11.0 LANDSCAPE + VISUAL IMPACT

11.1 Introduction

This landscape and visual impact assessment has been prepared in relation to the continuation and extension of quarrying activities at the Application Site.

As set out in Chapter 2 of this EIAR, the subject site is Bellewstown Quarry and proximate agricultural land in Co. Meath located in the townlands of Bellewstown, Hilltown Little, Gafney Little and Hilltown Great. The site comprises the existing rock quarry and a portion of land extending to the northeast on which it is proposed to deliver a new dedicated private quarry access road. The quarry area extends to approximately c. 39.4 hectares. The overall site size (development boundary) is 47.3 hectares, which includes an area of 7.9 hectares to accommodate the new access road to serve the quarry.

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

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

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

This LVIA uses methodology as prescribed in the following guidance documents:

- Environmental Protection Agency (EPA) publication *Guidelines on the Information to be contained in Environmental Impact Assessment Reports* (2022) and the Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (updated draft 2017); and
- Landscape Institute and the Institute of Environmental Management and Assessment publication entitled Guidelines for Landscape and Visual Impact Assessment (2013).

11.1.1 Statement of Authority

This Landscape and Visual Assessment report was prepared by Macro Works Ltd of Cherrywood Business Park, Loughlinstown, Dublin 18; a consultancy firm specialising in visual impact analysis and visual impact graphics. Relevant experience consists of a vast range of infrastructural,

industrial and commercial projects since 1999 including a number of quarries and quarry extensions. Specific experience extends to the assessment of over 40 quarry and landfill projects. This chapter has been authored by Jamie Ball (BA LA Hons), Senior Landscape Architect with over 10 years' experience in LVIA.

11.1.2 Description of the Proposed Development

It is important to note that for the purposes of this LVIA, the proposed development (see Section 11.2.1, below) will be assessed throughout this document in tandem with the permitted quarry extension (see Section 11.2.2 below), permission for which was granted in 2018.

The Existing Quarry

An Bord Pleanála previously issued substitute consent (Ref. No. PL17.SU0101) for the existing quarry at Bellewstown. The continued extraction at the quarry and its expansion to the north and west of the existing void area was previously permitted by An Bord Pleanála under Ref. No. PL17.QD0013 (in accordance with section 37L of the Planning and Development Acts, 2000 (as amended)) (hereafter referred to the 37L development). Planning permission received under the 37L development was granted for a period of 10 years (Condition No. 3) by An Bord Pleanála on 24th October 2018. Furthermore, Condition No. 4 limited the number of Heavy Goods Vehicle (HGVs) movements per day to 32 No. loads (64 No. two-way) (versus 81 No. loads (162 No. two-way) proposed).

The development permitted under the 37L development consists of the extension of the existing quarry extraction area to c. 17.3 ha and the deepening of the quarry floor to 98mAOD using conventional blasting techniques. Extracted material is processed using mobile crushing and screening plant and stockpiled in advance of haulage. Landscaped overburden and topsoil storage/screening berms are included, together with a landscaping and rehabilitation plan to be fully implemented upon completion of quarrying. Ancillary site works permitted include a new wheelwash, a new septic tank, a new percolation area and two bunded fuel tanks.

The total volume of recoverable reserves within the permitted quarry area is estimated at between 11.0 to 11.5 million tonnes. The 37L development proposed a level of extraction of c. 450,000 tonnes per annum, giving the production life for the extraction area of 25 years, allowing for fluctuations in demand. This anticipated production level was equivalent to an average 81 No. daily truck loads.

In restricting the life of the permission to 10 years (Condition No. 3), and limiting the maximum number of HGV movements to 32 No. loads (Condition No. 4), the Board's Order effectively limited the extractable reserve to c. 1.8million tonnes over the 10-year period.

The Proposed Development

The proposed development seeks to extend the life of the current permitted quarry from 10 years to 25 years, with an additional year required to facilitate restoration works. It also proposes to develop a new dedicated quarry access road to facilitate an increase in the permitted number of

HGV loads to and from the quarry from a maximum of 32 No. per day to an average of 81 No. per day, to facilitate an extraction level of approximately 450,000 tonnes per annum.

Access to the quarry is currently provided from the local road (Mullagh Road) that runs in a north-south direction and bounds the eastern portion of the quarry site. In order overcome the Board's concerns regarding impacts on the local community, the subject development proposes the provision of a new private road, as well as new entry/exit points onto this new road, to serve the quarry. The existing quarry access/exit point will be relocated c.25m south of the existing access/exit point on Mullagh point, with the existing quarry access/exit point to be removed. The development will consist of the continued provision of the office, shed and car park area inside quarry access/exit point. In addition, to facilitate the development, it is proposed to remove the existing weighbridge and wheelwash and provide a new wheelwash closer to the new entrance to the quarry, as well as providing a new shipping office (21 sq m) at that location. An extra weighbridge will be provided, resulting in a total of 2 No. to serve the quarry. It is proposed to demolish the existing weighbridge office (29 sq m) and workshop (123 sq m). A new powerhouse (46 sq m) is proposed to facilitate a mains electricity supply for use by pumps, plant and machinery in the future. The bunded and covered fuel tanks, septic tank and percolation area permitted under the 37L development have not yet been implemented. The septic tank will be installed and commissioned to treat the wastewater from the toilet contained on the proposed new shipping office.

This new proposed private road will reduce the impacts on the local community by redirecting the HGV traffic away from Bellewstown Village. The new road will cross the Mullagh Road and fields in a northeast direction away from the quarry. The road is approximately 1.7km long and has a minimum width of c. 6m, increasing to up to 9.25m wide on some internal bends. The new link road will also be used by the farmer whose lands it crosses, to provide internal access to their farm for agricultural purposes.

Other development works will be undertaken on the local road infrastructure, specifically on the L1615 and Beaumont Bridge. It is proposed that these public roadworks will be carried out by Kilsaran under licence from Meath County Council's and on the Local Authority's behalf in accordance with the *Roads Act, 1993* (as amended) in the event of a grant of permission for the proposed development.

11.2 Assessment Methodology

Production of this Landscape and Visual Impact Assessment involved:

- A desktop study to establish an appropriate study area, relevant landscape and visual designations in the Meath County Development Plan 2021-2027, as well as other sensitive visual receptors. This stage culminates in the selection of a set of potential viewpoints from which to study the effects of the proposal;
- Fieldwork to establish the landscape character of the receiving environment and to confirm and refine the set of viewpoints to be used for the visual assessment stage;
- Assessment of the significance of the landscape impact of the proposal as a function of landscape sensitivity weighed against the magnitude of the landscape impact;

- Assessment of the significance of the visual impact of the proposal as a function of visual receptor sensitivity weighed against the magnitude of the visual impact. This aspect of the assessment is supported by photomontages prepared in respect of the selected viewpoints.

11.2.1 Landscape & Visual Impact Criteria

Landscape Impact Assessment Criteria

When assessing the potential impacts on the landscape resulting from a proposed development, the following criteria are considered:

- Landscape character, value and sensitivity;
- Magnitude of likely impacts;
- 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 elements without unacceptable detrimental effects to its essential characteristics. Landscape Value and Sensitivity is classified using the following criteria set out in **Table 11.1** below.

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.

Table 11.1: Landscape Value and Sensitivity.

The magnitude of a predicted landscape impact 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 Application Site boundary that may have an effect on the landscape character of the area, as set out in **Table 11.2** below.

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.
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.

Table 11.2: Magnitude of Landscape Impacts.

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 11.3.**

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

Table 11.3: Impact Significance Matrix.

Please 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 orange are considered to be 'significant impacts' in EIA terms.

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.

Sensitivity of Visual Receptors

Unlike landscape sensitivity, the sensitivity of visual receptors has an anthropocentric 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 and used in Table 11.6 to establish visual receptor sensitivity at each Viewshed Reference Point (VRP):

1. **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; 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 focussed on their work or activity, not their surroundings and where the setting is not important to the quality of working life".*

2. **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;

3. **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 within 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;

4. **Primary views from dwellings**. A proposed Development might be seen from anywhere within a particular residential property with varying degrees of sensitivity. Therefore, this category is reserved for those instances in which the design of dwellings or housing estates, has been influenced by the desire to take in a particular view. This might involve the use of a slope or the specific orientation of a house and/or its internal social rooms and exterior spaces;

5. **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 county or regional scale;

6. **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;

7. **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;

8. **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;

9. **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;

10. **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;

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

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

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

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 in the Table 11.5. Overall sensitivity may be a result of a number of these factors or, alternatively, a strong association with one or two in particular.

Visual Impact Magnitude

The magnitude of visual effects is determined on the basis of two factors; the visual presence (relative visual dominance) of the proposal and its effect on visual amenity. The magnitude of visual impacts is classified below in Table 11.4.

Criteria	Description
Very High	The proposal intrudes into a large proportion or critical part of the available vista and is without question the most noticeable element. A high degree of visual clutter or disharmony is also generated, strongly reducing the visual amenity of the scene.
High	The proposal 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 clutter or disharmony is also likely to be generated, appreciably reducing the visual amenity of the scene.
Medium	The proposal represents a moderate intrusion into the available vista, is a readily noticeable element and/or it may generate a degree of visual clutter or disharmony, thereby reducing the visual amenity of the scene. Alternatively, it may represent a balance of higher and lower order estimates in relation to visual presence and 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 detract from, and may even enhance, the visual amenity of the scene.

Table 11.4: Magnitude of Visual Impact

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 landscape impacts (see **Table 11.3**).

Quality of Effects

In addition to assessing the significance of landscape/townscape 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.

Whereas, the introduction of new built elements into countryside areas more often results in negative landscape and visual effects, in urban and/or peri-urban settings, development proposals are often replacing one built feature with another. The consequence for the townscape character and visual amenity is often beneficial, or may be a combination of positive effects and negative effects for different receptors. In the context of this assessment, the judgment of the quality of the effects is made in combination with the significance judgement for both landscape/townscape impacts and visual impacts (e.g., Moderate / Positive or Moderate/Negative).

11.2.2 Extent of Study Area

A 2km radius study area has been selected for this impact assessment (Figure 11.1). This strikes a balance between potential significant impacts (most potential within 1km) and the need to examine a number of sensitive receptors within the wider landscape context.

Figure 11.1: Study area extent.

11.3 Landscape and Visual Policy Context and Designations

11.3.1 *Meath County Development Plan 2021-2027*

A landscape character assessment has been incorporated within the Meath County Development Plan (i.e., the "CDP"), which divides the county in to four main landscape character types. These are then sub-divided into a further 20 geographically distinct Landscape Character Areas (LCAs). The proposed development is located within Landscape Character Area 9 'Bellewstown Hills' (see Figure 11.2, below).

