10.0 LANDSCAPE AND VISUAL

10.1 Introduction

This Remedial Environmental Impact Assessment Report (rEIAR) has been prepared to accompany a substitute consent application for an existing sand and gravel quarry at Ballinabarny North and Bolagh Lower, Redcross, Co. Wicklow. The remedial Landscape and Visual Impact Assessment (LVIA) was prepared by Macro Works Ltd.

This LVIA was carried out by Richard Barker, MLA, PgDip Forestry, BA Environmental, MILI. Richard has over 18 years' experience in LVIA and has worked on the Landscape and Visual assessment for a vast range of developments throughout Ireland, including wind and solar energy, infrastructure, quarry developments, flood relief, residential and recreation projects. He has also carried out a number of LVIAs for remedial EIAR projects.

Where the site is referred to, this is the EIA project boundary as identified in Figure 10.1. This section of the rEIAR considers and assesses potential significant effects resulting from quarrying related activities that have been carried out on the site and on its surrounding environment. It also records remedial mitigation measures undertaken or proposed to be undertaken.

The main elements relevant to this LVIA of the quarry development that has taken place include the quarrying process which involves the removal of vegetation, soil and rock from the landscape, resulting from an increase in size of the quarry between 1990-2022 which would have been visible from certain locations.

10.2 Methodology

10.2.1 Guidance Documents

Landscape and Visual Impact Assessment (LVIA) is a tool used to identify and assess the effects of change and the significance of these effects, resulting from development on both the landscape and on people's views and visual amenity.

The methodology for remedial assessment of the landscape and visual effects is informed by the following key guidance documents for LVIA and EIAR, namely:

- *Guidelines for Landscape and Visual Impact Assessment*, 3rd Edition 2013, (UK Landscape Institute and Institute of Environmental Management and Assessment) - hereafter referred to as the GLVIA.
- *Guidelines for Information to be Contained in Environmental Impact Assessment Reports* (EPA, 2022)
- Wicklow County Development Plan 2016-2022

It should, however, be noted that there is no specific guidance in relation to Remedial EIAR or LVIA reports. This is specifically addressed in Section 10.2.2.

10.2.1.1 Definitions in LVIA

A key distinction to make in a LVIA is that between landscape effects and the visual effects of development. These are related but assessed separately.

Landscape Impact Assessment (LIA) relates to assessing effects of a development on the landscape as a resource in its own right and is concerned with how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character.

Visual Impact Assessment (VIA) relates to assessing effects of a development on specific views and on the general visual amenity experienced by people. This deals with how the surroundings of individuals or groups of people may be specifically affected by changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/or introduction of new elements. Visual impacts may occur from: Visual Obstruction (blocking of a view, be it full, partial or intermittent), or Visual Intrusion (interruption of a view without blocking).

10.2.2 Assessment Process for Remedial LVIA

A typical LVIA will assess the landscape and visual effects of a *proposed* development, on the *existing* receiving environment, or baseline. This *remedial* LVIA assesses the effects of the Development *which have occurred* (from 1990 to the present), and any that are *still occurring*. For this remedial LVIA, the assessment of landscape and visual effects is carried out on the previously existing receiving environment – in this case, a baseline date of ca.1990 is used.

- A desktop study to establish an appropriate study area, relevant landscape and visual designations in the Wicklow County Development Plan 2016-2022, as well as other sensitive visual receptors. The desktop exercise is based on historic data, including aerial imagery, land cover mapping, and available documentation. Previous development plans were not obtained and so are not referred to.
- Fieldwork to establish the landscape character of the receiving environment and to confirm and refine a set of viewpoints to be used for the visual assessment stage.
- Assessment of the significance of the landscape impact of the development as a function of landscape sensitivity weighed against the magnitude of the landscape impact.
- Assessment of the significance of the visual impact of the development as a function of visual receptor sensitivity weighed against the magnitude of the visual impact that have occurred in the period since 1990. This aspect of the assessment is supported by present-day photography captured at each of the selected viewpoints, but effects over time can only be generally estimated based baseline material that does not include previous viewpoint photography.

10.2.3 Methodology for Landscape Assessment

This section sets out the separate assessment criteria for both landscape effects and visual effects.

10.2.3.1 Landscape Assessment Criteria

When assessing the potential effects on the landscape resulting from this development, the following criteria are considered:

- Landscape character, value and sensitivity;
- Magnitude of likely effects; 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:

Table 10.1: Landscape Value and Sensitivity

Sensitivity	Description
Very High	Areas where the landscape/townscape character exhibits a very low capacity for change. Examples of these include landscapes/townscapes with unique and highly valued elements / character, protected at an international or national level (e.g. World Heritage Site), where the principal management objectives are likely to be protection of the existing character.
High	Areas where the landscape/townscape character exhibits a low capacity for change. Examples of these include landscape/townscapes with rare and highly valued elements / character, protected at a national or regional level, where the principal management objectives are likely to be the conservation of the existing character.
Medium	Areas where the landscape/townscape character exhibits some capacity for change. Examples of which are landscapes/townscapes, that include notable elements / character and are likely to have a designation of protection at a county level or at non-designated local level where there is evidence of local value.
Low	Areas where the landscape/townscape character exhibits reasonable capacity for change. Typically, this would include lower value, non-designated landscapes/townscapes that may also have some elements or features of recognisable quality, where management objectives include, enhancement, repair and restoration.
Negligible	Areas of landscape/townscape character that include derelict sites and degradation where there would be a strong capacity for change. Management objectives in such areas are likely to be focused on enhancement or restoration.

The magnitude of a predicted landscape effect 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 effect 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 10.2: Magnitude of Landscape/Townscape Impacts

Sensitivity	Description
Very High	Change that would be large in extent and scale, involving critically important landscape/townscape elements and patterns, which may also involve the introduction of new uncharacteristic elements or features that contribute to fundamental change of the landscape/townscape, in terms of character, value and quality.
High	Change that would be large to moderate in extent and scale, involving important landscape/townscape elements and patterns, which may also involve the introduction of new uncharacteristic elements or features that contribute to substantial change of the landscape/townscape, in terms of character, value and quality.
Medium	Changes that are modest in extent and scale, involving notable landscape/townscape elements and patterns, which may also involve the introduction of new, uncharacteristic elements or features that would lead to distinguishable changes in landscape/ townscape character, and quality.
Low	Changes that are small in extent and scale, involving common or indistinct landscape/townscape elements and patterns, which may also involve the introduction of new elements or features that are not uncharacteristic within the receiving context and would lead to subtle changes in landscape/ townscape character, and quality

Sensitivity	Description
Negligible	Changes that are small or very restricted in extent and scale involving common or indistinct landscape/townscape elements and patterns, which may also involve the introduction of new elements or features that are entirely characteristic of the receiving context and would lead to barely discernible changes in landscape/ townscape character, and quality.

The significance of a landscape/townscape 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 graph set out in Table 8.3. Impacts of 'Substantial' or greater are considered to be significant impacts in the context of this assessment and EIA terms.

Table 10.3: Significance Matrix

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

Note: The significance matrix provides an indicative framework from which the significance of impact is derived. The significance judgement is ultimately determined by the assessor using professional judgement. Due to nuances within the constituent sensitivity and magnitude judgements, this may be up to one category higher or lower than indicated by the matrix. Judgements indicated in light red (substantial and above) are considered to be 'significant impacts' in EIA terms.

10.2.4 Methodology for Visual Assessment

Visual assessment considers the value of the views, and the visual susceptibility of the visual receptors (groups of people) and the changes to the composition and character of views. The assessment is made for a number of viewpoints selected to represent the range of visual receptors in the receiving environment. The significance of the visual effects experienced at these locations is assessed by measuring the visual receptor sensitivity against the magnitude of change to the view resulting from the development.

10.2.4.1 Visual Impact Assessment Criteria

As with the landscape impact, the visual impact of the Proposed Development will be assessed as a function of sensitivity versus magnitude. In this instance the sensitivity of the visual receptor, weighed against the magnitude of the visual effect.

Viewshed Reference Points (VRP's) are the locations used to study the likely visual impacts associated with the proposed development. 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 using up to 6 categories of receptor type as listed below:

- Key Views - from features of national or international importance;
- Designated Scenic Routes and Views;
- Local Community views;
- Centres of Population;
- Major Routes; and
- Amenity and heritage features.

Sensitivity of Visual Receptors

Unlike landscape sensitivity, the sensitivity of visual receptors has an anthropocentric (human) basis. It considers factors such as the perceived quality and values associated with the view, the landscape context of the viewer, the likely activity they are engaged in and whether this heightens their awareness of the surrounding landscape. A list of the factors considered by the assessor in estimating the level of sensitivity for a particular visual receptor is outlined below to establish visual receptor sensitivity at each VRP:

Susceptibility of Receptors

In accordance with the Institute of Environmental Management and Assessment ("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 focussed on the landscape and on particular views;*
- *Visitors to heritage assets, or to other attractions, where views of the surroundings are an important contributor to the experience;*
- *Communities where views contribute to the landscape setting enjoyed by residents in the area;*
- *Travellers on road rail or other transport routes where such travel involves recognised scenic routes and awareness of views is likely to be heightened".*

Visual receptors that are less susceptible to changes in views and visual amenity include:

- *"People engaged in outdoor sport or recreation, which does not involve or depend upon appreciation of views of the landscape;*
- *People at their place of work whose attention may be focussed on their work or activity, not their surroundings and where the setting is not important to the quality of working life".*

Values 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 Developments Plans, for example, a public consultation process is required.

