January 2025

Non-Technical Summary (NTS) Volume 1

Proposed Quarry Re-Commencement & Extension

Herbie Stephenson

Deerpark, Donard, Co. Wicklow

MALONE O'REGAN ENVIRONMENTAL

Form ES - 04

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Proposed Quarry Re-Commencement & Extension

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1 INTRODUCTION

Malone O'Regan Environmental ('MOR Environmental') was commissioned by Herbie Stephenson Limited ('the Applicant') to prepare an Environmental Impact Assessment Report ('EIAR') in support of a planning application to Wicklow County Council ('WCC') for the proposed re-commencement of quarrying at an old rock quarry in Deerpark, Donard, Co. Wicklow, to a level of 165 metres above Ordnance Datum ('mAOD'), along with the extension of the quarry into reserves to the south and east of the old quarry (the 'Proposed Development').

1.1 General

This Non-Technical Summary ('NTS') document (Volume 1) provides a summary in non-technical language of the information within the main text of the EIAR that is contained in Volume 2, while the supporting technical documents are presented in Volume 3 – Appendices. It should be noted that the phrase "not significant" is a term which usually means that the activity referred to can result in notable changes to the environment but without significant consequences.

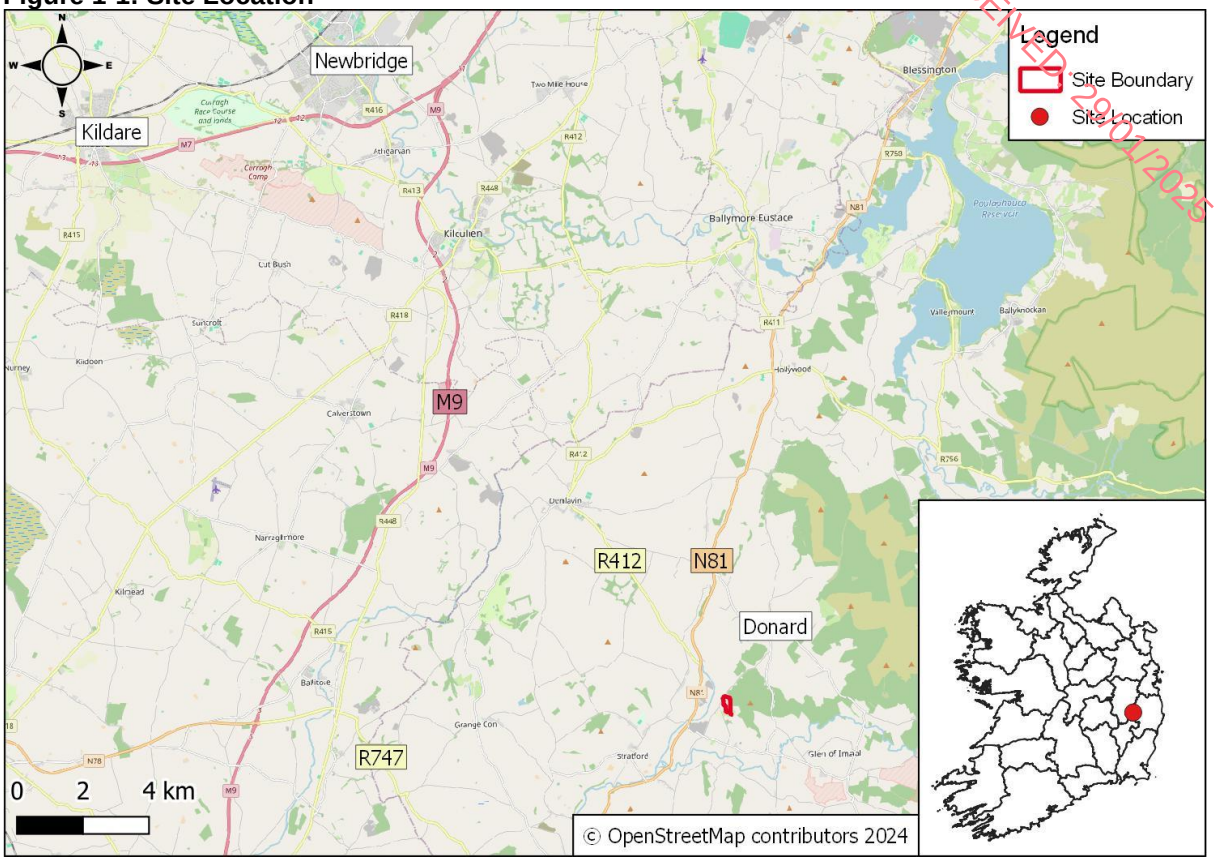
A significant effect, as per the Environmental Protection Agencies Environmental Impact Assessment Reports Guidelines 2022, is an effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment.