LCA 9 'Bellewstown Hills' is identified as having:

- 'Very High' Landscape Value
- 'Medium' Landscape Sensitivity
- 'Regional' Landscape Importance

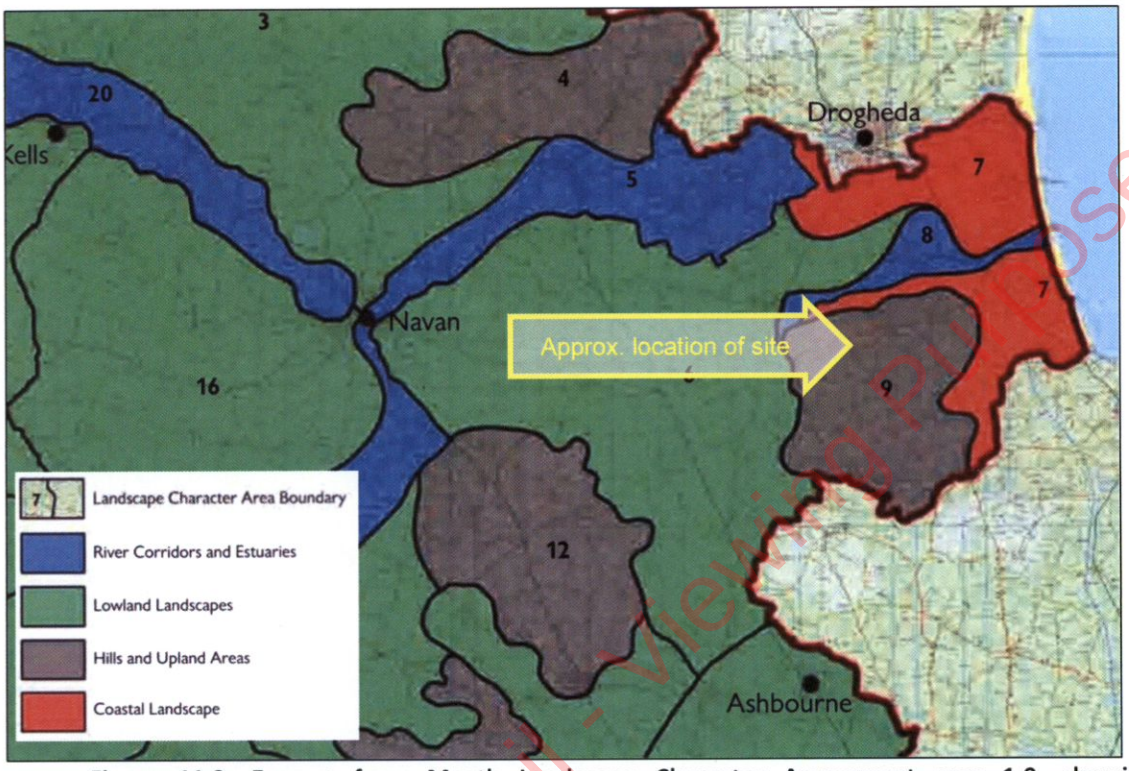

Figure 11.2: Excerpt from Meath Landscape Character Assessment map 1.0, showing approximate location of proposed solar farm site in relation to 'Landscape Character Types'.

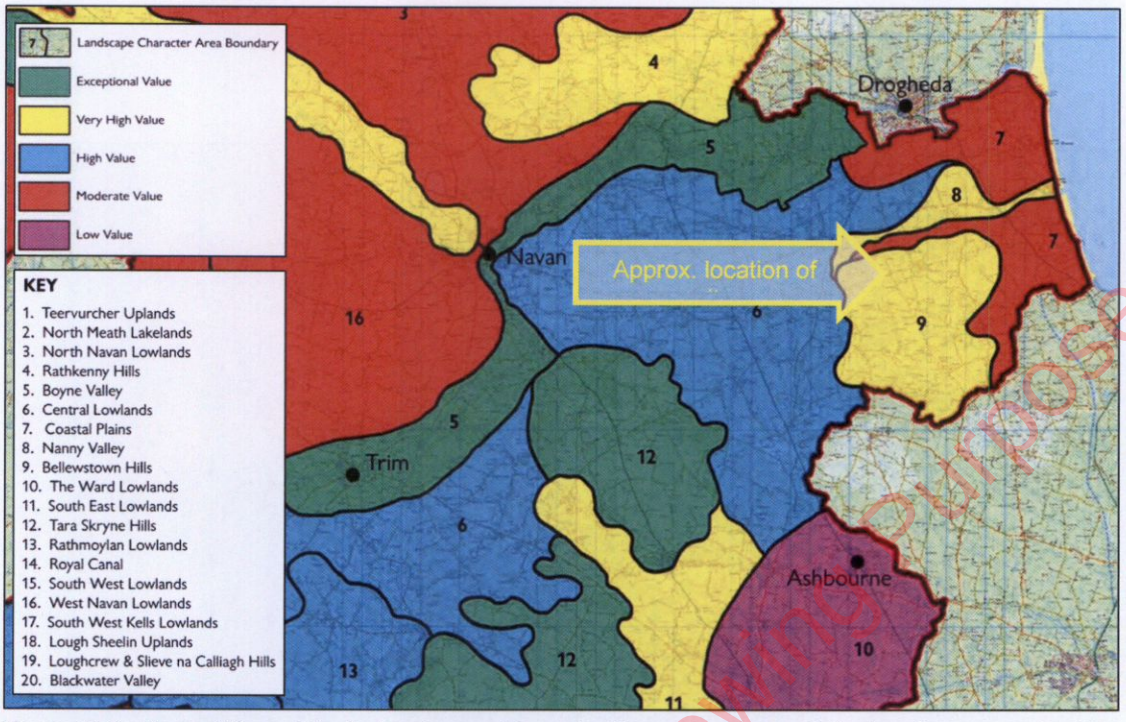

Figure 11.3: Excerpt from Meath Landscape Character Assessment map 2.0, showing approximate location of proposed solar site in relation to 'Landscape Character Areas.'

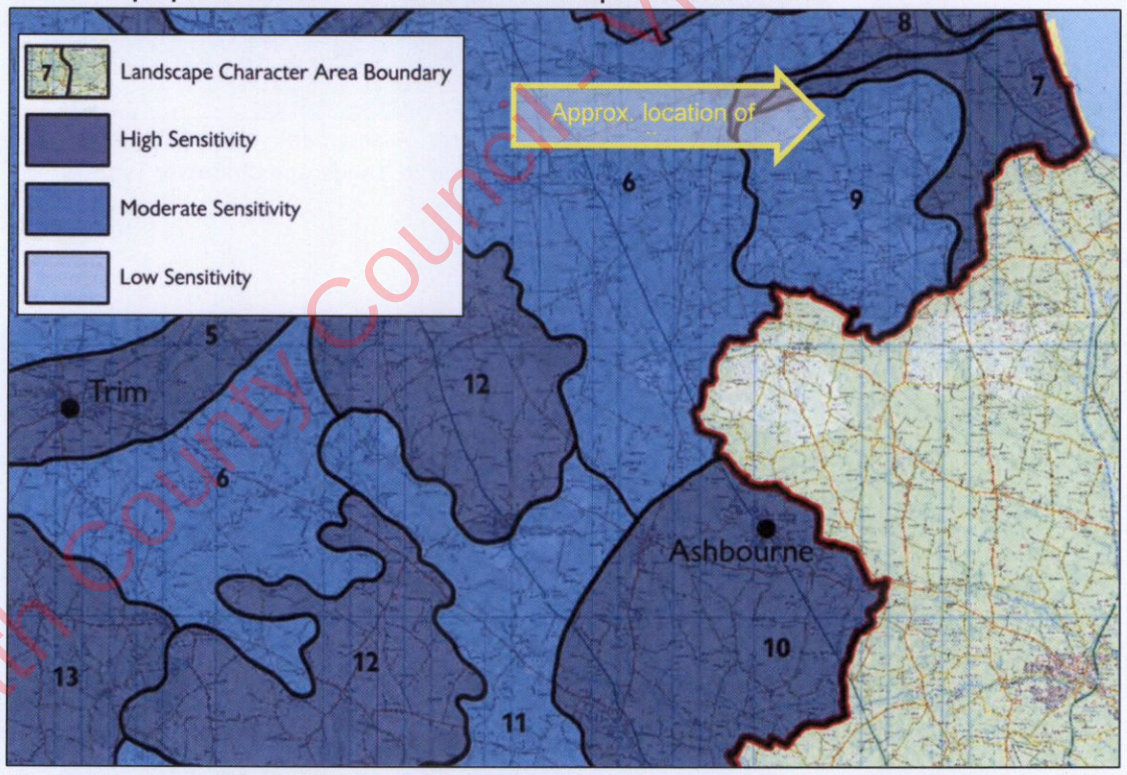

Figure 11.4. Excerpt from Meath Landscape Character Assessment map 3.0, showing approximate location of site in relation to LCA sensitivity zoning.

This LCA is described as:

> *"The Bellewstown Hills consist of a large remote area of steeply rolling hills to the south east of Duleek, which is intensively managed with well wooded hedgerows. The rolling landscape creates an enclosed environment. Built development consists of scattered detached dwellings in the countryside and ribbon development along rural roads, there is a concentration of dwellings in Bellewstown. This LCA is a prominent feature of the landscape from the lowlands in the east Meath farmland and provide excellent views over the lowlands and the coastline. The main feature of Bellewstown village is the racecourse and some ribbon development adjacent to the racecourse. The landscape in the uplands is open and well managed with extensive clipped hedgerows and large pasture and arable fields. In the lowlands and the foot of the upland areas, field patterns are smaller and the hedgerows are more wooded. The landscape is generally in good condition."*

A number of general recommendations have also been outlined regarding this LCA, one of which potentially relate to the development in question, which is as follows:

> *"Promotion of new development that is in keeping with the overall landscape character and consolidates existing settlements rather than ribbon development extending along road corridors."*

Map 4 of the Landscape Character Assessment indicates potential capacity for various development types. This is then discussed in the context of ten different development types, none of which relate to quarries/quarrying activity. Similarly, within the text of the assessment (i.e., Page 56), nine different points are raised in relation to 'potential capacity,' none of which relate to quarries/quarrying activity.

According to Section 8.17.6 of the CDP:

> *"The potential capacity of each LCA is based on indicative types of development that are likely to occur within the study area. Capacity is the ability that the landscape has to absorb specific types of development. It is only possible to define actual capacity on a case-by-case basis because it will vary according to the type and form of development, its location in relation to the landscape character area in question, and its visibility from it."*

Views of Recognised Scenic Value

Views of recognised scenic value are primarily indicated within the current County Development Plan in the context of scenic views/routes designations, but they might also be indicated on websites, touring maps, guide books, road side rest stops or on post cards that represent the area. According to Appendix 10 'Protected Views & Prospects' of the CDP and as demonstrated in Figure 11.5 (below), according to the CDP, there are four designated views and prospects across Bellewstown Hill, and no others within the study area. According to Appendix 10, these are as follows:

View No. 66:
Location: *County road between Duleek and Carnes East*

Direction (of view): *South West, West, North West and North*
Description: *Panoramic views from south west to north. South West - Very distant horizons visible. Views to north and west - very compromised by industry and urbanisation.*
Significance: *Regional*
Conclusion: **not relevant, owing to designated direction of view.**

View No. 67:
Location: *County road between Carnes West and Carnes East*
Direction (of view): *South West*
Description: *Very long-distance views to south west and west across open tillage landscape with occasional settlement and very large fields. View provided is typical. There are similar views from many equivalent vantage points in this general area.*
Significance: *Regional*
Conclusion: **not relevant, owing to designated direction of view.**

View No. 68:
Location: *County road between Bellewstown and Carnes East*
Direction (of view): *South*
Description: *Extensive views across predominantly agricultural countryside Telecom and electricity infrastructure visible.*
Significance: *Local*
Conclusion: **not relevant, owing to designated direction of view.**

View No. 69:
Location: *County road at Bellewstown*
Direction (of view): *North East*
Description: *Extensive north-eastward view to sea, Mourne Mountains and horizon north of Boyne. View encompasses a settled landscape with industry, infrastructure, settlement and sea to the east. Views to north and east most important.*
Significance: *Regional*
Conclusion: **not relevant, owing to designated direction of view.**

Figure 11.5: Extract from Meath Views & Prospects Map 8.6, showing approximate location of site in relation to potentially relevant designated views and prospects.