Views from within highly sensitive townscape areas. These are likely to be in the form of Architectural Conservation Areas, which are incorporated within the Development Plan and therefore subject to the public consultation process. Viewers within such areas are likely to be highly attuned to the townscape around them.

Primary views from residential receptors. Even within a dynamic city context, views from residential properties are an important consideration in respect of residential amenity.

Intensity of use, popularity. This relates to the number of viewers likely to experience a view on a regular basis and whether this is significant at a national or regional scale.

Viewer connection with the townscape. This considers whether or not receptors are likely to be highly attuned to views of the townscape i.e. commuters hurriedly driving on busy roads versus tourists focussed on the character and detail of the townscape.

Provision of vast, elevated panoramic views. This relates to the extent of the view on offer and the tendency for receptors to become more attuned to the surrounding landscape at locations that afford broad vistas;

Sense of remoteness and/or tranquillity. Receptors taking in a remote and tranquil scene, which is likely to be fairly static, are likely to be more receptive to changes in the view than those taking in the view of a busy street scene, for example.

Degree of perceived naturalness. Where a view is valued for the sense of naturalness of the surrounding landscape it is likely to be highly sensitive to visual intrusion by distinctly manmade features.

Presence of striking or noteworthy features. A view might be strongly valued because it contains a distinctive and memorable landscape / townscape feature such as a cathedral or castle.

Historical, cultural and / or spiritual significance. Such attributes may be evident or sensed by receptors at certain viewing locations, which may attract visitors for the purposes of contemplation or reflection heightening the sense of their surroundings.

Rarity or uniqueness of the view. This might include the noteworthy representativeness of a certain townscape type and considers whether the receptor could take in similar views anywhere in the broader region or the country.

Integrity of the townscape character. This looks at the condition and intactness of the townscape in view and whether the townscape pattern is a regular one of few strongly related components or an irregular one containing a variety of disparate components;

Sense of place. This considers whether there is special sense of wholeness and harmony at the viewing location.

Sense of awe. This considers whether the view inspires an overwhelming sense of scale or the power of nature.

Those locations which are deemed to satisfy many of the above criteria are likely to be of higher sensitivity. No relative importance is inferred by the order of listing. Overall sensitivity may be a result of a number of these factors or, alternatively, a strong association with one or two in particular. Visual sensitivity classification includes the same categories used throughout this assessment in respect of the sensitivity of receptors and magnitude of effects i.e. Very High; High; Medium; Low; and, Negligible.

Visual Impact Magnitude

The visual impact magnitude relates to the scale and nature of the visual change brought about by the proposal and this is reflected in the criteria contained in Table 10.4 below.

Table 10.4: Magnitude of Visual Impacts

Criteria	Description
Very High	The proposal alters or obstructs a large proportion or critical part of the available vista and is, without question, the most distinctive element. A high degree of visual change is generated, directly and strongly altering the visual amenity of the scene.
High	The proposal alters a substantial proportion or important part of the available vista and is one of the most noticeable elements. A considerable degree of visual change is generated that directly influences the visual amenity of the scene.
Medium	The proposal represents a modest alteration to the available vista, introducing a distinguishable degree of visual change that directly influences the visual amenity of the scene.
Low	The proposal alters the available vista to a minor extent and may not be noticed by a casual observer and/or 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 would have an immaterial effect on the visual amenity of the scene.

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 and applies the same EPA definitions of significance as used earlier in respect of townscape impacts (**Table 10.3** refers).

Quality and Timescale of Effects

In addition to assessing the significance of landscape effects and visual effects, EPA Guidance for EIAs requires that the quality of the effects is also determined. This could be negative/adverse, neutral, or positive/beneficial.

Landscape and Visual effects are also categorised according to their longevity or timescale:

- 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.

10.2.5 Study Area

The EIA project area, defined in Figure 10.1 below, is referred to under the heading ‘Site and Immediate Vicinity’. However, the LVIA study area also includes part of the wider landscape approximately 5 kilometres radius from the existing quarry site.

Figure 10-1: Project Boundary

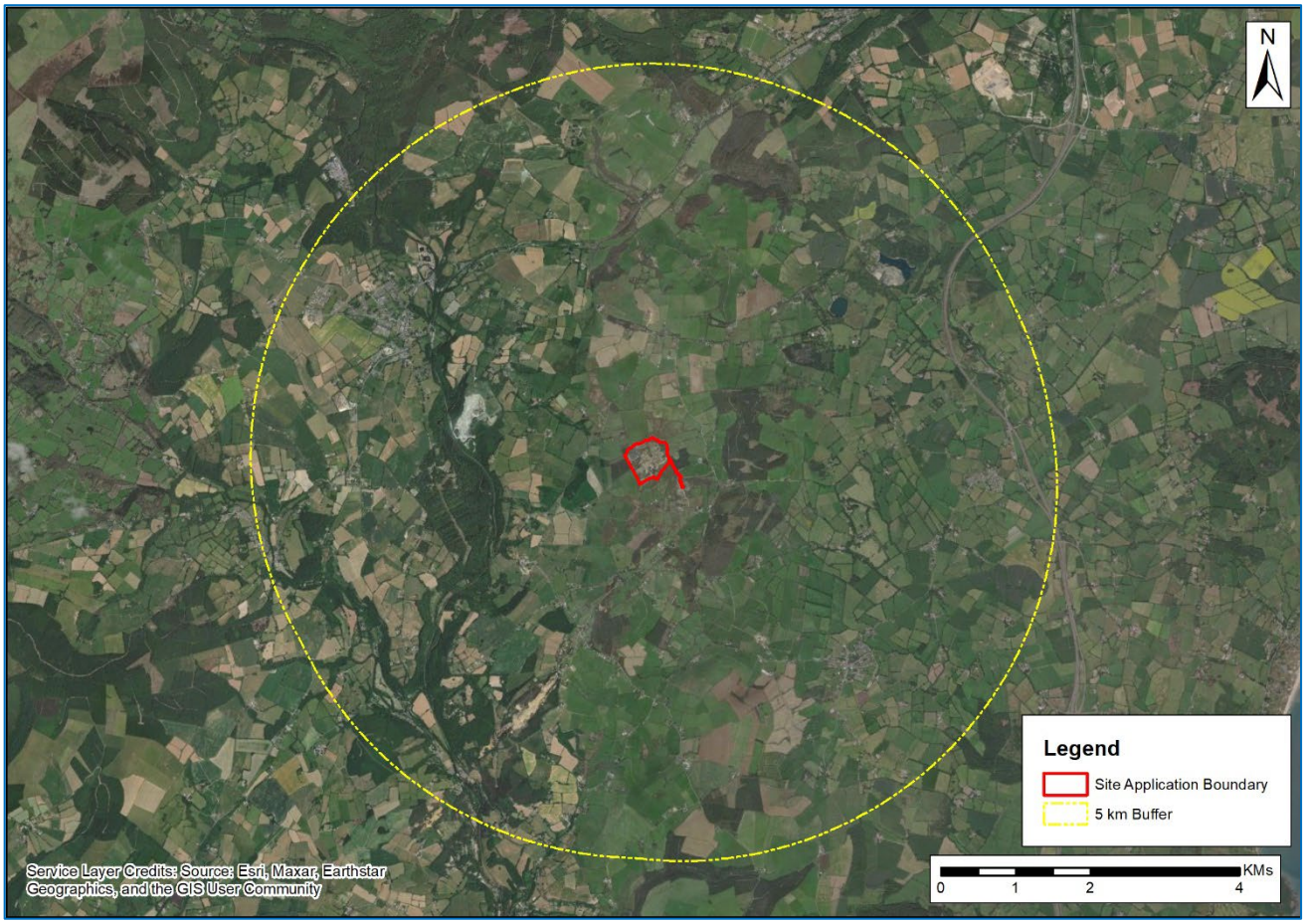


Figure 10-2: rLVIA Study Area

10.2.6 Limitations

This chapter uses a baseline data of ca. 1990, and while images, maps and documents all provide data, the description of landscape character and views/visual amenity is general and high-level, as one has to interpret the data in order to describe the context at that time. It is not possible to give an exact description of a landscape in the past but rather an informed opinion based on available data. Historic development plans which would have been in effect at the time of the baseline date (1990) were not available online. However, some Development Plans from 2004 onwards are available and are briefly reviewed in Section 10.3.1.

In relation to the assessment of visual effects, the viewpoints are included to assist in determining the magnitude of change, and ultimately, significance of effect. However, as there is not photographic evidence from the intervening years, the description should be taken as a general comment on the major changes which have taken place as a result of the quarry development. It has not been possible to identify and date every element in the view.

10.3 Receiving Environment

This section sets out the character of the baseline (ca.1990) landscape by starting with a description of the present-day characteristics, and then a description of the changes which are likely to have occurred between 1990 and the present day.

10.3.1 Planning Policy

The Wicklow County Development Plan 2016-2022 is the current plan, but there is a Draft 2022-2028 Plan yet to be adopted. There are also historic County Development Plans available on-line dating back to 1989 and therefore the full period of time being considered in this rEIAR. The current plan will be considered in the first instance and then a comparison will be made with historic plans and the draft plan to examine how landscape and visual policy has altered over the period 1990 to present and thereby and changes to landscape value.

10.3.1.1 Wicklow County Development Plan 2016-2022

10.3.1.1.1 Land Use Zoning and Objectives

As noted in Chapter 2, the rEIAR is retrospective in description of development and context and therefore a review of previous Development Plans from baseline has been undertaken.

