 km away, and over 10 km in nearly all instances, with the exception of Slaghabooly located at a distance

of c. 9.9 km. However, there is a reasonable degree of cohesion between the Proposed Development and others in the area, where the Proposed Development is a smaller scheme of only six turbines which are marginally larger than others in the area. Furthermore, the Proposed Development is itself well-spaced and noticeably distanced from other wind farms in the area. As such there is seldom a sense of clutter, scale confusion or any strong sense of being surrounded by turbines. Overall, the magnitude of cumulative impact is deemed to be consistent with a 'Medium-low' effect based on the criteria contained in Table 15-5**.**

15.5 MITIGATION MEASURES

Outside of those landscape and visual mitigation measures that formed part of the iterative design process of the Proposed Development over a number of years, and which are embedded in the assessed Project, other specific landscape and visual mitigation measures are not considered necessary / likely to be effective. Thus, the impacts assessed in Section 15.4 are the equivalent of residual impacts in this instance.

15.5.1 DECOMMISSIONING PHASE

The Decommissioning phase will see a similar nature of effects to the construction phase due to the movement of heavy machinery within the Site, and to and from the Site removing turbine components. However, such effects will be temporary in duration and decreasing in scale as turbines are removed from view and the landscape is substantially reinstated to former uses. As with construction stage impacts, Decommissioning stage effects are not considered to be significant.

15.6 SUMMARY OF SIGNIFICANT EFFECTS

It is not considered that there will be any significant effects arising from the Proposed Development.

15.7 STATEMENT OF SIGNIFICANCE

Based on the landscape, visual and cumulative assessment contained herein, it is considered that there will not be any significant effects arising from the Proposed Development.

15.8 SUMMARY

Table 15-11: Summary of Potential Effects, Significance, Mitigation Measures, and Residual Effects for the Proposed Development

Potential Effect	Construction/ Operation	Beneficial/ Adverse/ Neutral	Extent (Site/Local/ National/ Transboundary)	Short term/ Long term	Direct/ Indirect	Permanent / Temporary	Reversible/ Irreversible	Significance of Effect (according to defined criteria)	Proposed mitigation	Residual Effects (according to defined criteria)
Landscape Effects	Construction	Adverse	20km	Short-term	Direct	-	Reversable	Moderate	-	Moderate
Visual Effects	Construction	Adverse	20km	Short-term	Direct	-	Reversable	Moderate	-	Moderate
Cumulative Effects	Construction	Adverse	20km	Short-term	Direct	-	Reversable	Moderate-slight	-	Moderate-slight
Landscape Effects	Operational	Adverse	20km	Long-term	Direct	-	Reversable	Ranging from Low to Negligible	-	Ranging from Low to Negligible
Visual Effects	Operational	Adverse	20km	Long-term	Direct	-	Reversable	Ranging from Imperceptible to Moderate-slight	-	Ranging from Imperceptible to Moderate-slight
Cumulative Effects	Operational	Adverse	20km	Long-term	Direct	-	Reversable	Moderate-slight	-	Moderate-slight

15.9 REFERENCES

Environmental Protection Agency. (2018). Guidelines on the information to be contained in environmental impact statements (2018) and Advice notes on current practice in the preparation of environmental impact statements (2018). Environmental Protection Agency.

Department of Environment, Heritage and Local Government. (2006). Wind energy planning guidelines. https://www.gov.ie

Department of Housing, Planning and Local Government. (2017). Preferred draft approach to revising the 2006 wind energy development guidelines. https://www.gov.ie

Landscape Institute & Institute of Environmental Management and Assessment. (2013). Guidelines for landscape and visual impact assessment (3rd ed.). Routledge.

NatureScot. (2012). Assessing the cumulative impact of onshore wind energy developments. NatureScot.

NatureScot. (2017). Siting and designing wind farms in the landscape (Version 3). NatureScot.

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