11.3.2 National Parks & Wildlife Service (NPWS)

There are no SACs, SPAs, NHAs and pNHAs, or any other known conservation designations, within the site or the study area.

11.4 Existing Environment

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. It is worth noting, however, that many of the landscape elements identified in the

landscape baseline also relate to visual receptors i.e. places and transport routes from which viewers can potentially see the proposed development.

11.4.1 Landform and Drainage

Within a lowland agricultural basin that mostly resides below 70m AOD, the hill at Bellewstown rises to over 150m AOD. However, it is a relatively low, gentle, plateau-like hill that aligns in a loose east-west orientation and stretching approx. 3km distance, fluctuating mostly between 100m-120m AOD (see Figure 11.6). Like most sections of Co. Meath, landform in the study area is relatively benign and low-lying, with few dramatic profiles. In terms of drainage, the River Nanny runs 1-2km north of the site, while a small stream runs in the south of the study area, which eventually feeds into the Devlin River near Stamullen (i.e. far outside the study area).

Figure 11.6: Bellewstown Hill, viewed from the south

Figure 11.7: Bellewstown Hill, viewed from the north.

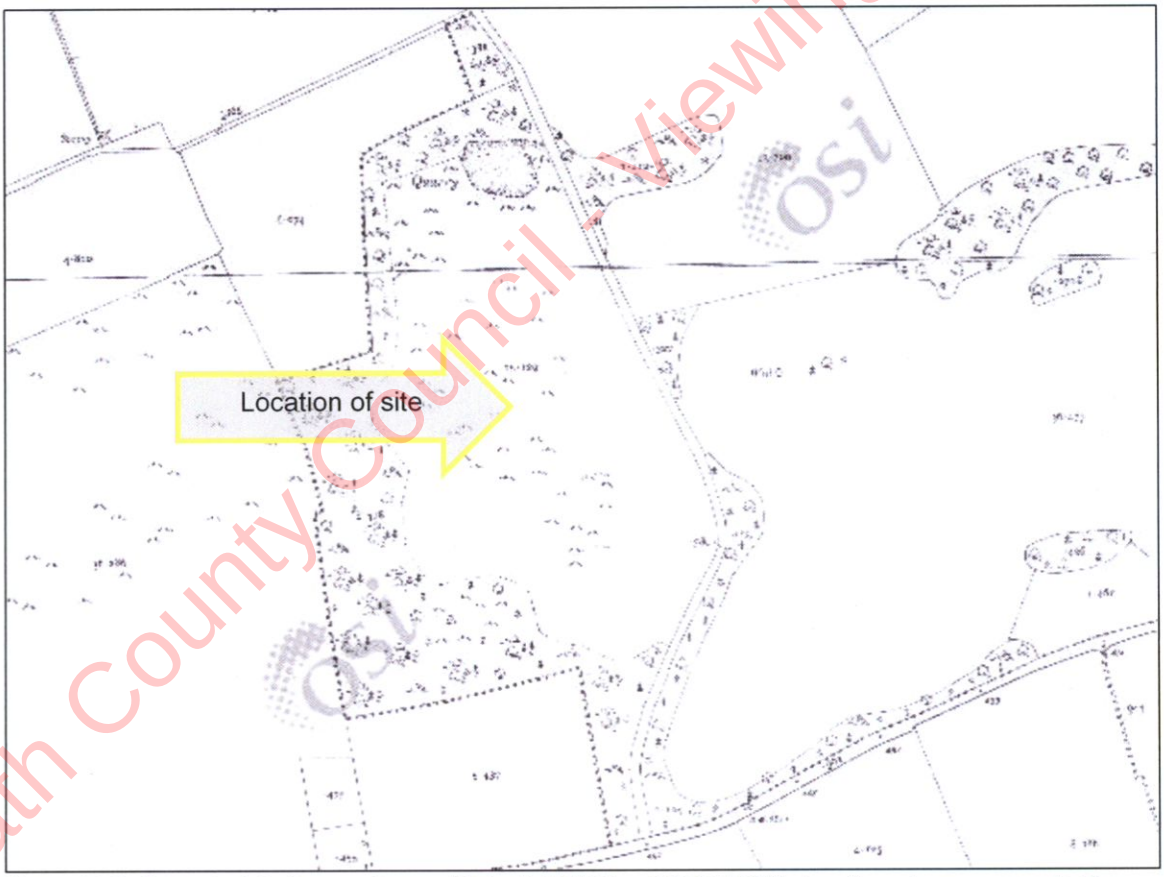

Figure 11.8: Extract of Ordnance Survey Historic 25" Map (1897-1913) showing a large quarry in the location of the current quarry.

Within the site, an existing quarry has been in place - in various iterations and sizes - for over a century (see Figure 11.8 above). Thus, a large void in terrain occupies most of the site, ranging from between 20-50m below pre-existing/ surrounding terrain at the rim of quarry (see Figures 11.9 & 11.10 below). In addition, large tree-covered berms/bunds (i.e. constructed/ engineered landforms) are in place around the quarry periphery (see Figure 11.11, below), with the exception of the entrance on its eastern boundary. In the eastern section of the site, where the proposed access road will be located, land sweeps down (southwest to northeast) from approx. 110m-40m AOD.

Figure 11.9: Existing quarry, looking towards the southwest.

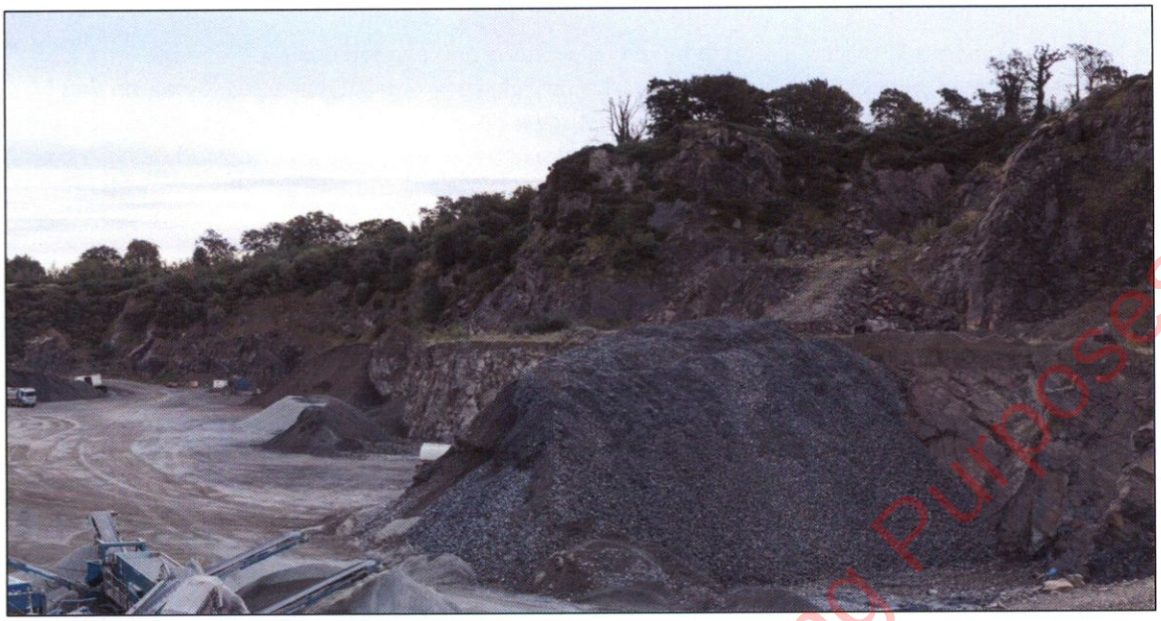

Figure 11.10: Existing quarry, looking towards the north.

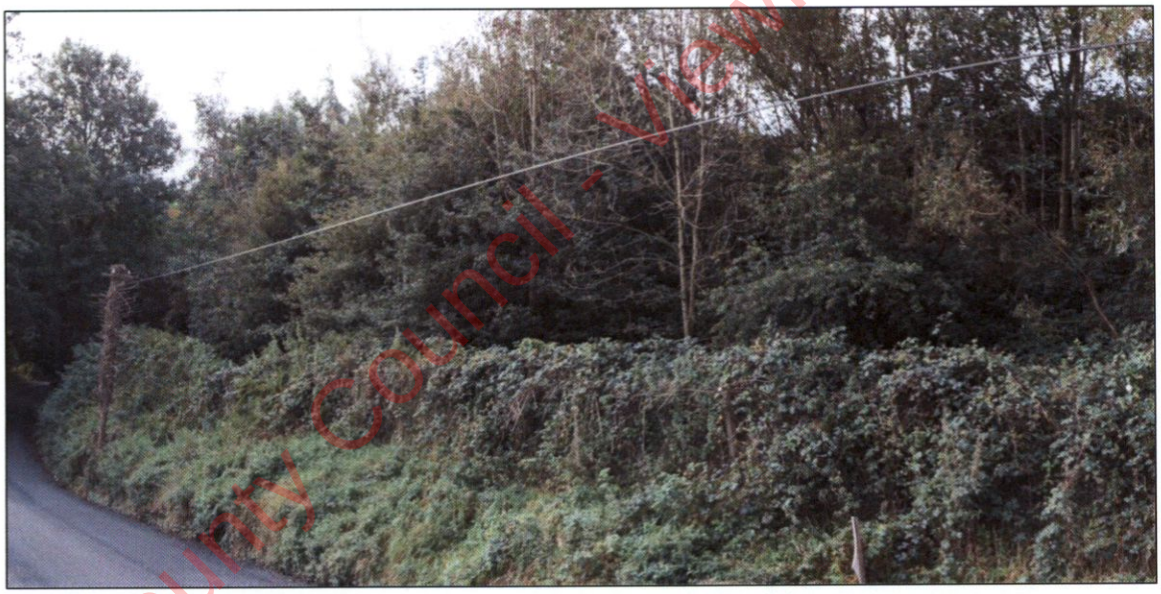

Figure 11.11: Berm with mature trees along the eastern boundary of the existing quarry.

11.4.2 Vegetation and Land use

The predominant land use in the vicinity of the site is that of intensively-managed agricultural farmland comprising of a variety of different sized geometric fields. Field areas in adjacent land holdings are characterised by considerable variety, even across near-identical landform. Pasture dominates the lion's share of land use, with a small degree of cropping/tillage evident, as well as nurseries to a lesser extent.

Field boundaries in this area tend to be of well wooded and of good quality and range from low, tightly clipped hedgerows to dense, linear bands of mature broadleaf trees. Small groves of mature woodland also occur throughout the study area, some of which appear to be associated with the remnants of historic demesne landscapes. Some of these copses align the northern side of Bellewstown racecourse, as well as close to the eastern section of the site where the new proposed access will be. Within approx. 600m east of the site is Bellewstown Racecourse, set alongside Bellewstown village centre. Within the course, there is a GAA pitch/club, a pitch & putt course and an oval-shaped walkway/path popular with local walkers and runners.

Within the western section of the site, land is mostly taken up with the large, deep and busy existing quarry, surrounded by large berms/bunds, as well as small-medium sized, geometric-shaped pastoral fields. The field boundaries are of mixed strength, ranging from low to medium-scaled vegetation. In the eastern section of the site, where the proposed access road will be located, tillage can be found in one huge, sweeping field (see Figure 8, below). This field once formed part of the large Hilltown estate, which covered 3,000 acres in the late 1800s. Understood to be the "biggest field in Ireland," according to the Farmers Journal in 2017, this tillage field is 334 acres and is understood to have had several hedgerows removed from it in the late 1970s and 1980s, to form its current size. The large 18th Century Hilltown House is located in the vicinity, more than 600m from the site. According to historical Ordnance Survey maps of the 19th Century, this section of the site was characterised by notably large fields, with informal 'globules' of woodland (i.e., copses) left scattered across this dip in the valley, presumably for hunting and/or aesthetic purposes.