The current 2016 – 2022 Wicklow County Development Plan includes a Landscape Character Assessment, which identifies the different landscape categories, areas of high amenity, and sensitivity ratings of the landscapes across the county. The site is located within the 'South East Mountain Lowlands' landscape area, which is an Area of Special Amenity (ASA). Areas of Special Amenity are second only to the Areas of Outstanding Natural Beauty (AONB) in terms of the vulnerability class. The hierarchy of landscapes within County Wicklow is divided into 6 categories. These are:

(1) Mountain and Lakeshore AONB (Very High Vulnerability)

(2) Coastal Areas AONB (Very High Vulnerability)

(3) Areas of High Amenity (High Vulnerability)

(4) Corridor Area (Medium Vulnerability)

(5) Lowlands (Medium Vulnerability)

(6) Urban Area (Low Vulnerability)

The 'South East Mountain Lowlands' are described as; *"Transitional undulating lands bordering the Area of Outstanding Natural Beauty and surrounding the distinctive features of the Vale of Avoca, lands surrounding the village of Avoca, the Aughrim River Valley, a number of views and prospects and significant cultural heritage in the form of the Avoca Mines County Geological Site and Avondale House"*.

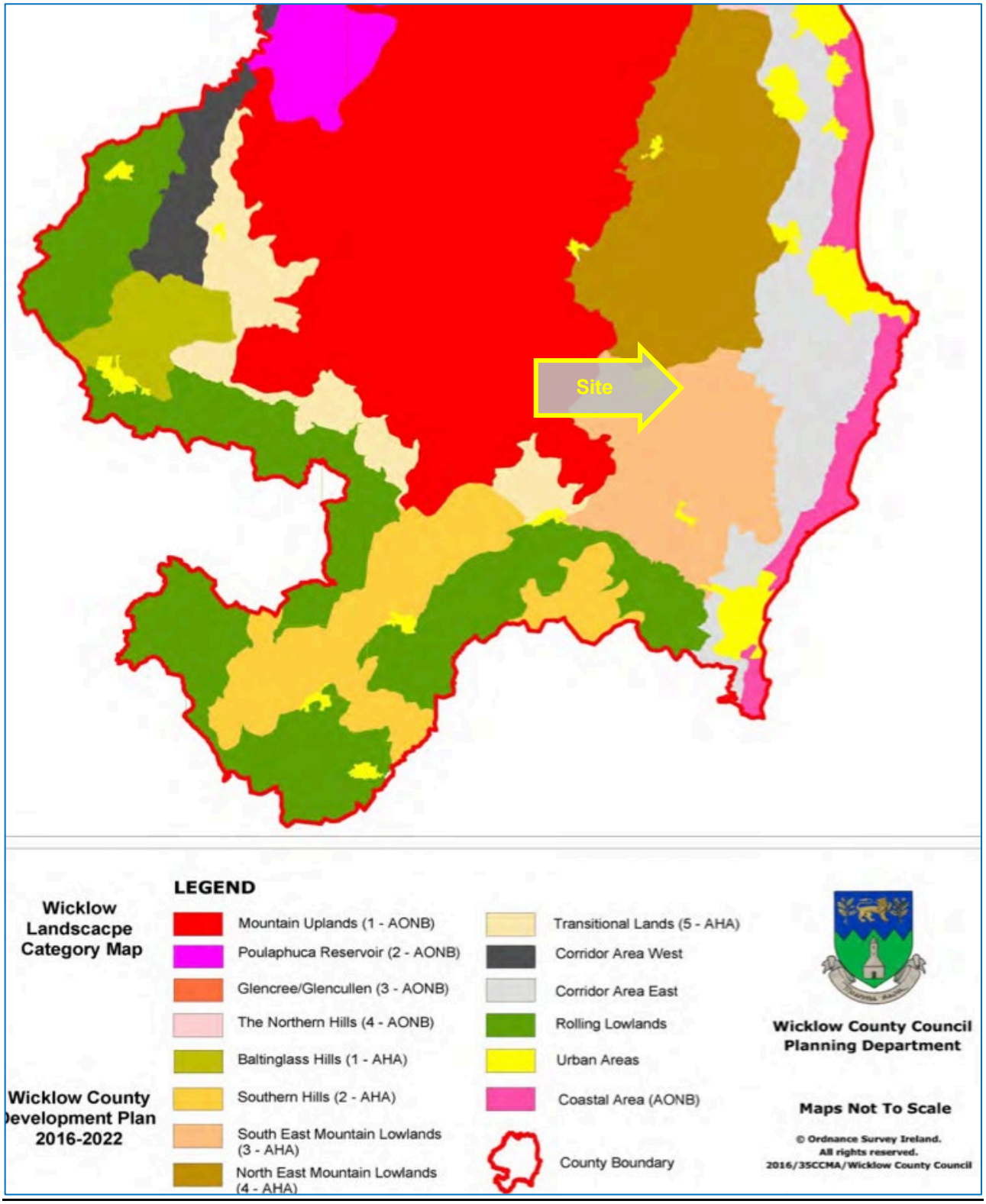


Figure 10-3: Landscape Category Map

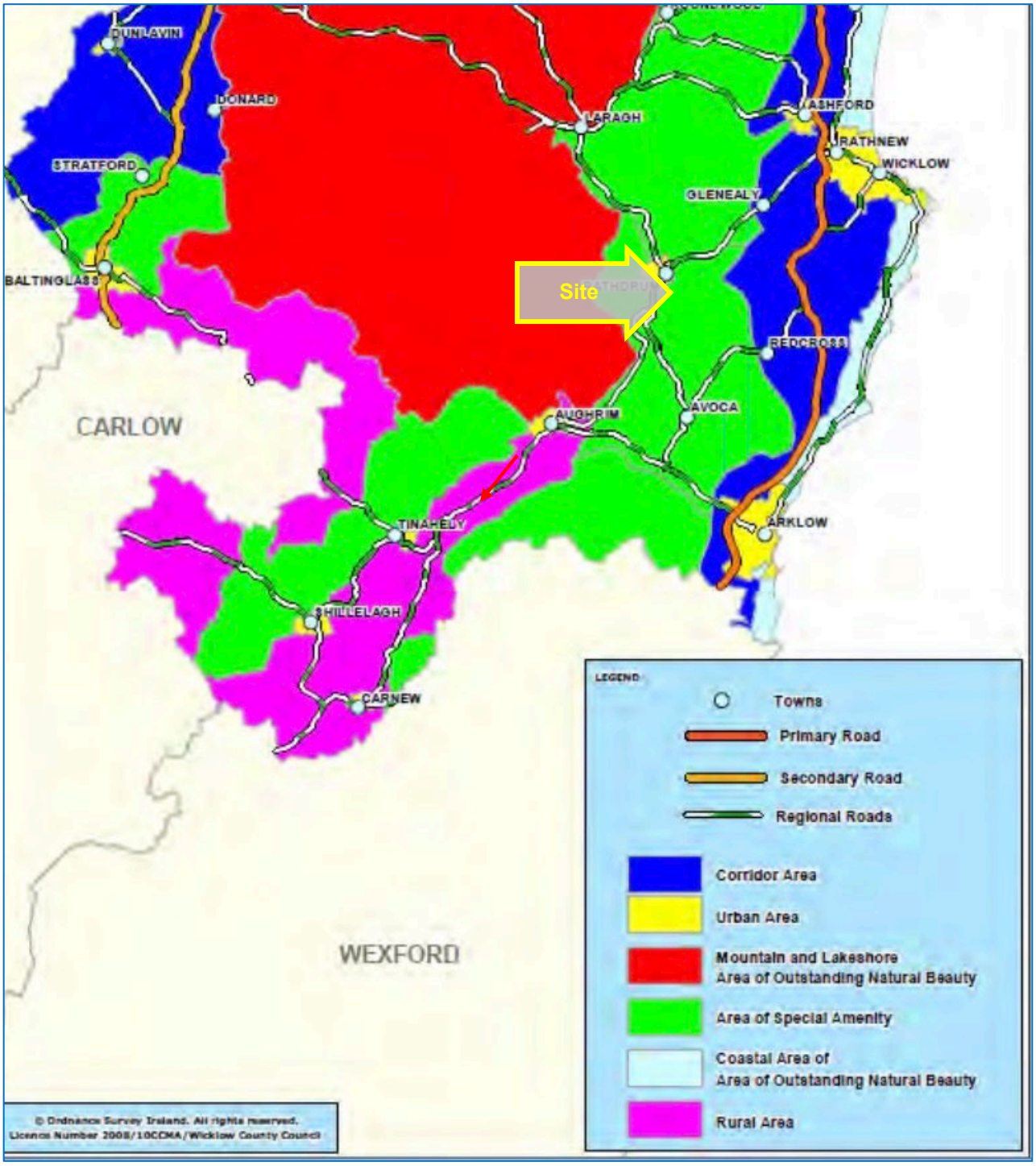


Figure 10-4: Landscape Classification Map

A much finer grain of landscape sensitivity has also been incorporated into the Wicklow landscape Character Assessment that appears to have been derived from land cover mapping. Within this sensitivity mapping the site appears to be contained predominantly within Medium to Low sensitivity area.

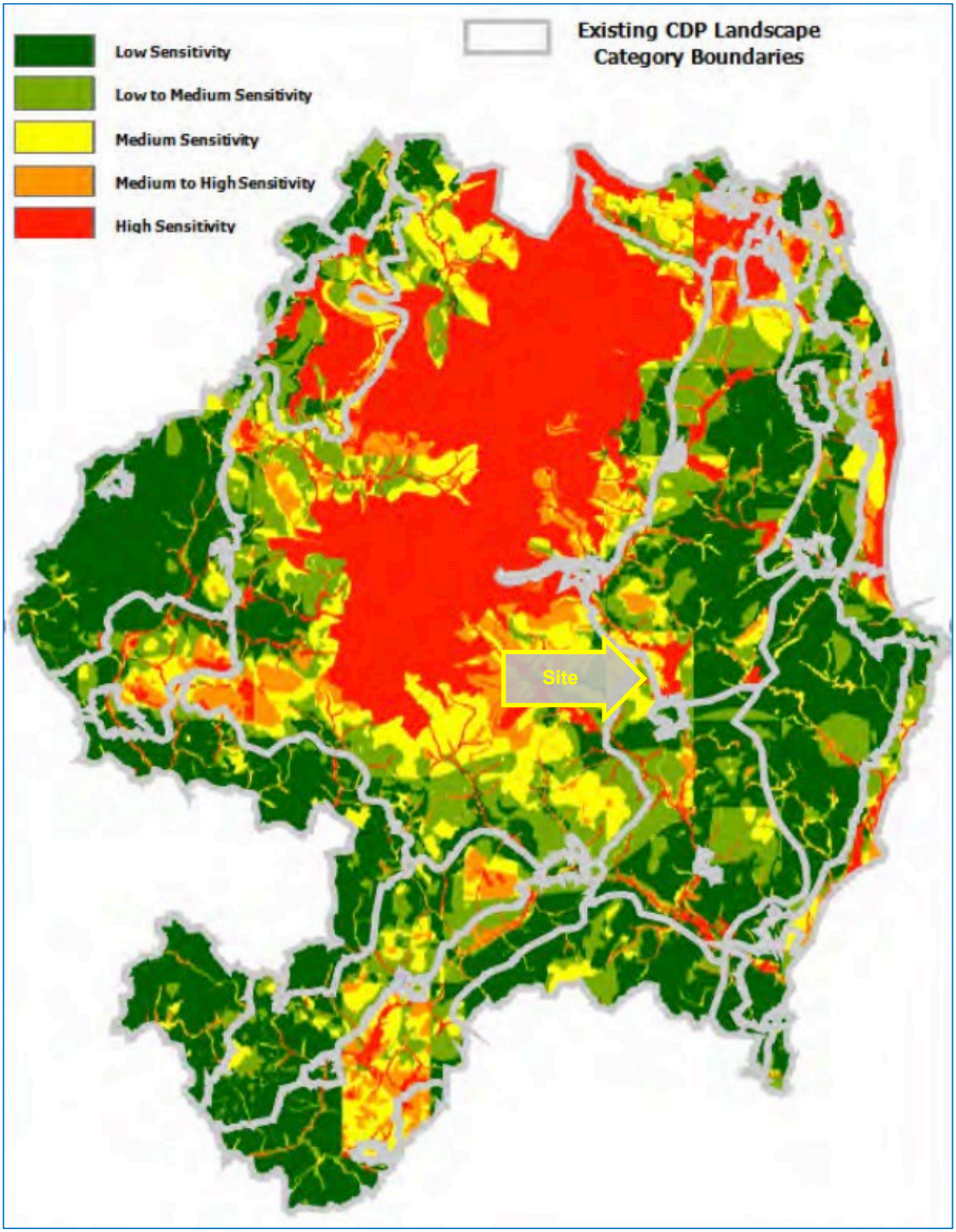


Figure 10-5: Landscape Sensitivity Map (Wicklow Landscape Character Assessment)

Chapter 10 of the current Wicklow CDP includes objectives relating to Landscape and the most relevant to this assessment include:

> ***NH49*** *- All development proposals shall have regard to the County landscape classification hierarchy in particular the key landscape features and characteristics identified in the Wicklow Landscape Assessment (set in Volume 3 of this plan) and the 'Key Development Considerations' set out for each landscape area set out in Section 5 of the Wicklow Landscape Assessment.*
>
> ***NH51*** *- To resist development that would significantly or unnecessarily alter the natural landscape and topography, including land infilling / reclamation projects or projects involving significant landscape remodelling, unless it can be demonstrated that the development would enhance the landscape and / or not give rise to adverse impacts.*

10.3.1.1.2 Views and Prospects

The Wicklow County Development Plan contains mapping and schedules of both designated scenic views and prospects (routes). The relevant scenic views for the rEIAR development are View 19 and View 20 and the relevant scenic route is prospect 37.

19	L6154 and Mottee Stone Connery, Avoca	View of Surrounding Mottee Stone to North East and South
20	L2167 Kilmacoo, Parnell Drive	View of valley and towards Kilmacrea Pass

Figure 10-6: Designated Scenic Views (Wicklow County Development Plan)

Figure 10-7: Designated Scenic Prospects (Wicklow County Development Plan)

The relevant objective for views and prospects in the Wicklow CDP is;

> ***NH52*** *- To protect listed views and prospects from development that would either obstruct the view / prospect from the identified vantage point or form an obtrusive or incongruous feature in that view / prospect. Due regard will be paid in assessing development applications to the span and scope of the view / prospect and the location of the development within that view / prospect*

10.3.1.2 Previous County Development Plans

2010 – 2016 CDP

As can be expected of the most recent CDP, the scenic views and designations are consistent with the 2016 iteration. The details of these can be found in Volume 2 of the CDP, with views listed in Schedule 17.8, and mapped on 17.10, while the prospects are listed in schedule 17.9 and map 17.11. The classification map is also consistent with the 2016 iteration and shown on map 17.09.

2004 – 2010 CDP

The scenic views and designations are consistent with the 2016 iteration, however they are listed in the main report and renumbered as follows:

Designated Scenic Views 2016 (Schedule 17.8 2016 CDP)	**'Views Of Special Amenity Value of Special Interest' (Schedule 10.6 2004 CDP)**
19	22
20	23
Designated Prospects 2016 (Schedule 17.9 2016 CDP)	**'Prospects Of Special Amenity Value of Special Interest' (Schedule 10.7 2004 CDP)**
37	36

The classification map is also consistent with the 2016 iteration, with the minor difference being that the 2016 version differentiates between coastal AONB and Mountain AONB, whereas the 2004 groups them as Area of Outstanding Natural Beauty. Additionally, within Schedule 10.1 Landscape Zones and Categories, there is a 'vulnerability' applied to each landscape zone. The site is located within the 'Area of Special Amenity' (which corresponds with the 2016 'Areas of High Amenity'), and is rated High Vulnerability – which also corresponds with the 2016 iteration. Overall, aside from minor renaming's, the essence/intent of the CDPs are consistent.

1999 – 2004 CDP

Within the written statement of the 1999 CDP, 'Table 1.2 Landscape Zones and Categories' lists the same landscape zones, categories, and vulnerability rating as 2004/outlined above. The scenic views and designations are consistent with the 2016 iteration, however they are listed in the main report and renumbered as follows (consistent with 2004 iteration):

Designated Scenic Views 2016 (Schedule 17.8 2016 CDP)	**'Views Of Special Amenity Value of Special Interest' (Schedule 3, Map 6D 1999 CDP)**
19	22
20	23
Designated Prospects 2016 (Schedule 17.9 2016 CDP)	**'Prospects Of Special Amenity Value of Special Interest' (Schedule 4, Map 7D 1999 CDP)**
37	36

1989 – 1999 CDP

Landscape Areas are grouped into three classes of descending order of importance, as outlined in table 14. These are A: 'Areas of Outstanding Natural Beauty, B: 'Areas of Scenic Importance' and C: 'Other rural mountain areas of amenity value'. This differs from the subsequent (chronologically, not as listed here) reports as it does not follow the categorisation, zones and vulnerability which are identified in the latter iterations. However, a similar hierarchy appears to be used, with the upland and coastal areas being most valued, followed by the northeast coastal area between Greystones and Wicklow town, and finally, 'other rural and mountain areas of amenity value'.

Designated Scenic Views 2016 (Schedule 17.8 2016 CDP)	'Views Of Special Amenity Value of Special Interest' (Schedule 3, Map 6D 1999 CDP)
19	74 'Panoramic views from the Motte Stone to the northwest'
20	N/A

Overall, aside from minor renaming's, the essence/intent of the previous CDPs are consistent with that shown in the 2016 – 2022/current CDP.

10.3.2 Landscape Character

Landscape character is described in terms of drainage and landform, land use and landcover for both the site and its immediate surrounds as well as for the wider landscape. While the WCC Assessment describes the landscape character, sensitivity and value at a wider scale, a more detailed assessment is carried out in this section to assess the character of the site and surrounds at a more granular level. The present-day landscape is described first followed by consideration of changes that are likely to have occurred over the rEIAR period since 1990.

10.3.2.1 Site and Immediate Surrounds (Present-day)

In terms of landform and drainage the quarry is contained in a subtle depression within an elevated plateau area of gently rolling terrain. There is a small stream that circulates the site around its northern and eastern quarters and the land rises eastwards towards hills at Bolagh to the east and Ballybarny to the south. The terrain rises more subtly to the north and west.