Figure 11.12: Large, sweeping fields of tillage found in the eastern section of the site.

11.4.3 Centres of Population

While the small town of Duleek is located just outside the study area, the only town or village within the study area is Bellewstown village. This is a small linear village, mostly aligning the south-

western side of the Bellewstown racecourse. While the crossroads that marks the *de facto* village centre is located approx. 1km to the east of the site, there are numerous houses in close proximity to the southern boundary of the existing quarry.

11.4.4 Transport Routes

The most notable transport route in the study area is the M1 that skirts the north-east of the study area. Otherwise, there are regional roads more than 1km north of the site, being the R150 and the R152. Otherwise, there is a robust network of local roads about the study area, including those that align segments of the site's boundary (e.g., the Mullagh road; local road aligning the eastern boundary of the quarry).

11.4.5 Public Amenities and Facilities

Within approx. 600m east of the site is Bellewstown Racecourse. Within the course, there is a GAA pitch/club, a pitch & putt course and an oval-shaped walkway/path popular with local walks and runners. Outside Bellewstown, there are no known recreation or public amenities within the study area.

11.5 Visual Baseline

The main desk-based form of visibility analysis employed in this study is the production of computer-generated Zone of Theoretical Visibility (ZTV) maps. A ZTV map indicates areas of the landscape that have potential visibility of the site in a bare-ground scenario. The analysis does not take into account the effects of viewing distance in the assessment, but solely identifies areas of theoretical visibility within the study area. In this high-level context, one of the main benefits of this computer-generated analysis is to understand where in the surrounding landscape the development definitely will not be visible, due to terrain screening. In this instance, two separate ZTVs were prepared in order to determine the potential visibility of the Site in a bare-ground scenario. The first is a ZTV entailing the Site Application Area, including the proposed extension areas (see Figure 11.13, below). The second is a delta/comparative ZTV, which compares visibility between the existing quarry and the proposed extension areas (see Figure 11.14).

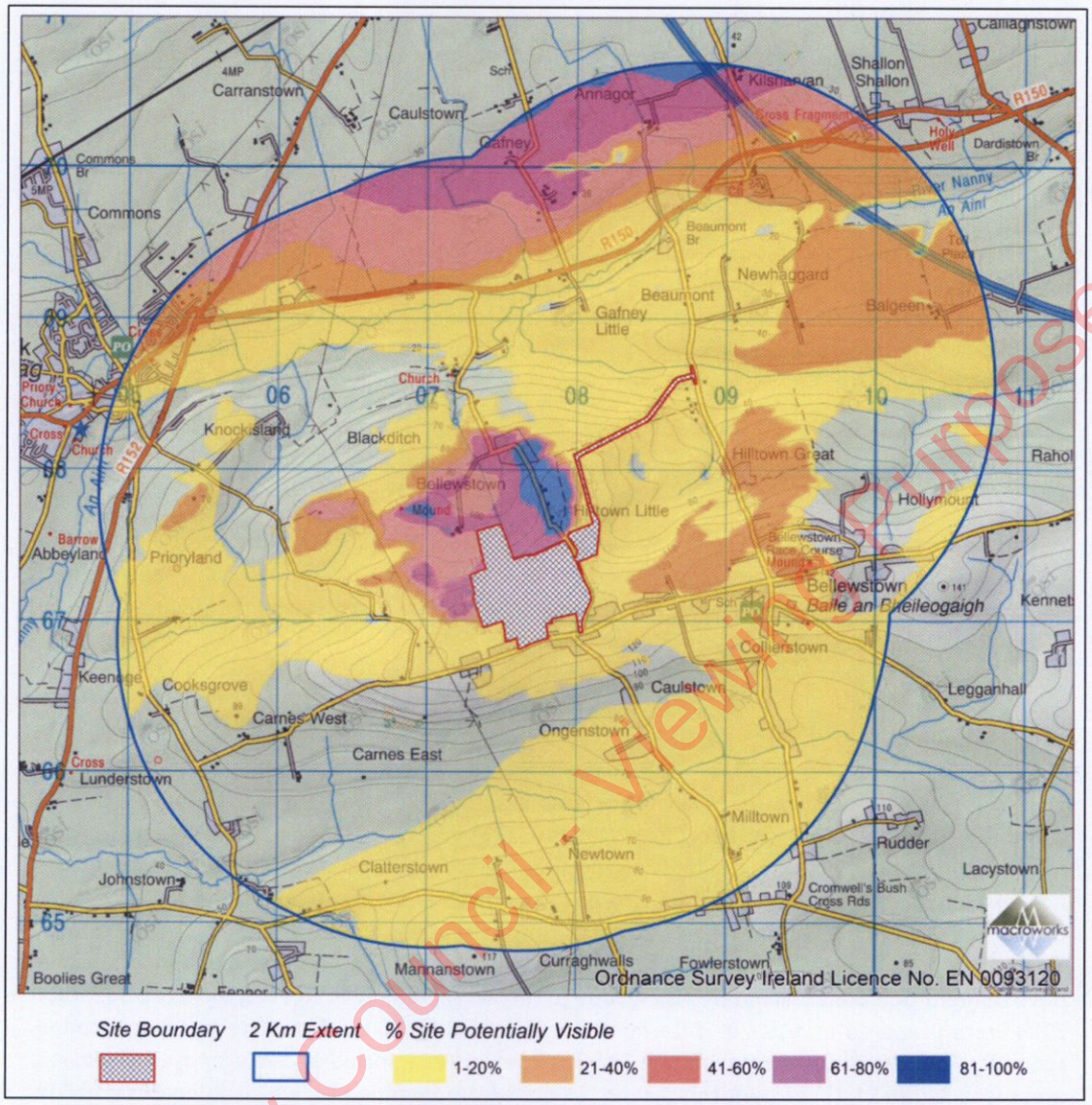

Figure 11.13: ZTV entailing the site application area, including the existing and proposed extension areas.

The main points in relation to the ZTV map on Figure 11.13 (above) entail:

- Most of the study area has theoretical visibility of the existing pit and permitted extension area. This is principally a result of the site's hilltop location.
- Most of the study area has theoretical visibility of no more than 20% of the existing and permitted pit.
- The highest theoretical visibility (i.e., 81-100%) of the existing pit and permitted extension area is experienced along the local road to the immediate north/northeast of the pit, as well as fragments in the far northeast of the study area that is overwhelmingly occupied by farmland.

- Most of Bellewstown village, and all of the linear development extending westwards from the village centre, has theoretical visibility of no more than 20% of the existing and permitted pit.
- Bellewstown Racecourse, including the amenities located within the racecourse, as well as the regional road (i.e. R150) in the north of the study area, has theoretical visibility ranging from 1-40% of the existing and permitted pit.

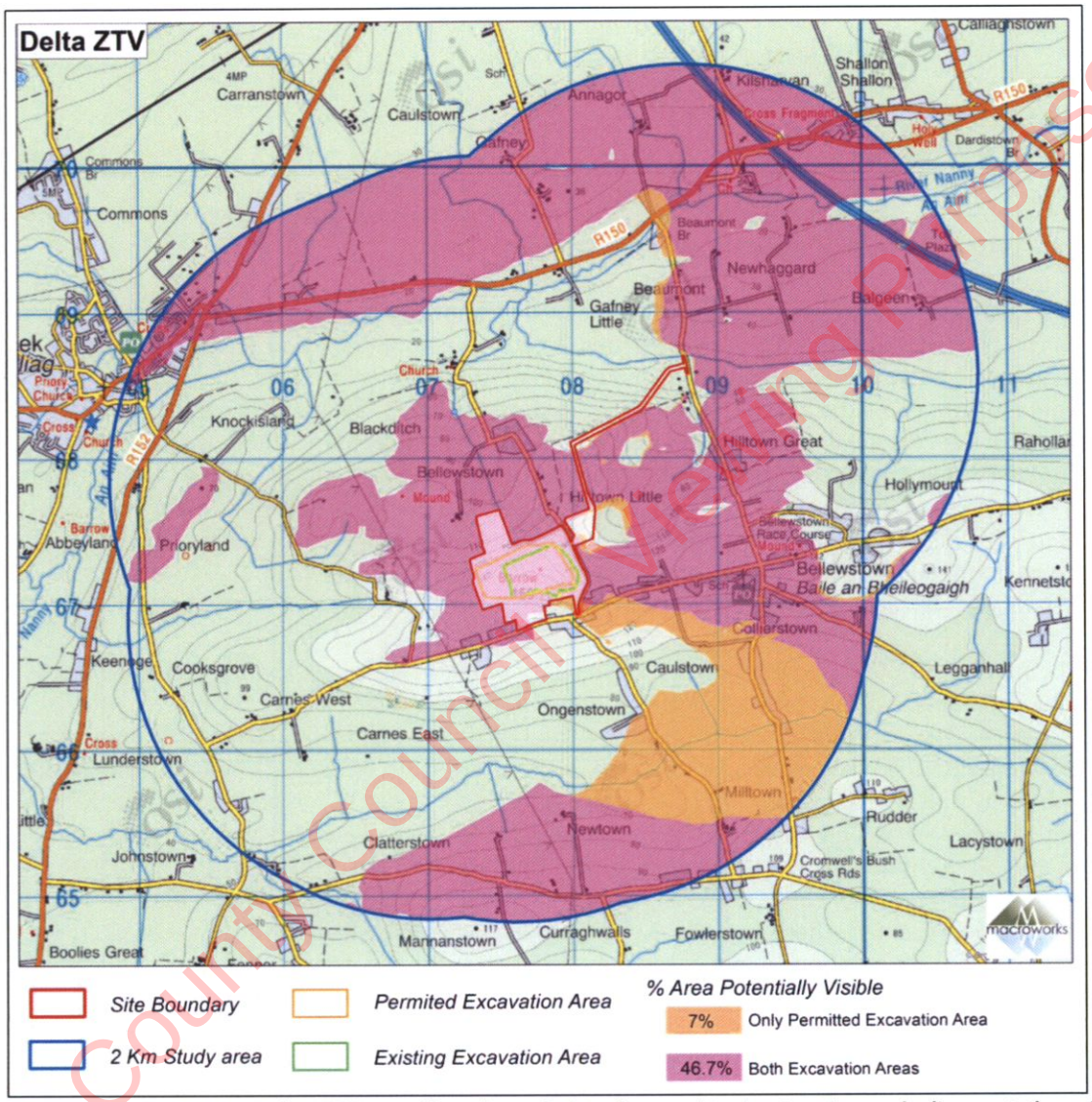

Figure 11.14: Delta ZTV entailing the existing & permitted extension only (i.e. not the wider site).

The main points in relation to the Delta/comparative ZTV map on Figure 11.14 (above) entail:

- 7% of the study area experiences theoretical visibility of only the permitted pit extension area in isolation. This includes a very small section of the local road to the immediate south of the site, as well as the valley floor in the south of the study area.
- 46.7% of the study area experiences theoretical visibility of both the existing pit and the permitted extension area. This includes most of Bellewstown village and all of Bellewstown racecourse, as well as those sections of the R150 that do experience theoretical visibility.
- 53.7% of the study area has no potential for visibility of either the existing pit or the permitted extension area.