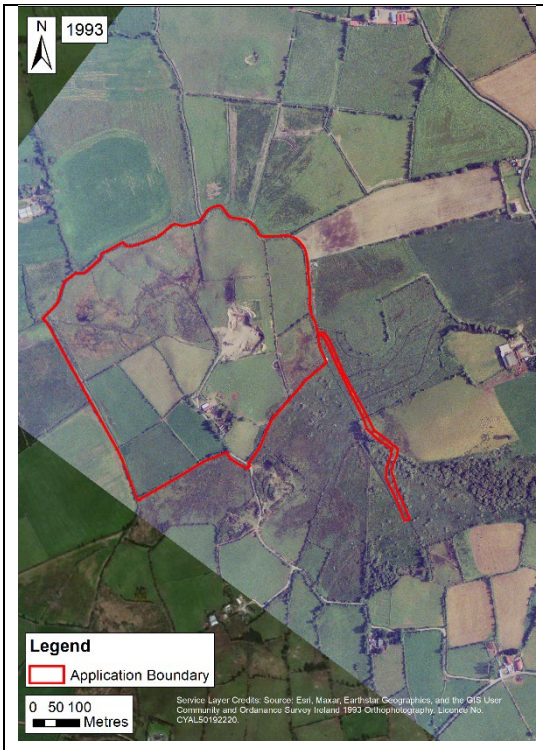
In terms of land use and land cover, the site is currently a substantial quarry operation with internal processing plant stockpiling of materials with open void areas and regenerating scrub and ponds in exploited areas. It is surrounded by scrubby woodland and hedgerows to the north and south and also has blocks of conifer plantation adjacent to both the east, west and south. Whilst the farmland adjacent to the site boundaries tends to be marginal and scrubby in nature, it quickly becomes more productive on the gentle slopes that rise around the quarry and is contained in a mix of pasture and tillage. Fields tend to be large and geometric to the north of the site where they are defined by low clipped hedgerows and tree-lined hedgerows. An area to the south of the quarry is a departure from this pattern with smaller and more enclosed fields.

The rural area is dotted with farmsteads and rural dwellings, but is generally sparsely populated, and the overall character is one of diverse, but familiar forms of rural productivity in a relatively tranquil and scenic area.

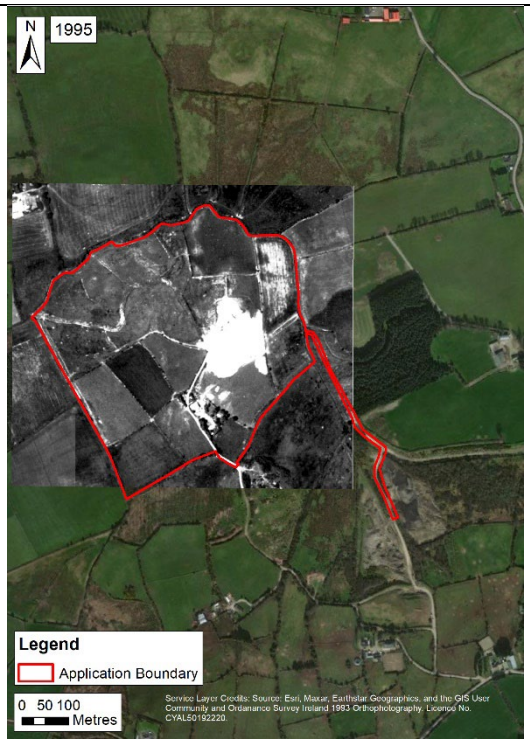
10.3.2.2 Site and Immediate Surrounds (Since 1990)

The quarry area has increased in size since 1990 from 0.75ha up to 23.7ha and it is a much more substantial scale void than it was at that time and with a stronger influence on the land use fabric and therefore landscape character than it was at that time. This is an increase in influence that has emerged gradually over 32 years and at a location where a quarry has been an influence on landscape character since at least the 1940s. The terrain and drainage around the site has not changed in any material way during the rEIAR period.

Land cover has changed slightly, but in the manner of an evolving rural area that passes from one familiar land use to another in rotation i.e. there are small patches of commercial conifer plantation to the east west and south, which were still in marginal farmland / scrub in 1990, but have been planted since. Although the granularity of earlier aerial photography can be influential, it would also appear that the farmed areas are generally in higher quality pasture at present than they were through the intervening period whether due to more intensive farming practices. The progressive extension of the quarry since 1990 is presented in the sequence of figures below.



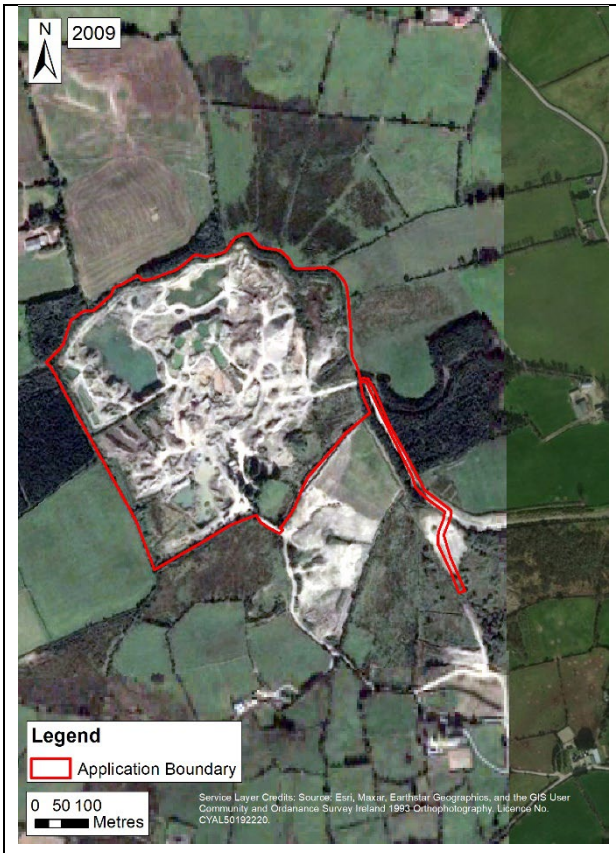
Aerial photography of site and surrounds 1993



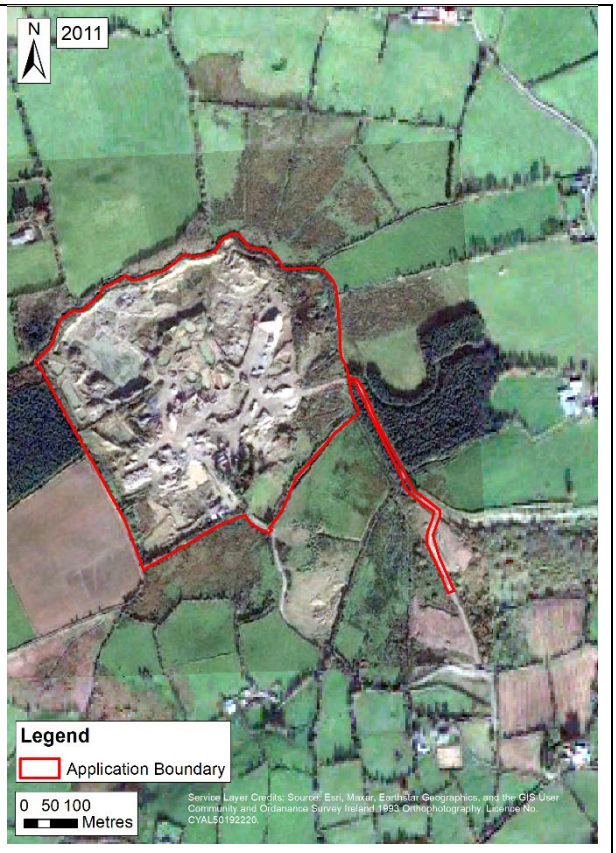
Aerial photography of site and surrounds 1995

Aerial photography of site and surrounds 2000

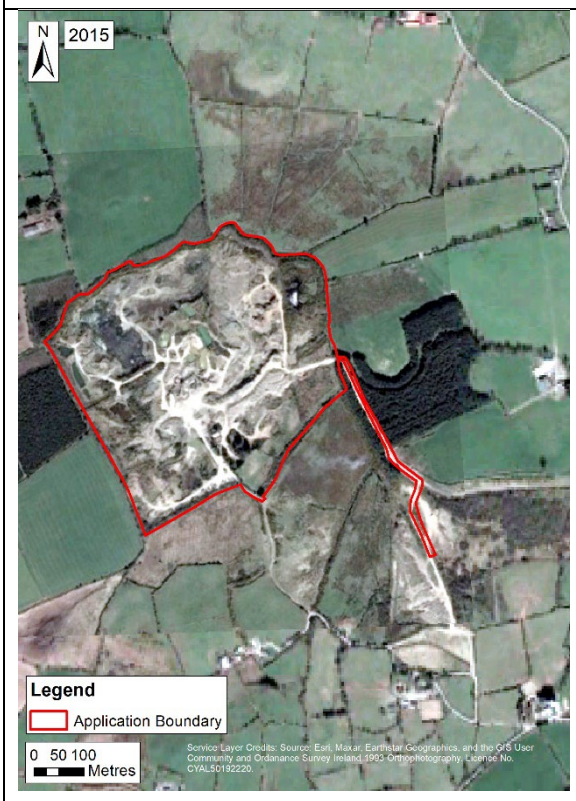
Aerial photography of site and surrounds 2004



Aerial photography of site and surrounds 2009



Aerial photography of site and surrounds 2011



Aerial photography of site and surrounds 2015

Aerial photography of site and surrounds 2021

Figure 10-8: Sequence of Quarry Expansion 1993 - 2021

What is most apparent from the sequence of aerial photographs in Figure 10.8 is that the most rapid expansion of the quarry occurred in the early 2000s during the height of the Celtic Tiger years when construction work and therefore the demand for building materials was at a peak. During the subsequent recession years from c.2008 to 2013 quarry expansion was less dramatic. Also apparent is the increase in commercial forest plantations that surround the site to the east and west.

10.3.2.3 Wider Study Area (Present-day)

The wider study area consists of a variety of rural based land uses and service centres. The land use / land cover is predominantly patchwork farmland contained in both pasture and tillage. Field patterns are geometric but range in size throughout the study area. Around the quarry site, the land use and field sizes tend to be quite extensive, whereas to the south and east, particularly around Redcross the fields appear much smaller and more intensively managed.

There is a band of substantial scale commercial conifer blocks that hug higher ground to the southwest of the site and runs in a northeast / southwest direction across the study area. Another notable band of commercial forestry hugs the corridor of the Avonmore River, which runs in a north / south direction across the western side of the study area. This is regularly and seamlessly interspersed with more naturalistic riparian woodland and together these areas serve a recreational function for walking and picnics (Vale of Clara and Avondale Forest Park). Other notable forest / woodland areas that couple as recreational areas include the National Botanic Gardens at Killmacurragh just over 2km from the quarry site but in a separate physical / visual catchment and Deputy's Pass near the northern periphery of the study area.

The main notable areas of urban land cover and are the settlements of Rathdrum, in the northwest, and Redcross in the southeast, of the study area. A reasonable scattering of farmsteads and rural residences occur throughout the study area and whilst many of these are in the hinterlands of Rathdrum and Redcross, others tend to hug the network of local roads that criss-cross the study area. There are several other quarries contained within the study area and the most notable of these occur around 1.8km to the northwest of the site and around 3.5km to the northeast.

10.3.2.4 Wider Study Area (Since 1990)

Based on Google Earth aerial photography captured at increments since 1990, the wider study area does not appear to have changed markedly in terms of land cover and therefore landscape character. Similar to the subject quarry which has expanded substantially over that period, the other quarry around 1.8km to the northeast near the Avonmore River has increased in scale at a similar rate. The other noteable quarry to the northeast does not appear to have increased in area to any significant degree of the same period.

There is an increased number of rural residences within the study area generally and this was also evident during fieldwork (i.e. the notable presence of modern dwellings). Although some of these are in relatively close proximity to the site, most are concentrated around the small settlement of Conary to the southwest and the larger settlement of Rathdrum to the northwest.

10.3.3 Visual Receptors

Visual receptors with the most potential to have been impacted by the expansion of the quarry since 1990 are local residents with views over the basin containing the quarry and roads users of the local road network that circulate the quarry. Whilst there are other sensitive receptor locations within the wider study area including the national Botanic Gardens at Killmacurragh, Avondale Forest Park and the settlements of Conary, Redcross and Rathdrum, due to terrain and vegetation screening coupled with substantial viewing distances, there is no material intervisibility. 'Parnell's Drive' is a sign-posted heritage / scenic driving route that passes over the elevated (forested) ridge to the southeast of the quarry.

A total of eight viewpoints were captured during fieldwork representing local receptors around the quarry. These will be used for the visual impact assessment and are shown on the viewpoint map below.

Figure 10-9: VP Location Map

10.4 Development which has Occurred

The lands subject of this rEIAR (the Project Site) extend to ca. 23.7 ha and reflect the historic operational site area including the extractable area declared under S.261 quarry registration in 2005. The quarry extraction area that makes up the application for the substitute consent planning unit currently extends to ca. 20.16 ha. This has extended in a relatively shallow fashion from an area of c. 0.75ha in 1990, with average working depth is 124m AOD at baseline. The year-on-year variation in volumes of material extracted can be found in Table 2.2 of the Project Description Chapter. Access to the quarry is provided by way of a local road and that diverges as two access tracks from the public road network to the southeast and line the southern and southeaster boundaries of the site respectively.

10.5 Assessment of Effects

10.5.1 Landscape Effects

10.5.1.1 Landscape Sensitivity

10.5.1.1.1 Site and Immediate Vicinity

The site and its immediate surrounds are strongly influenced by the existing quarry which has expanded considerably over the rEIA period. Commercial conifer plantations are also more prevalent and together with the increased quarry area, represent a departure from the more traditional pastoral aesthetic of patchwork farmland. Whereas the immediate site area might originally have been considered patchwork farmland containing a quarry and occasional blocks of commercial conifer plantation, it is now defined more equally by the three productive rural land uses. Notwithstanding, the high-level Wicklow Landscape Character Assessment designations, which are not particularly suited to a finer grained site level consideration of landscape sensitivity, the current landscape sensitivity is deemed to be Low. Based on the factors outlined above this may have been deemed Medium-low in 1990, but would still have been influenced by an existing quarry.

10.5.1.1.2 Wider Landscape

In the context of the wider study area, where the quarry represents a smaller and less influential feature of the overall landscape fabric, the high-level designations of the Wicklow Landscape Character assessment are more applicable. In this case the site is contained within a broad 'Area of Special Amenity', which is a median transitional classification between the highly sensitivity Mountain Area of outstanding Natural Beauty' and the less sensitive Corridor Area landscape. It is also shown on the landscape sensitivity map to be in an area typified by Medium to low sensitivity. On balance of the scenic amenity of the rolling patchwork farmland and wooded areas of this upland rural area with its values steeped in the sustaining the rural economy, the sensitivity of the landscape within the wider study area is deemed to be Medium. Furthermore, this level of sensitivity is not considered to have changed materially since 1990.

10.5.1.1.3 Effects which have Occurred – Site and Immediate Vicinity

10.5.1.1.4 Magnitude of Change

The magnitude of change which has occurred at a local level relates primarily to the local landscape fabric, which has undergone a High magnitude of change.

The extent of the expansion is approximately twenty times that of the baseline size of the quarry and has enveloped fields and hedgerows as well as scrubby areas if rough grazing. The change has also resulted in the removal of parts of the field pattern and field boundary vegetation thereby altering the patchwork farmland character of the immediate context.

The changes to the landscape character are not considered to be as pronounced as changes to the physical landscape fabric, as the quarry is not an overtly visible feature within even the local landscape. Overall, the magnitude of landscape impact in the immediate context is deemed to be High.

10.5.1.1.5 Significance of Effect

At the localised landscape scale, the landscape effect is considered **Moderate** on the basis of a Low degree of landscape sensitivity weighed against a High magnitude of landscape change.

10.5.1.2 Effects which have Occurred – Wider Landscape.

10.5.1.2.1 Magnitude of Change

The magnitude of change which has occurred at the wider landscape scale relates primarily to the landscape character (as opposed to physical effects).

At the 1990 baseline the quarry is likely to have registered as a very small scale and discretely located feature that would have little effect on the prevailing landscape character. At this broader level, the landscape would have read as a rolling pastoral landscape with occasional variant features such as woodlands, conifer plantations and quarries. Consequently, the quarry would not have had a material impact on the broader landscape character of the study area. However, despite having increased to approximately 20 times the extent, it is still not a strongly influential feature in the context of the wider landscape. It is contained in the base of a depression, is a shallow excavation and is relatively well screened or at least obscured by surrounding vegetation patterns. Unlike the site and its immediate context, the wider study area can still be classed as predominantly rolling patchwork farmland containing occasional variant rural land uses.

For the reasons outline above, the magnitude of landscape impact for the wider study area is deemed to be Low-negligible.

10.5.1.2.2 Significance of Effect

At the localised landscape scale, the landscape effect is considered **Slight-imperceptible** on the basis of a Medium degree of landscape sensitivity weighed against a Low-negligible magnitude of landscape change.

10.5.1.3 Effects which are Occurring

10.5.1.3.1 Magnitude of Change

In the context of the current quarry, the works that are ongoing are a continuation of quarrying processes that have been ongoing for over 80 years. Whilst these processes have resulted in the quarry expanding over time and particularly since 1990, the rate of change to the landscape is still very gradual. It is not considered that the effects that are currently occurring are resulting in a notable change to the established landscape character. However, the movement of machinery on site and vehicles to and from site, coupled with the generation of dust from quarrying activities are a reminder that this is an intensive productive enterprise that contributes to the working character of the area.

Overall, the ongoing quarrying activity is considered to result in a Low magnitude of change to the site and its immediate context.

10.5.1.3.2 Significance of Effect

The significance of ongoing effects is considered **Slight-imperceptible** in the context of the established quarry and these do not extend beyond the immediate site context where the daily quarrying activities are less noticeable.

10.5.2 Visual Effects

10.5.2.1 Effects which have Occurred

10.5.2.1.1 Visual Receptor Sensitivity

The sensitivity of visual receptors does not range widely across the study area and particularly that part of it that affords views of the quarry as they are generally contained within the same basin landscape context. Views tend to be across a pleasant rural landscape setting of rolling fields and forestry and there is a degree of rural tranquillity. However, the views also consist of a typical productive landscape setting rather than a particularly distinct or naturalistic one. The elevation and vastness of views is a differentiating factor and those areas that afford broad vistas such as the elevated ground to the southwest are represented by designated scenic prospects in the Wicklow County Development Plan. Such views are considered to be of a High-medium sensitivity on balance of the fact that they are extensive, but still consist of a working rural landscape. Non-designated views of local receptors that are broad and pleasant are likely to be attributed Medium sensitivity, whereas those receptors with views that are not particularly broad or distinctive are likely to be assigned Medium-low sensitivity.

Table 10.5: Viewpoint Locations

Viewpoint	Description
1	Local Road at Killmacurragh
2	Local Road at Rockstown
3	Cross Roads settlement of Conary (Designated View)
4	Local road northeast of Conary (Designated View)
5	Local Road between Conary and Kilmacrea (Designated View)
6	Local Road at kilmacrea (Designated View)
7	Local laneway south of site
8	Local Road at Bolagh (east of Site)
9	Local Road at Bolagh (northeast of Site)

10.5.2.1.2 Viewpoint Assessment

The viewpoints are described below, under the headings 'Existing view', 'Visual Receptor Sensitivity', Magnitude of Change' (which has occurred) and the 'Significance of Effect'.