11.6 Mitigation Measures

A key objective of the operational phase is to ensure that the proposed development is carried out in order to minimise the visual impacts of the proposal.

The existing quarry access/egress point will be moved southwards and new access/egress points will be created into the agricultural fields; one at each end of the proposed new road. Boundary fencing will also be provided at these points and either side of the proposed access road for its entire length across the agricultural land (i.e., approx. 1.7km). In addition, an existing stonewall to the south of the east access/exit point will be extended north to meet the new entrance. In constructing the proposed access road, to decrease and increase ground levels, land will need to be excavated (c. 789m^3 of materials) as well as infilled (c. 1,169m^3 of materials), respectively, as and where needed. It is intended that any materials excavated at the site will be used to fill in areas that require it. Where additional materials are required to infill land, these will comprise 380m3 and will be obtained from the quarry.

The function of the proposed mitigation planting is primarily for screening, but will also create new and enhanced existing ecological corridors within the site application boundaries. At that eastern access/exit point of the proposed new road, a native hedgerow will be planted inside the new fence (to the north of the exit) and stonewall (to the south of the exit). In accordance with the Landscape Plan (LD.BLLWSTWN 1.0), which is included as part of this application, that same native hedgerow will be planted along the northern and eastern side of this proposed new access road, for it's entire length of the approx. 1.7km. This proposed hedgerow will be planted with a triple staggered row of native whips and advanced nursery stock at 600m spacing. Aside from its considerable ecological benefits, this new proposed hedgerow will help knit the new access road into the prevailing landscape fabric. Upon maturity, this will engender the sense of the access road being an 'original' field boundary, as well as helping to screen views of HGVs from lower land and receptors to the north, as well as aiding visual absorption when viewed from the south (i.e., HGVs will be less visible with an immediate backdrop of native vegetation than that of 'bare' agricultural land). At the entrance to the existing quarry, behind the proposed new fencing, the same native hedgerow will be planted, matching that of the proposed hedgerow along one side of the new access road

At the western access/exit point of the proposed access road, for a length of approx. 300m along both sides of the proposed access road, a low-canopy native woodland mix is proposed, generating extensive ecological and screening capacity. This is same native low canopy woodland mix proposed for large swathes to the north and west of the permitted quarry extension. Indeed,

between the all areas of the site (i.e., east and west of Mullagh Road), a total of 5.04ha of low-canopy native woodland mix is proposed.

11.6.1 Decommissioning & Rehabilitation

The cessation of commercial rock extraction at year 25 provides an opportunity to create new habitats and contribute to the promotion of biodiversity, with an additional year required to facilitate restoration work (i.e., 26 years in total).

The restoration plan for the quarry area was permitted under the 37L development. It is proposed to continue to propose this Restoration Plan on cessation of the quarry. These landscaping proposals provide for the natural regeneration of vegetation in certain areas, together with additional native hedge and tree planting. This planting will augment existing well-established planting located on existing perimeter screening mounds to the south and east.

On cessation of the quarry at year 25, new proposed mounds will be constructed along the extended southern, western and northern limits of excavation and will be planted in accordance with the Landscaping Plan enclosed as part of this application. All hard standing areas and plant will be removed at the end of the quarrying activities. The area of land accommodating the proposed road and entrances will remain to serve the agricultural land. As detailed in Chapter 11, the majority of the internal worked quarry faces will not be visible from outside views.

At an early stage of the proposed new extraction areas, mounds will be constructed from the stripped overburden along the extended western and northern limits of excavation and will be planted in accordance with the Landscaping Plan (LD.BLLWSTWN 1.0) included as part of this application. All hard standing areas and plant will be removed at the end of the quarrying activities. The area of land accommodating the proposed road and entrances will remain to serve the agricultural land. It is anticipated that the basin of the quarry will flood to produce a deep lake and become an attractive habitat for birds. Many such flooded former quarry sites are of biodiversity interest and it would be expected that the site will be an area of some importance for waterbirds in the post-closure period.

11.7 Landscape Impact Assessment

11.7.1 Landscape Value and Sensitivity

Reflective of the aforementioned diversity of landform and land use within the site application boundaries, the landscape value and sensitivity differ accordingly. For the sake of clarity, these will be addressed according to the two distinct sections of the site, as well as the wider study area.

11.7.1.1 Western Section of the Site

Within the western section of the site, where the existing quarry and its permitted extension are located, a long-worked, deep quarry void and its extractive-associated activities and infrastructure dominate the landscape (i.e. a hugely modified landform and land use, created as

a direct result of the existing quarry), as demonstrated in Figures 11.09 & 11.10, above. Numerous bunds/berms also surround the quarry road, with multiple ancillary features (e.g. gates, weighbridge, small buildings) and HGV movements within it. Various iterations and forms of this quarry have been in existence for more than a century, informing the landscape character of Bellewstown. In addition, a considerable degree of this western section of the site is made up of small-medium sized, geometric-shaped pastoral fields. The field boundaries are of mixed strength, ranging from low to medium-scaled vegetation. While the section of the site may be in a hilltop location, there are no scenic, naturalistic or conservation status associated with it, and is characterised by intensive, utilitarian land use.

Overall, it is considered that this section of the site is deemed to have a **Low** landscape sensitivity.

11.7.1.2 Eastern Section of the Site

In the eastern section of the site, where the proposed private access road will be located, tillage can be found in one exceptionally large, sweeping field. When cross referencing with historical Ordnance Survey maps of the 19th Century, it is apparent that in the intervening years numerous trees/small copses have been removed to facilitate the intensification of agriculture within this section of the site. However, it has still managed to maintain it broad, open manner that is untypical of most agricultural terrains. Be that as it may, there are no scenic, naturalistic or conservation status associated with this area, which is characterised by intensive, utilitarian land use.

Overall, it is considered that this section of the site is deemed to have a **Medium-low** landscape sensitivity.

11.7.1.3 Study Area

The wider study area remains heavily influenced by Bellewstown and the ridgeline of hills upon which it is set. As established in Section 11.3.1, according to the current Meath CDP, this Landscape Character Area is identified as having a 'Very High' Landscape Value, a 'Medium' Landscape Sensitivity and 'Regional' Landscape Importance. It's marginally upland status generates a degree of scenic amenity that is not typical in most intensively agricultural spheres, which is reflected in the fact that there are four designated 'views and prospects' across the hill (as per Section 11.3.1). In addition, while a long-established land use within Bellewstown, the application site remains the only known active quarry within the study area.

Overall, it is considered that the study area is deemed to have a **Medium** landscape sensitivity

11.7.2 Magnitude of Landscape Impacts

11.7.2.1 Western section of the Site

As set out in Section 11.2.1, the continued extraction at the quarry and its expansion to the north and west of the existing void area was previously permitted by An Bord Pleanála under Ref. No.

PL17.QD0013. This consists of the extension of the existing quarry extraction area to c. 17.3 ha and the deepening of the quarry floor to 98mAOD (i.e. the 37L development). Extracted material is processed using mobile crushing and screening plant and stockpiled in advance of haulage. Landscaped overburden and topsoil storage/screening berms are included, together with a landscaping and rehabilitation plan to be fully implemented upon completion of quarrying. Ancillary site works permitted include a new wheelwash, a new septic tank, a new percolation area and two bunded fuel tanks.

As the proposed development introduces no additional change to the landscape of the western section of the site from what the permitted development does, there will therefore be a **Negligible** impact upon the landscape of the western section of the site as a result of the proposed development.

1.7.2.2 Eastern Section of the Site

The main physical impact upon the eastern section of the site will result from a proposed new access road that will be approx. 1,730m long and with a minimum width of c. 6m, increasing to up to 9.25m wide on some internal bends, which will result in at least 10,300 m2 of excavations and fill/hardscape into what is currently a greenfield site (i.e., a very large field). Following this, the creation of two new entrances to/from the new road will be created to cater for these HGVs.

Around 60m of roadside hedgerow containing sycamore and ash trees will need to be removed to facilitate the new entrance, while at the western end of this road, a similar length of existing roadside hedgerow will need to be cut back to facilitate that entrance. While the length of this new road is extensive, its physical landscape impacts will be highly localised and similar to that of existing roads in the locality, and beyond. In addition, in accordance with the Landscape Plan (LD.BLLWSTWN 1.0) submitted as part of this application, over 1.6km of new native hedgerows and over 5 ha of native woodland mix will be planted during the construction stage of the proposed development (between the eastern and western sections of the site).

The proposed development will not result in a distinct or permanent alteration to the topography or drainage upon the eastern section of the site. In terms of impact upon landscape character, it will introduce a change in landcover along a highly localised corridor; albeit a landcover found frequently about the locality and beyond. Aside from at the aforementioned eastern entrance, no landcover or land use of naturalistic, aesthetic or inherent landscape value will be modified or removed as a result of the proposed new access road. In addition, a substantial degree of the proposed native planting will be established as a result of the proposal.

Overall, it is considered that there will be a **Medium** impact upon the landscape of the eastern section of the site as a result of the proposed development.

11.7.2.3 Study Area

Potential impacts upon the study area will pertain mostly to those upon landscape character. In this regard, the landscape impacts upon both the western and eastern sections of the site will

be considered in their potential combined/cumulative impacts upon the landscape character of the study area.

As the proposed development introduces no additional change to the landscape of the western section of the site from what the permitted development does, it will have no bearing upon the landscape character of the study area; a study area in which quarrying has been present for over a century. With regards to the creation of a new, approx. 1.7km-long access road, this will not introduce any uncharacteristic elements to the landscape, but will be discerned as being broadly compatible with the array of local roads within the study area, while not causing the loss of any important or irreplaceable landscape features. Thus, the proposed new road and its two new entrances will not generate a marked change to the landscape in terms of character, value and quality.

Consequently, the proposed development is deemed to have a **Low-negligible** impact upon the landscape character of the study area.

11.7.3 Summary of Landscape Significance

11.7.3.1 Western Section of the Site

With reference to the significance matrix (Table 11.3) the magnitude of landscape impact within the western section of the site is deemed to be Negligible, while there is deemed to be a Low sensitivity judgment. Thus, the significance of landscape impact is not considered, on balance, to be any greater than **Imperceptible.**

11.7.3.2 Eastern Section of the Site

With reference to the significance matrix (Table 11.3), the magnitude of landscape impact within the Eastern section of the site is deemed to be Medium, while there is deemed to be a Medium-low landscape sensitivity. Thus, the significance of landscape impact is not considered, on balance, to be any greater than **Moderate-slight.**

11.7.3.3 Study Area

With reference to the significance matrix (Table 11.3), the impact upon landscape character within the study area is deemed to be Low-negligible, while there is deemed to be a Medium landscape sensitivity. Thus, the significance of impact on landscape character is not considered, on balance, to be any greater than **Slight.**

11.8 Visual Impact Assessment

11.8.1 Identification of Viewshed Reference Points as a Basis for Assessment

Viewshed Reference Points (VRP's) are the locations used to study the visual impacts of the proposal in detail. It is not warranted to include each and every location that provides a view of this development as this would result in an unwieldy report and make it extremely difficult to draw out the key impacts arising from the project. 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 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;
- 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. In such cases the VRP will be identified in terms of the primary reason for which they were chosen, but all attributes of the receptor location will be considered in the assessment of its sensitivity. The Viewshed Reference Points selected in this instance are set out in Table 11.5 and Figure 11.15 below.