Viewpoint 1 – Local Road at Killmacurragh

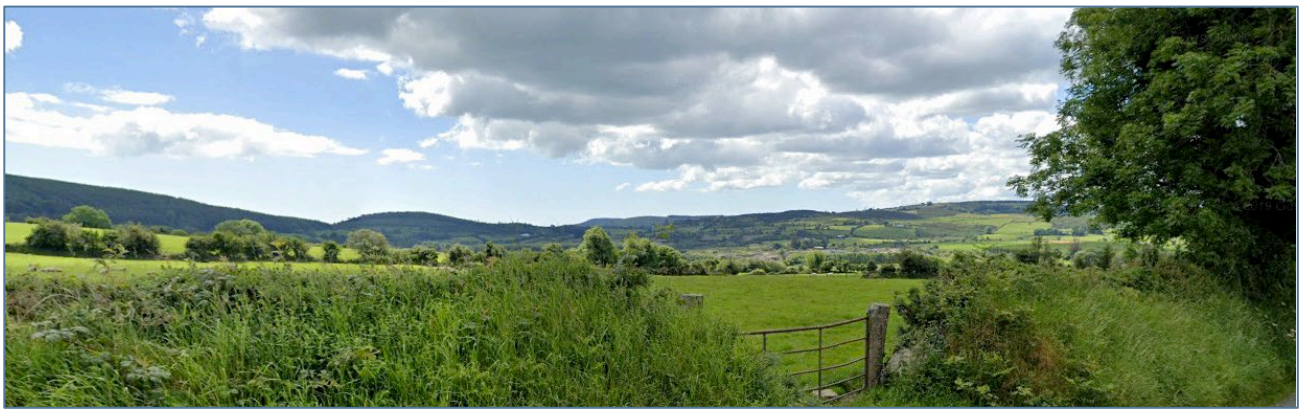


Figure 10-10: Viewpoint 1

Existing View

This is a brief gateway view to the south from an elevated local road that descends to the southwest and hosts a small scattering of rural dwellings and farmsteads. Most other sections of the road or contained by earthen banks and occasional tree. The gateway view is a relatively broad and elevated one taking in a basin of rolling patchwork farmland contained by a low forested ridge just beyond to the southeast. The quarry is discernible at a distance of approximately 1km as an area of hummocky bare ground in the base of the basin that is partially and intermittently screening by intervening vegetation.

Visual Receptor Sensitivity

The visual receptor sensitivity is considered Medium.

Magnitude of Change

Since 1990 the quarry has expanded to the degree that it has become a noticeable, but not prominent feature within the view, whereas it was likely not to have been discernible at all in 1990. Situated approximately 1km away in the base of the basin and partially obscured by vegetation, it does not draw the eye and does not substantively draw from visual amenity at this location. The magnitude of change is therefore considered to be Low.

Significance of Visual Effect

The significance of the visual effect is **Slight.** The quality of the effect is considered adverse and of a long term duration.

Viewpoint 2 – Local Road at Rockstown

Figure 10-11: Viewpoint 2

Existing View

This is a low-lying view at about the same elevation as the quarry which lies around 600m to the east. The view takes in a large arable field in the foreground and then a mixed band of sporadic broadleaf vegetation and a more consolidated block of conifers that cross the middle ground. In combination with a subtle intervening rise in the topography, this vegetation serves to substantially screen views of the quarry just beyond. A low forested ridge contains the easterly view at a modest distance.

Visual Receptor Sensitivity

The visual receptor sensitivity is considered **Medium-low**.

Magnitude of Change

As the existing quarry is not discernible the magnitude of change is **Negligible**:

Significance of Visual Effect

The significance of the visual effect is **Imperceptible**. The quality of the effect is considered Neutral.

Viewpoint 3 – Cross Roads settlement of Conary (Designated View)

Figure 10-12: Viewpoint 3

Existing View

This is a slightly channelled but vast vista to the north from the Cross Roads settlement of Conary, which also hosts the Mottee Stone (heritage feature). Indeed, the Mottee Stone is on the same alignment as this view relative to the quarry site, albeit slightly further away to the southwest. Whilst the vast vista to the north is a rich tepastery of rolling farmland and forestry back by the core of the Wicklow Mountains, the view towards the quarry in truncated in the near distance by a descending spur ridge cloaked in gorse and scrub.

Visual Receptor Sensitivity

The visual receptor sensitivity is considered High-medium

Magnitude of Change

Due to intervening terrain and vegetation, the quarry is not visible from here and thus, the magnitude of change is Negligible:

Significance of Visual Effect

The significance of the visual effect is **Imperceptible.** The quality of the effect is considered Neutral.

Viewpoint 4 – Local Road northeast of Conary (Designated View)

Figure 10-13: Viewpoint 4

Existing View

This is a broad north-easterly view enjoyed by several dwellings that line the downhill side of this local road (designated scenic prospect). There is some screening of the lower-lying middle ground by mixed broad leaf and conifer vegetation in the near distance, but then the view opens up across rolling farmland and forestry with the Wicklow Mountains forming a distant backdrop.

Visual Receptor Sensitivity

The visual receptor sensitivity is considered High-medium.

Magnitude of Change

A minute section of the quarry can be seen between the tops of intervening conifer trees to the northeast, and it is unlikely the quarry would have been visible at all in 1990. However, this is barely discernible and does not detract from the visual amenity provided by the long-distance views further to the north. The magnitude of change is **Negligible**:

Significance of Visual Effect

The significance of the visual effect is **Imperceptible.** The quality of the effect is considered Neutral.

Viewpoint 5 – Local Road between Conary and Kilmacrea (Designated View)

Figure 10-14: Viewpoint 5

Existing View

This is an elevated and extensive view to the north through a gateway between sections of roadside hedgerow that otherwise contain views from this section of road. The backdrop of the view is similar to that for VP3 and VP4, being rolling farmland and distant mountains, but the foreground field includes the foundations of an imminent dwelling. For the time being, the quarry is partially visible in the lower middle ground as a series of scrub covered hummocks and bare-ground areas.

Visual Receptor Sensitivity

The visual receptor sensitivity is considered High-medium.

Magnitude of Change

The quarry is not a particularly noticeable feature in the context of this view, not only because it is substantially screened, but because it lies in a basin to the fore of the main aspect of visual amenity on rising ground beyond. The quarry may not have been a noticeable feature at all in its 1990 baseline scenario. Once the foreground dwelling has been completed, the view from this section of scenic road will be truncated and will instead belong to the occupants of the dwelling. Overall, the magnitude of visual change is deemed to be Low:

Significance of Visual Effect

The significance of the visual effect is **Slight.** The quality of the effect is considered adverse and the duration is long-term.

Viewpoint 6 – Local Road at Kilmacrea (Designated View)

Figure 10-15: Viewpoint 6

Existing View

This view is very close to VP5 and has a similar viewing context beyond the middle ground. The foreground consists of a large pastoral field descending towards two dwellings in the near distance. A tree-lined hedgerow partially screens the quarry from view in the lower middle ground and the screening will be more consolidated in summer months when the trees are in-leaf. The quarry presents as a sequence of bare-ground, spoil heaps and scrub in the base of the basin and some of the machinery is also in view.

Visual Receptor Sensitivity

The visual receptor sensitivity is considered High-medium.

Magnitude of Change

Whilst the 1990 quarry may have been visible from here, it would have been a very small-scale feature that is unlikely to have had any substantive draw from visual amenity. The present-day quarry is a noticeable feature of a working rural landscape in which it is the most intensive land use. However, in its position in the bottom of the basin and substantially screened by intervening vegetation, it is not an overly distinctive or dominating feature and does not obscure longer distance / higher amenity views. Overall, the magnitude of change is deemed to be Medium-low:

Significance of Visual Effect

The significance of the visual effect is **Moderate-slight.** The quality of the effect is considered Adverse and the duration is long-term.

Viewpoint 7 – Local Laneway (South of Site)

Figure 10-16: Viewpoint 7

Existing View

Whilst this view is from a narrow laneway off the local road scenic designation to the southeast, it has many of the same qualities. These include an open, elevated view across rolling fields, woodland patches and forestry plantations towards the distant Wicklow Mountains. It also affords some of the clearest and closet views over the quarry in the lower middle ground. The quarry is substantially visible from here as a series of spoil heaps scrubland and bare ground with quarry plant and machinery contained in the latter. It is flanked on either side by conifer plantations

Visual Receptor Sensitivity

The visual receptor sensitivity is considered Medium.

Magnitude of Change

The 1990 quarry would have been visible from here but as a substantially smaller operation that had less influence on the character of the landscape in view. However, despite being openly visible at a distance of 750m the current quarry is contained in a low-lying section of the landscape where its perimeter scrubland merges with surrounding hedgerows and forest plantations in a subtle transition. It represents the most intensive land use in view, but amongst other productive rural land uses. Overall, the magnitude of visual change is deemed to be Medium-low:

Significance of Visual Effect

The significance of the visual effect is **Moderate-slight.** The quality of the effect is considered adverse and the duration long-term.

Viewpoint 8 – Local Road at Bolagh (East of Site)

Figure 10-17: Viewpoint 8

Existing View

This is a less elevated view compared to most of the others and is from the local road to the east of the site where an alternative access track to the quarry is provided. The fore-to-middle ground consists of a large, farmed field, woodland scrub and a conifer plantation and there is a low ridge just beyond that frames views towards higher peaks in the Wicklow Mountains in the far distance.