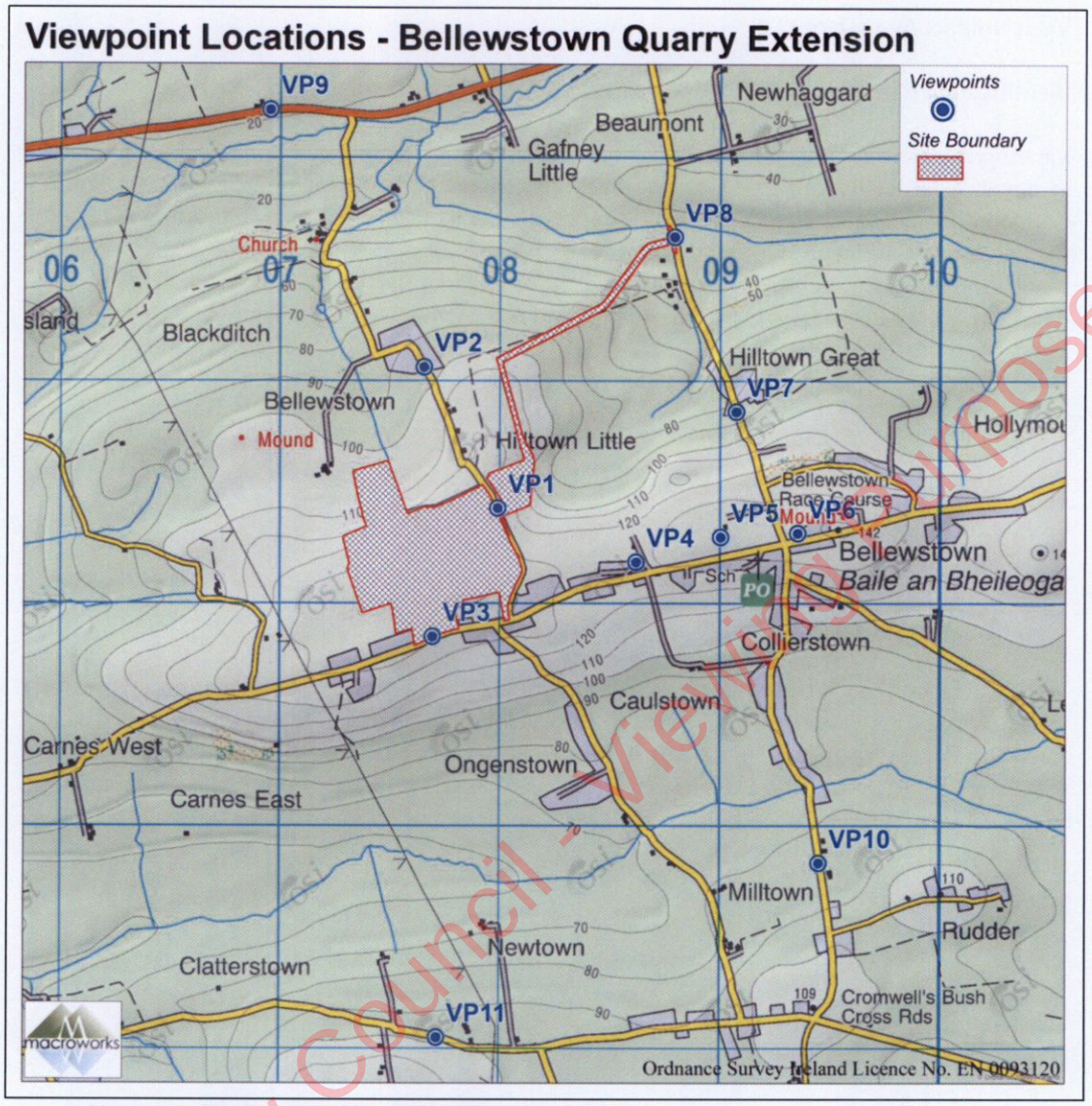

Figure 11.15: Viewpoint location map.

VRP No.	*Location*	*Direction of view*
VP1	Local road at entrance to quarry	180 degrees
VP2	Residences along local road to north of quarry	S/SW
VP3	Residences along local road to south of quarry	NW/N/NE
VP4	Residences by western end of Bellewstown racecourse	NW
VP5	GAA pitch/club within Bellewstown racecourse	NW
VP6	Bellewstown racecourse by village centre	NW
VP7	Local road north of Bellewstown village	W
VP8	Entrance to new access road along local road	W/SW
VP9	R150 north of site	S
VP10	Local road by Milltown townland	NW
VP11	Local road by hill at Mannanstown townland	N

Table 11.5 Outline Description of Selected Viewshed Reference Points (VRPs).

11.8.2 Sensitivity of Visual Receptors

Table 11.6. Analysis of Visual Receptor Sensitivity at Viewshed Reference Points
Scale of value for each criterion

Strong association	Moderate association	Mild association	Negligible association

Values associated with the view	VP1	VP2	VP3	VP4	VP5	VP6	VP7	VP8	VP9	VP10	VP11
Susceptibility of viewers to changes in views											
Recognised scenic value of the view											
Views from within highly sensitive landscape areas											
Primary views from residences											
Intensity of use, popularity (number of viewers)											
Viewer connection with the landscape											
Provision of vast, elevated panoramic views											
Sense of remoteness / tranquillity at the viewing location											
Degree of perceived naturalness											
Sense of Historical, cultural and / or spiritual significance											
Rarity or uniqueness of the view											
Integrity of the landscape character within the view											
Sense of place at the viewing location											
Overall sensitivity assessment	**ML**	**ML**	**ML**	**ML**	**M**	**M**	**ML**	**ML**	**ML**	**ML**	**M**

N = Negligible; **L** = low sensitivity; **ML** = medium-low sensitivity **M** = medium sensitivity; **HM** = High-medium sensitivity; **H** = high sensitivity; **VH** = very high sensitivity

11.8.3 Magnitude of Visual Effects

The assessment of visual impacts at each of the selected viewpoints is aided by photomontages of the proposed development. Photomontages are a 'photo-real' depiction of the scheme within the view, utilising a rendered three-dimensional model of the development that has been geo-

referenced to allow for accurate placement and scale. For each viewpoint, the following images have been produced:

1. Existing view;
2. Montage view pre-mitigation (where relevant);
3. Montage view post-mitigation (where relevant).

Viewshed Reference Point		Viewing distance to proposed access road	Direction of View
VP1	Mullagh Road at entrance to quarry	Approx. 14m	W/SW/S/SE

Representative of: • Local Community Views

Receptor Sensitivity **Medium-low**

Existing View This location is to the east of Mullagh Road, across from the existing entrance to the quarry. On the western side of the road, the existing quarry entrance is marred by dilapidated-looking, mismatched palisade fencing and double (open) gates. Inside the site boundary, a large corrugated metal work shed and a single-storied brick office and shed is visible, along with informal car park, fuel tanks, weigh bridge and wheelwash. Some mature trees are also evident within the site, along with numerous large earthen embankments, which together preclude any views of the existing quarry. To the southeast, a large, closed, industrial gate occupies the immediate foreground. Between its bars a large self-seeded spoil heap can be discerned, obscuring any more distant views of the existing or permitted quarry beyond. In light of its setting within the Bellewstown Hills, along an elevated local road, this is a locale of untypically low visual amenity, that is more akin to the industrial-zoned peri-urban settings.

Pre-mitigation Visual Impact From behind a foreground post-and-rail fence on the eastern side of Mullagh Road, the view across the road will show a tall, dark green paladin fence along the site boundary, which will terminate at a stone-clad pier at the proposed, relocated quarry entrance. Behind the paladin fence is a large car park, beyond which the pre-existing trees and brick office will remain partially visible. Inside the new, relocated quarry entrance, a new wheelwash, weighbridge, small shipping office and lifting traffic barrier will be partially visible. Along with the distant embankments, these multiple elements will continue to screen views of the existing or permitted quarry beyond. To the southeast, a new, coherent entrance to a new access road will be set before a lifting traffic barrier, with stone-clad piers to either side of the metal gate, and timber post-and-rail fence to either side of the new access road. The large self-seeded spoil heap will be more visible, behind the timber fence.

Overall, while this scene represents considerable visual change to the baseline, this will not be equally reflected in the resulting scale of landscape impact. Several dilapidated, proto-industrial elements will be removed from

this vista as a result of the proposal, while few fresh elements will be introduced. Indeed, those elements that will remain (e.g., fencing, gates, weighbridge, wheelwash, car park) will bear a more cohesive and presentable visage than is evident in the visual baseline. However, the scale of development that will occur on the eastern side of Mullagh Road will somewhat temper the perceived benefits that will arise from the proposal.

Overall, it is deemed that the magnitude of pre-mitigation visual impact is **Medium-low**, with a **neutral** quality of effect.

Residual Visual Impact

Upon establishment of planting to the west of Mullagh Road, a native hedgerow will exceed the height of the paladin fencing, curtailing all views beyond. What views that will be attainable behind the new, relocated quarry gate will reveal a lifting traffic barrier and weighbridge, set back from the gate: elements one would expect to see at such a quarry entrance. To the southeast, native tree planting inside the proposed post-and-rail fence will screen all views beyond. Indeed, the proposed planting will not detract from or obstruct views of any inherent visual amenity to either side of Mullagh Road.

Overall, it is deemed that the magnitude of post-mitigation visual impact is **Low**, with a **positive** quality of effect.

Summary

Based on the assessment criteria and matrices outlined at **Section 11.2.1, above**, the significance of residual visual impact is summarised below.

	Visual Receptor Sensitivity	Visual Impact Magnitude	**Significance of Visual Impact**
Pre-mitigation Visual Impact	Medium-low	Medium-low/neutral	**Moderate-slight/neutral**
Residual Visual Impact	Medium-low	Low/positive	**Slight/positive**

Viewshed Reference Point		**Viewing distance to permitted pit area**	**Direction of View**
VP2	Residences along Mullagh Road north of quarry	Approx. 670m	SW/S

Representative of:

- Local Community Views

Receptor Sensitivity **Medium-low**

Existing View

In terms of context, this location is more than 700m north of the existing quarry entrance, along Mullagh Road, near a dog leg in the road where up to six residences are located in the vicinity of. A roadside hedgerow of medium height tends to preclude most views in the direction of the permitted quarry excavation, as one travels north from the site. However, a large/wide agricultural gateway allows for views in the direction of the site, in this instance.

In this scene, a sloping agricultural hillside is reflective of the broader Bellewstown landscape. However, the uneven, highly localised terrain upon the skyline is discernible, albeit over 700m away, indicating former or existing quarrying activities. The earthen tone of these localised embankments and berms are vegetated in some places, and bare elsewhere. However, viewers at this field entrance are more likely to notice more compelling vistas across the lowlands of Co. Meath, in separate directions to that of the site.

Pre-mitigation Visual Impact

The permitted quarry extension will not be visible from this location, primarily owing to intervening, highly localised terrain.

Thus, it is deemed that the magnitude of visual impact is **negligible**, with a **neutral** quality of effect.

Residual Visual Impact

The establishment of vast swathes of native mitigation planting will establish to leave the northern areas of the site more verdant and aesthetic than the baseline presents. Indeed, the native planting will introduce a cohesive woodland band that will strength the aesthetics of the skyline and intervening landscape, albeit mostly more than 500m distance from this location.

Thus, the magnitude of visual impact will be **Low-negligible**, with a **positive** quality of effect.

Summary

Based on the assessment criteria and matrices outlined at **Section 11.2.1, above**, the significance of residual visual impact is summarised below.

	Visual Receptor Sensitivity	Visual Impact Magnitude	**Significance of Visual Impact**
Pre-mitigation Visual Impact	Medium-low	Low-Negligible/neutral	**Imperceptible/neutral**
Residual Visual Impact	Medium-low	Low-negligible/positive	**Slight-imperceptible/ positive**

Viewshed Reference Point		**Viewing distance to permitted pit area**	**Direction of View**
VP3	Residences along local road to south of quarry	Approx. 200m	NW/N/NE

Representative of:

- Local Community Views

Receptor Sensitivity **Medium**

Existing View

By way of context, an elevated local road runs east west across the Bellewstown Hills, along which there are dozens of residences (over the course of up to 4km) that enjoy vast views out to the lowland valley to the south. At this location, a field entrance offers such views to road users, only this scene is positioned north, away from the more aesthetic views and towards the site. Here, behind

a field entrance, a sloping field of pasture terminates uphill at a mature line of trees. It is worth noting that both the foreground field and mature woodland thicket is owned by the applicant, with those trees originally planted tin order to screen views of the existing, operational quarry.

Pre-mitigation Visual Impact

The proposed development will not be visible from this location, primarily owing to intervening vegetation. Thus, it is deemed that the pre-mitigation magnitude of visual impact is **negligible** and of a **neutral** quality.

Residual Visual Impact

While the mature mitigation planting will be discernible in the far west (i.e., left) of the scene, even if noticed, this will have no bearing upon the visual amenity of the scene.

The magnitude of visual impact remains **negligible** and of a **neutral** quality.

Summary

Based on the assessment criteria and matrices outlined at **Section 11.2.1, above,** the significance of residual visual impact is summarised below.

	Visual Receptor Sensitivity	Visual Impact Magnitude	**Significance of Visual Impact**
Pre-mitigation Visual Impact	Medium	Negligible/neutral	**Imperceptible/neutral**
Residual Visual Impact	Medium	Negligible/neutral	**Imperceptible/neutral**

Viewshed Reference Point		**Viewing distance to proposed access road**	**Direction of View**
VP4	Residences by western end of Bellewstown race course	Approx. 645m	W/NW

Representative of:

- Local Community Views

Receptor Sensitivity **Medium**

Existing View

By way of context, a small residential *cul de sac* called Woodview contains approx. 6 houses that align the far southwestern end of Bellewstown Racecourse, with the rear of the properties adjoining the course. This location is captured from a small, tree-dotted open space at the head of this short road, before the residences line out to the west.

In this vista, the racecourse occupies most of the foreground. Towards the end of the racecourse (i.e., to left/west of the scene), thick mature treelines indicate the presence of the existing and permitted quarry, although no views of the quarry are attainable, owing to substantial vegetative screening and a distance of over 600m. To the northwest, views out over the lowlands of Meath can be attained, before which there appears to be non-vegetated tailings/soil heaps

associated with quarrying activity. However, these soil heaps are outside the site boundary, as well as being to the east of Mullagh road.

Pre-mitigation Visual Impact

A small segment of the proposed access road will be the only element of the proposed development that will be discernible from this location. However, even to the stationary observer, at over 600m distance, this will be unlikely to draw any attention to itself and even if observed, will have no bearing upon the inherent visual amenity.

Thus, it is deemed that the pre-mitigation magnitude of visual impact is **negligible** and of a **neutral** quality.

Residual Visual Impact

The proposed mitigation planting along the southern and eastern side of the new access road will mature to screen views of not just the proposed access road but also most of the aforementioned soil heaps located outside the site. Consequently, the visual amenity of the scene will be enhanced by the proposed development, when viewed from this location.

The post-mitigation magnitude of visual impact is **Low-negligible** and of a **positive** quality.

Summary

Based on the assessment criteria and matrices outlined at **Section 11.2.1, above**, the significance of residual visual impact is summarised below.

	Visual Receptor Sensitivity	Visual Impact Magnitude	**Significance of Visual Impact**
Pre-mitigation Visual Impact	Medium	Negligible/neutral	**Imperceptible/neutral**
Residual Visual Impact	Medium	Low-negligible/positive	**Slight-imperceptible/ positive**

Viewshed Reference Point		**Viewing distance**	**Direction of View**
VP5	GAA pitch/club within Bellewstown race course	Approx. 980m	W/NW

Representative of:

- Local Community Views
- Heritage & Amenity feature

Receptor Sensitivity **High-medium**

Existing View

By way of context, within Bellewstown racecourse there is a GAA pitch, a pitch & putt course and an oval-shaped walkway/path popular with local walkers and runners. This location is from within the GAA pitch, with views in the direction of the site. From this location, the proposed access road is located almost 1km to the northwest, while the permitted quarry excavation is located more than 1km to the west. At the far end of the pitch, beyond the distant goalposts, an area of stripped ground and former perimeter screening

mound within the site are discernible: the only indication, from this location, of a quarry within the locality.

Pre-mitigation Visual Impact

The proposed development will not be visible from this location, primarily owing to intervening vegetation.

Thus, it is deemed that the pre-mitigation magnitude of visual impact is **negligible** and of a **neutral** quality.

Residual Visual Impact

While the proposed mitigation planting will fractionally 'soften' the views of the aforementioned tailings and/or embankments, such minute changes in the vista are highly unlikely to be discernible to those present within the GAA grounds.

Thus, it is deemed that the post-mitigation magnitude of visual impact remains **negligible** and of a **neutral** quality.

Summary

Based on the assessment criteria and matrices outlined at **Section 11.2.1, above,** the significance of residual visual impact is summarised below.

	Visual Receptor Sensitivity	Visual Impact Magnitude	**Significance of Visual Impact**
Pre-mitigation Visual Impact	High-medium	Negligible/neutral	**Imperceptible/neutral**
Residual Visual Impact	High-medium	Negligible/neutral	**Imperceptible/neutral**

Viewshed Reference Point		**Viewing distance to proposed access road**	**Direction of View**
VP6	Bellewstown race course by village centre	Approx. 1.25km	W/NW

Representative of:

- Local Community Views
- Centre of population
- Heritage & Amenity feature

Receptor Sensitivity **High-medium**

Existing View

This location is beside the racecourse stand and pavilion within Bellewstown racecourse, that is aligned next to the *de facto* village centre. In that regard, the view from this location towards the site is broadly reflective of those from the village centre. From this location, the proposed access road is located approx. 1.25km to the northwest, while the permitted quarry excavation area is located more than 1.3km to the west. At the far end of the racecourse, a single upper rim/lip of an area stripped in preparation for extraction the site is faintly discernible: the only faint indication, from this location, of a quarry within the locality.

Pre-mitigation Visual Impact

The proposed development will not be visible from this location, primarily owing to intervening vegetation. Thus, it is deemed that the pre-mitigation magnitude of visual impact is **negligible** and of a **neutral** quality.

Residual Visual Impact

While the proposed mitigation planting will fractionally 'soften' the views of the aforementioned tailing, such microscopic changes in the vista are highly unlikely to be discernible.

Thus, it is deemed that the post-mitigation magnitude of visual impact remains **negligible** and of a **neutral** quality.

Summary

Based on the assessment criteria and matrices outlined at **Section 11.2.1, above**, the significance of residual visual impact is summarised below.

	Visual Receptor Sensitivity	Visual Impact Magnitude	**Significance of Visual Impact**
Pre-mitigation Visual Impact	High-medium	Negligible/neutral	**Imperceptible/neutral**
Residual Visual Impact	High-medium	Negligible/neutral	**Imperceptible/neutral**

Viewshed Reference Point		**Viewing distance to proposed access road**	**Direction of View**
VP7	Local road north of Bellewstown village	Approx. 960m	W/NW

Representative of:

- Local Community Views

Receptor Sensitivity **Medium-low**

Existing View

By way of context, this local road connects Bellewstown village and racecourse with the R150, a distance of approx. 2.5km, dropping from over 120m AOD in the village to approx. 80m AOD at this location. This location also aligns the eastern boundary of the aforementioned, huge 334-acre tillage field that separate this road from the quarry (i.e., over 1km apart).

In this scene, above/through a large double agricultural gateway, the aforementioned huge, sloping field is apparent. At the western end/side of the field, abrupt soil embankments are discernible, almost 1km away, and which are not within the site. Where the treeline/woodland aligns the skyline, it indicates the location of the existing and permitted quarry areas.

Pre-mitigation Visual Impact

The only aspect or element of the proposed development that will be visible from this location will be a thin distant line of the proposed access road, almost 40m higher than this location and approx. 960m away, as well as some earthworks in sections beneath this elevated part of the road. However, such

proposed works are unlikely to be noticed by observers at this location, primarily owing to their distance from this location, followed by the fact that such elements are routinely precedented throughout this locality.

Thus, it is deemed that the pre-mitigation magnitude of visual impact is **negligible** and of **neutral** quality.

Residual Visual Impact

Upon establishment of mitigation planting, a native woodland will become visible beneath the skyline, as well as a native hedgerow aligning the eastern side of the proposed access road, thereby screening views of vehicles using this new road. Aside from such screening measures, the proposed planting will delineate a stronger, more appreciable and cohesive skyline, as well as tying in with the skyline trees surrounding the existing and permitted quarry areas.

Thus, the pre-mitigation magnitude of visual impact is deemed to be **Low-negligible** but of a **positive** quality.

Summary

Based on the assessment criteria and matrices outlined at **Section 11.2.1, above**, the significance of residual visual impact is summarised below.

	Visual Receptor Sensitivity	Visual Impact Magnitude	**Significance of Visual Impact**
Pre-mitigation Visual Impact	Medium-low	Negligible/neutral	**Imperceptible/neutral**
Residual Visual Impact	Medium-low	Low-negligible/positive	**Slight-imperceptible/ positive**

Viewshed Reference Point		**Viewing distance to proposed entrance**	**Direction of View**
VP8	Entrance to new access road along local road	Approx. 6m	W/SW

Representative of: • Local Community Views

Receptor Sensitivity **Medium-low**

Existing View

By way of context, this local road connects Bellewstown village and racecourse with the R150, a distance of approx. 2.5km, dropping from over 120m AOD in the village to approx. 40m AOD at this location, approx. 1.5km north of the village. This location is also approx. 70m north of the large agri-industrial complex of Laburnum Farms & Warehousing, and aligns the eastern boundary of the aforementioned, huge 334-acre tillage field that separate this road from the quarry (i.e., over 1km apart). To the east of the road, near this location, one residence is located.

In this scene, a screen of roadside mature and semi-mature trees aligns the eastern roadside, precluding further views in the direction of the site. Although

not representative of the wider study area, such robust roadside vegetative screening is commonplace across this dip in the valley. The uneven, narrow roadside grass verge appears to have been regularly mowed/cut, while the trees also appear to have been regularly trimmed/cutback from the road (i.e., but not having their height cut).

Pre-mitigation Visual Impact

Approx. 60m of roadside hedgerow containing sycamore and ash trees will be removed at this location, in order to facilitate the eastern entrance of the proposed access road. To the south of the entrance, a stone-clad wall will extend to stone-clad piers, north of which a timber post-and-rail fence extends until marrying in with the existing roadside boundary treatment. The entrance is marked by tall stone-clad pillars and steel gate set behind a lifting traffic barrier. The gate is set back approx. 14m from the western edge of the road, and is unlikely to draw attention to itself, not just in the context of the study area but also that a large agri-industrial complex is located approx. 70m south of the entrance. Within the site, the aforementioned very large field will be visible, with the proposed access road gently lifting up the low hillside, angling southwest. The road will resemble most local roads in the study area and is unlikely to draw attention to itself.