Visual Receptor Sensitivity

The visual receptor sensitivity is considered Medium-low.

Magnitude of Change

Neither the present day quarry nor the 1990 baseline quarry are/would have been visible from here due to intervening vegetation and the access track is no different to any farm track in this rural area. If anything, the 1990 baseline quarry is more likely to have been visible than its present day counterpart due to the establishment of the intervening conifer plantation. Nonetheless, the magnitude of change is deemed to be Negligible:

Significance of Visual Effect

The significance of the visual effect is **Imperceptible.** The quality of the effect is considered Neutral.

Viewpoint 9 – Local Road at Bolagh (Northeast of Site)

Figure 10-18: Viewpoint 9

Existing View

This is a slightly elevated view from near the head of the semi-upland rural valley that contains the quarry at its base. Broad fields of pasture and tillage sweep down towards the quarry in the basin, which is flanked by conifer plantations and has an apron of scrubby vegetation. Patchwork farmland rises on the slopes beyond. This is a relatively open view into the quarry which consists of spoil heaps / stockpiles and scrub patches interspersed with tracks. Processing plants and machinery can be seen in combination with storage sheds.

Visual Receptor Sensitivity

The visual receptor sensitivity is considered Medium.

Magnitude of Change

Whilst the 1990 baseline quarry is likely to have been discernible from here, it would have had little influence on the nature of the view which would have been more wholly dominated by extensive agricultural uses. The present-day quarry is a distinctive but not prominent feature of the overall view and is discreetly contained in the base of the topography. Its scrubby periphery blends readily with the surrounding vegetation patterns and it is not ambiguous in this productive rural scene despite being the most intensive / active form of land use. Overall, the magnitude of visual change is deemed to be Medium-low:

Significance of Visual Effect

The significance of the visual effect is **Moderate-slight.** The quality of the effect is considered Adverse and the duration long-term.

10.5.2.2 Summary of Visual Effects

The visual change imparted by the current quarry has been assessed relative to the likely visual impact of the 1990 baseline quarry using nine viewpoints from within the surrounding area. Despite all of these being within the central study area, not all of them have clear views of even the present-day quarry. Indeed, from six of the nine viewpoints the magnitude of visual change is deemed to be either Slight (VP1 and VP5) or Imperceptible (VP2, VP3, VP4 and VP8). From VP6, VP7 and VP9, which are all located in slightly elevated locations overlooking the quarry from less than 800m the magnitude of visual change is deemed to be Moderate-slight and for similar reasons. The 1990 baseline quarry is likely to have been discernible, but not prominent in the broad views afforded across rolling patchwork farmland backdropped by the distant Wicklow Mountains. Whereas, the considerably larger present day quarry remains a relatively discreet feature within the base of the valley and partially screened / flanked by scrubby woodland and forest plantations. The current quarry is not considered to be an ambiguous feature in this productive landscape despite being the most intensive land use in view and it does not obstruct or unduly intrude on the extensive rural views.

10.5.2.3 Effects which are Occurring

Effects which are occurring are primarily the continuing operations at the quarry including, screening and washing and grading of the stone which involves movement of machinery. The screening process may result in dust which may be visible within the study area and may result in intermittent Slight, adverse visual effects. This represents a continuation of activities which are already ongoing.

10.5.2.4 Cumulative Effects

Cumulative landscape effects can be defined as those which:

'…result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments (associated with or separate to it) or actions that occurred in the past, present or are likely to occur in the foreseeable future' (Landscape Institute and IEMA, 200 quoted in GLVIA 2013).

(It is noted that this development has occurred as opposed to a proposed development as mentioned above however the process is the same).

Since 1990, the only notable change to the landscape that is associated with or similar to the quarry in terms of it scale and nature is the similar expansion of another quarry some 2km to the west within the Avonmore River Valley. Whilst together these two quarries make a slightly greater contribution to the land use fabric of the study area, this does not manifest in an equivalent contribution to landscape character as neither is an overt feature in the landscape and they are not intervisible. For the same reason, their combined contribution to cumulative visual impacts is also Negligible. Overall, is not considered that the expansion of the subject quarry in-combination with the similar expansion of other quarries within the study area results in significant landscape or visual impacts.

10.6 Mitigation

This section refers to mitigation which has been put in place, and also to mitigation measures outlined in the Concept Restoration Plan.

Mitigation measures that have been carried out between 1990-2022 (and evident on the 2021 Aerial image) include:

- Northern Boundary: The existing hedgerow was retained, and additional shelterbelt/hedgerow planting has been carried out to the north of the quarry. Natural regeneration has been allowed along parts of the northern slopes of the quarry;
- Along the Eastern boundary, perimeter fencing is evident while areas of natural regeneration and planting are also visible within the quarry;
- To the South, perimeter fencing and planting and natural regeneration of trees and shrubs are evident in the vicinity of the administration area and yard;
- Along the Western boundary, perimeter fencing has been established and natural hedgerows retained, Dense natural regeneration is established in the northwest corner; and
- Along the site's south eastern boundary, dense forestry has been established.

10.6.1 Additional Mitigation - Concept Restoration Plan

- The Concept Restoration Plan (Drawing in Appendix 10.1) outlines additional measures to assist in assimilating the Development into the landscape and enhancing vegetation cover and biodiversity to offset the effects of the vegetation and habitat loss. New habitat provision under the concept restoration plan will include provisions for trees, hedgerow, and shrub planting over and above the current situation.
- The landscape mitigation and remediation measures will seek to provide additional visual screening of the Development from visual receptors. The landscape proposals will also enhance the biodiversity and ecosystem services delivery of the site in comparison with the surrounding agricultural lands.

Proposed measures include:

- Management/Improvement of the retained site boundary hedgerows and trees: The existing Site boundary hedgerows and trees to be surveyed and appraised in terms of (a) species mix - for biodiversity and maximum screening (height, density of foliage), and (b) intactness/continuity. Generic improvements and spot fixes to be made where required to optimise the health of the hedgerows, their biodiversity value and visual screening function.
- Enhancement of existing boundary screening with native vegetation is proposed and planting should comprise native species of local provenance. Where this is not possible, plants will be selected for their fruit, berry, or nectar bearing qualities. All landscape planting within the Site will be managed for the benefit of wildlife. Any gaps in the boundary vegetation are to be planted with native hedgerows.
- Re-vegetation/colonisation of the northern slope: In accordance with current best practice recommendations the areas between the existing excavation and the northern slope will be allowed to re-vegetate/colonise naturally. This results in greater biodiversity and habitats most appropriate to the site conditions.
- Lake formation in quarry void: An existing quarry lake exists to the northwest of the Site forming a permanent lake. The shallow areas will provide suitable substrate for aquatic invertebrates, with gentle grading of shoreline and marginal planting added (to be determined at the time, with the advice of an ecologist).
- Safety measures: An agricultural fence to be installed around the edge of the excavation, to act as a visual indicator of the edge and a physical barrier for people and animals. Safety signs are also proposed to be erected on and outside the boundary fence.
- The central area of the quarry will consist of regrading the existing landform to form gentle slopes and mitigation planting / grass seeding to integrate the site with its agricultural surroundings.

10.6.2 Conclusion

This assessment is a retrospective assessment of the Landscape and Visual Effects – and the notable effects in this case are the effects which have occurred between 1990, which is the baseline date, and the present.

The Methodology and Limitations sections outline the difficulties in assessing a development retrospectively and in some cases (in particular the assessment of viewpoints) it is not possible to be exact regarding the extent of the change which has happened in this time, particularly as some quarrying would have been evident in 1990. Notwithstanding these limitations, the assessment concludes that

Landscape Effects

The significance of ongoing effects is considered **Slight-imperceptible** in the context of the established quarry and these do not extend beyond the immediate site context where the daily quarrying activities are less noticeable.

Visual Effects

The visual change imparted by the current quarry has been assessed relative to the likely visual impact of the 1990 baseline quarry using nine viewpoints from within the surrounding area. Despite all of these being within the central study area, not all of them have clear views of even the present-day quarry. Indeed, from six of the nine viewpoints the magnitude of visual change is deemed to be either **Slight** (VP1 and VP5) or **Imperceptible** (VP2, VP3, VP4 and VP8). From VP6, VP7 and VP9, which are all located in slightly elevated locations overlooking the quarry from less than 800m the magnitude of visual change is deemed to be **Moderate-slight** and for similar reasons. The 1990 baseline quarry is likely to have been discernible, but not prominent in the broad views afforded across rolling patchwork farmland backdropped by the distant Wicklow Mountains. Whereas, the considerably larger present day quarry remains a relatively discreet feature within the base of the

valley and partially screened / flanked by scrubby woodland and forest plantations. The current quarry is not considered to be an ambiguous feature in this productive landscape despite being the most intensive land use in view and it does not obstruct or unduly intrude on the extensive rural views.

Cumulative Effects

Since 1990, the only notable change to the landscape that is associated with or similar to the quarry in terms of it scale and nature is the similar expansion of another quarry some 2km to the west within the Avonmore River Valley. Whilst together these two quarries make a slightly greater contribution to the land use fabric of the study area, this does not manifest in an equivalent contribution to landscape character as neither is an overt feature in the landscape and they are not intervisible. For the same reason, their combined contribution to cumulative visual impacts is also **Negligible**. Overall, it is considered that the expansion of the subject quarry in-combination with the similar expansion of other quarries within the study are results in **not significant** landscape or visual impacts.

APPENDIX 10.1

Concept Restoration Plan

Appendix 10-1– Concept Restoration Plan