Thus, it is deemed that the pre-mitigation magnitude of visual impact is **Medium**, with a **negative** quality of effect.

Residual Visual Impact

Upon the establishment of planting within the site, a proposed native hedgerow will be located behind the proposed, aforementioned wall and fence, to either side of the proposed gate. Behind/beyond the gate, a native hedgerow will align the northern side of the proposed access road, helping to split this huge field into two. While field entrance views tend to be momentary and fleeting, this entrance will be approx. 6m wide and being set back from the road by approx. 14m, it will allow a greater field of vision for passing road users. Be that as it may, it will remain at an oblique angle to road users and views of the entrance and those select views of the site beyond it would not have a marked effect on the visual amenity of the scene.

Thus, it is deemed that the post-mitigation magnitude of visual impact is **Low,** with a **negative** quality of effect.

Summary

Based on the assessment criteria and matrices outlined at **Section 11.2.1, above**, the significance of residual visual impact is summarised below.

	Visual Receptor Sensitivity	Visual Impact Magnitude	**Significance of Visual Impact**
Pre-mitigation Visual Impact	Medium-low	Medium/negative	**Moderate/negative**
Residual Visual Impact	Medium-low	Low/negative	**Slight-negative**

Viewshed Reference Point		Viewing distance to proposed access road	Direction of View
VP9	R150 north of site	1.53km	S/SE

Representative of:

- Local Community Views
- Major route

Receptor Sensitivity **Medium-low**

Existing View

The busy R150 runs across the north of the study area, linking Duleek and the M1, Julianstown and Laytown. Above a stonewall, large sections of this regional road allow for relatively open views of Bellewstown Hill, from a northerly perspective. In this scene, intensive agricultural patterns are visible across the undulating landscape fabric; a scene that is common throughout the study area and the wider county.

Pre-mitigation Visual Impact

The proposed development will not be visible from this location, primarily owing to intervening vegetation and landform, combined with considerable distance.

Thus, it is deemed that the magnitude of visual impact is **negligible** and of **neutral** quality.

Residual Visual Impact

The only aspect of the mitigation planting that will be visible from this location will be a distant, faint lining of one section of the skyline (to the southeast) with the proposed hedge planting faintly discernible. This will align the northern side of the proposed access road, thereby screening views of vehicles using this new road. However, this is highly unlikely to be noticed from this location, owing to a distance of over 1.5km.

Thus, it is deemed that the post-mitigation magnitude of visual impact will remain **negligible** and of **neutral** quality.

Summary

Based on the assessment criteria and matrices outlined at **Section 11.2.1, above,** the significance of residual visual impact is summarised below.

	Visual Receptor Sensitivity	Visual Impact Magnitude	**Significance of Visual Impact**
Pre-mitigation Visual Impact	Medium-low	Negligible/neutral	**Imperceptible/neutral**
Residual Visual Impact	Medium-low	Negligible/neutral	**Imperceptible/neutral**

Viewshed Reference Point	Viewing distance to permitted pit area	Direction of View

VP10	Local road by Milltown townland	1.95km	NW

Representative of: • Local Community Views

Receptor Sensitivity **Medium-low**

Existing View This location is along a dip in a local road south of Bellewstown village, along which numerous houses are located. A field entrance allows for the least obscured views in the direction of the site. In this scene, the broad wavering-horizontal profile of Bellewstown Hill is clearly visible, representing a typical agricultural, gently undulating setting common throughout the study area and the county. Owing to a mix of terrain and intervening vegetation, no views of the existing quarry are discernible from this location.

Pre-mitigation Visual Impact The proposed development will not be visible from this location, primarily owing to intervening vegetation and landform over the course of almost 2km.

Thus, it is deemed that the pre-mitigation magnitude of visual impact is **negligible** and of **neutral** quality.

Residual Visual Impact The only aspect of the mitigation planting that will be visible from this location will be a distant, faint lining of one section of the skyline (to the west) with the proposed tree planting faintly discernible. However, this is highly unlikely to be noticed from this location, owing to a distance of over 1.9km.

Thus, it is deemed that the post-mitigation magnitude of visual impact will remain **negligible** and of **neutral** quality.

Summary Based on the assessment criteria and matrices outlined at **Section 11.2.1, above,** the significance of residual visual impact is summarised below.

	Visual Receptor Sensitivity	Visual Impact Magnitude	**Significance of Visual Impact**
Pre-mitigation Visual Impact	Medium-low	Negligible/neutral	**Imperceptible/neutral**
Residual Visual Impact	Medium-low	Negligible/neutral	**Imperceptible/neutral**

Viewshed Reference Point		**Viewing distance to permitted quarry area**	**Direction of View**
VP11	Local road by hill at Mannanstown townland	1.98km	N

Representative of: • Local Community Views

Receptor Sensitivity **Medium-low**

Existing View

The context of this view is from an elevated local road in the south of the study area. In this scene, the broad wavering-horizontal profile of Bellewstown Hill is clearly visible, representing a typical agricultural, gently undulating setting common throughout the study area and the county. Owing to a mix of terrain and intervening vegetation, no views of the existing quarry are discernible from this location.

Pre-mitigation Visual Impact

The proposed development will not be visible from this location, primarily owing to intervening vegetation and landform over the course of almost 2km.

Thus, it is deemed that the pre-mitigation magnitude of visual impact is **negligible** and of **neutral** quality.

Residual Visual Impact

The only aspect of the mitigation planting that will be visible from this location will be a distant, faint lining of one section of the skyline (to the west) with the proposed tree planting faintly discernible. However, this is highly unlikely to be noticed from this location, owing to a considerable distance.

Thus, it is deemed that the post-mitigation magnitude of visual impact will remain **negligible** and of **neutral** quality.

Summary

Based on the assessment criteria and matrices outlined at **Section 11.2.1, above,** the significance of residual visual impact is summarised below.

	Visual Receptor Sensitivity	Visual Impact Magnitude	**Significance of Visual Impact**
Pre-mitigation Visual Impact	Medium-low	Negligible/neutral	**Imperceptible/neutral**
Residual Visual Impact	Medium-low	Negligible/neutral	**Imperceptible/neutral**

11.9 Cumulative Impacts

Because the nature of the 37L development means that the quarry extension is already permitted, the main cumulative impacts that have the potential to arise from the proposed development are those derived from the proximity and scale of the proposed new access road and associated entrances.

In terms of cumulative landscape impacts, the extent of excavations and fill associated with the new access road will be tempered somewhat by the considerable scale of planting associated with the scheme. Indeed, when taken in the context of the presence of a large operational quarry and multiple roads in the area, the proposed development represents a modest intensification of existing land use (i.e., additional road).

In terms of cumulative visual impacts, as has been determined from the analysis of the 11 selected viewpoints in Section 11.8.3, the only location where such cumulative visual impacts have the potential to arise is at VP1. However, at that location only the western entrance to the new

proposed access road will be seen in tandem with the relocated quarry entrance, and not the permitted quarry nor the access road itself.

In addition, the proposed widening of the L1615, the proposed application of a new surface overlay on the L1615 (from its junction with the R150 to the entry / exit point of the proposed link road) and the proposed strengthening and repair works required to Beaumont Bridge will also take place. This will mean that its physical landscape impacts will be highly localised and compatible with similar works regularly carried out to roads in the study area and bridges in the wider rural/county context.

Consequently, the proposed development is not considered to give rise to any significant cumulative impacts.

11.10 Summary

In terms of **landscape impacts,** the quarry site displays a robust set of features that will help to assimilate, absorb and integrate itself into the surrounding landscape of the central study area and its documented landscape character.

Quarry projects tend to highlight the difference between landscape impacts and visual impacts more than most other developments. That is, the distinct physical impacts on land form and land cover are often not manifest in changes to prevailing landscape character or visual amenity. While the landscape of the central study area consists of several hundred hectares, the permitted quarry development consists of the extension of the existing quarry extraction area of c. 17.3 ha. Furthermore, to the landscape, that extraction area represents the continuation and extension of the existing quarry; a traditional and long-established land use for this part of the study area for more than a century.

Indeed, in this much-modified and ever-evolving landscape, quarrying has traditionally sat alongside pasture, tillage and the large amenity of nearby Bellewstown racecourse, and the proposed continuation of quarrying activities and quarry extension - from the permitted 10 years to the proposed 25 years - would merely represent the continuation of that diverse status quo. It is worth reiterating in this summary that in terms of the quarry, the quarry extension has already been permitted under the aforementioned 37L development; what is being proposed for the quarry is mostly an extension of time from 10-25 years. Consequently, the significance of landscape impact is not considered, on balance, to be any greater than Imperceptible for the western section of the site.

Be that as it may, the physical landscape impacts of an approx. 1,730m long and minimum 6m wide new access road, proposed in the eastern section of the site, will result in at least 10,300 m2 (i.e., approx. 1 hectare) of excavations and fill/hardscape into what is currently a greenfield site (i.e., an exceptionally large field). Following this, there's the proposed creation of two new entrances to/from the new road. However, this is offset somewhat by over 1.6km of new native hedgerows and over 5 hectares of new native woodland that will be planted during the construction stage of the proposed development (between the eastern and western sections of the site) - approx. 5 times the area taken up by the proposed new access road. Consequently, the significance of landscape impact is not considered, on balance, to be any greater than Moderate-

slight for the eastern section of the site, while the significance of impact on landscape character of the study area is not considered to be any greater than Slight.

In terms of **visual impacts**, it is noted that any quarrying operation has the potential to be a conspicuous and severe element in any landscape, which some people can perceive as devaluing, degrading or scaring that landscape. On balance, such perspectives are influenced by the precedence, scale, shape and duration of the proposal, and how it may complement or contrast with its immediate surroundings, including its impact on local/neighbouring properties and/or roads.

In the case of the proposed development, it's location upon a hilltop allows for extensive theoretical visibility of the permitted quarry from a wide range of receptors in the surrounding community. However, owing to the embedded mitigation measures that are integral to the proposal (e.g., berms/bunds surrounding the permitted extension, as well as vast swathes of native hedge and tree planting), such theoretical visibility of the permitted quarry never eventuates 'on the ground.' This was comprehensively demonstrated above in Section 11.8.3 across 11 distinct viewpoints, captured from a range of different distances, angles and contexts; as opposed to likely views of distant bunds/berms and native tree planting associated with the proposal. Rather, in this instance, visibility of the proposal relates more so the proposed new entrance to the existing quarry, and the associated quarry infrastructure within approx. 50m of that entrance, as well the proposed 1.7km long access road proposed for the eastern section of the site, which also entails two new access/exit points onto local roads almost 1 km apart.

As a result, overall, the range of potential residual visible impacts that are likely to be generated as a result of the proposed development is notably low. An analysis of 11 selected viewpoints within the study area resulted in an 'Imperceptible/neutral' or 'Slight-imperceptible/positive' residual visual impact significance/quality of effect in 9 out of the 11 locations. To be clear, where a 'positive' quality of effect was deemed in such instances, it is because the scale, discernment and placement of the proposed native planting associated with the proposal is, residually, likely to enhance the setting. In those two locations positioned at the new entrances to the proposed road, VP1 was found to have a 'Slight/positive' visual impact significance, owing to the distinctively low inherent visual amenity of this setting, whereas VP8 had a 'Slight/negative' visual impact significance. This is a distinctively low range of likely visual impacts for most proposed developments; even more so for a rock quarry with a proposed approx. 1.7km-long road.

11.11 Conclusion

Based on the landscape and visual impact judgements provided throughout this assessment, the proposed development is not considered to give rise to any significant residual impacts.