This EIAR is for a Proposed Development, which seeks to re-open of an old rock quarry in Deerpark, Donard, Co. Wicklow, along with the extension of the quarry into reserves to the south and east of the old rock quarry. The Proposed Development will involve the following works:

- The preparation of land for quarrying works, including the removal of vegetation, creation of berms and installation of security fencing;
- The blasting, extraction and processing of aggregate using machinery on the quarry floor; and,
- The restoration of the site after quarrying operations have ceased.

The Proposed Development will be located on a site covering an area of circa ('ca.') 8.1 hectares ('ha') ca. 2.4km southwest of Donard, Co. Wicklow, Ordnance Survey Reference ITM 692022, 695358, (the 'Site') as presented by the redline boundary in Figure 1-1 below. The Site encompasses a portion of the old quarry, and the extension lands to the south and east.

Figure 1-1: Site Location



1.2 The Applicant

The Applicant, Herbie Stephenson Ltd, was created in 2020 to operate within the haulage of aggregates to the construction sector and to amalgamate the business operations of the company principal, Mr Stephenson.

Mr Stephenson has worked in the extractive industry since 2003. He expanded into site clearance/construction and demolition. Prior to the creation of Herbie Stephenson Ltd and having gained significant management experience in construction and demolition ('C&D') wastes, Mr Stephenson began operating a large number of permitted waste collection vehicles under a countrywide waste collection permit. Mr Stephenson also established a permitted waste facility dealing with the intake of soil and stone. In 2019, Herbie was the project manager in the formation of a concrete recycling centre. At present, the Applicant has 15 employees and is recruiting.

1.3 Overview of the Site and Context

The current land (Figure 1-2 below) under owner interest, inclusive of the Site is ca. 20.5ha in size.

The Site was a pre-1963 quarry development which sought, and was granted, planning in 1991 on ca. 2.5ha (Planning Ref. 90/006374) for a period of five years. Operations ceased following the expiry of the planning permission. The quarry was registered under S261 of the Planning and Development Act as QY/28 in Wicklow and identified as a basalt rock quarry.

Planning was sought to re-open the quarry in 2021 (planning reference 21/1472) with a site area of ca. 2.4ha and a pit floor of 165mAOD. The application was refused by the Local Authority on the grounds that a sub-threshold EIAR and a Stage 2 Natura Impact Statement ('NIS') should have been supplied as part of the planning application.

Planning was sought to re-open the quarry in May 2024, with a site area of ca. 10ha, which included an EIAR and NIS, which was refused on 5 grounds on 23rd July 2024, including the visibility of the Site, concerns on sightlines at the existing entrance, outline works required on the L4320 local road, risks of noise on archaeological sites, and the understood assessment of the overall restoration plan objectives within the EIAR and NIS.

The Site comprises the old quarry and the proposed extension lands, primarily to the south and southeast. The proposed extension lands comprise of areas of scrub and improved agricultural grassland. This is a greenfield area with no history of planning or development. The northern area of the Site is located within the old quarry. This area has been completely stripped of overburden. To date, quarrying activities within this area have extracted material to a depth of ca. 173mAOD. The entrance to the old quarry, located adjacent to the local road (the L4320), lies at a level with the road at ca. 166-167mAOD.

The Site is located within an agricultural area. The lands to the north and east of the Site contain commercial coniferous woodland plantations and scrub habitat bound by agricultural fields in the form of pastures. The lands to the west of the Site consist of agricultural pastures, one-off residential dwellings and the L4020 (the Donard Mountain Road). The Slaney River Valley SAC is a Special Area of Conservation ('SAC') and is located ca. 221m west of the Site. The closest Special Protection Area ('SPA') is the Wicklow Mountains SPA, which is located to the east of the Site and lies 6km from the Site at the closest point. The Site is located ca. 2km south of Donard town via Donard Mountain Road and the L4317. There are a number of residential properties in the locality, with the closest residential property to the Site being two dwellings ca. 85m southwest of the Site boundary.

Figure 1-2: Site Boundary and Land Under Owner Interest Boundary

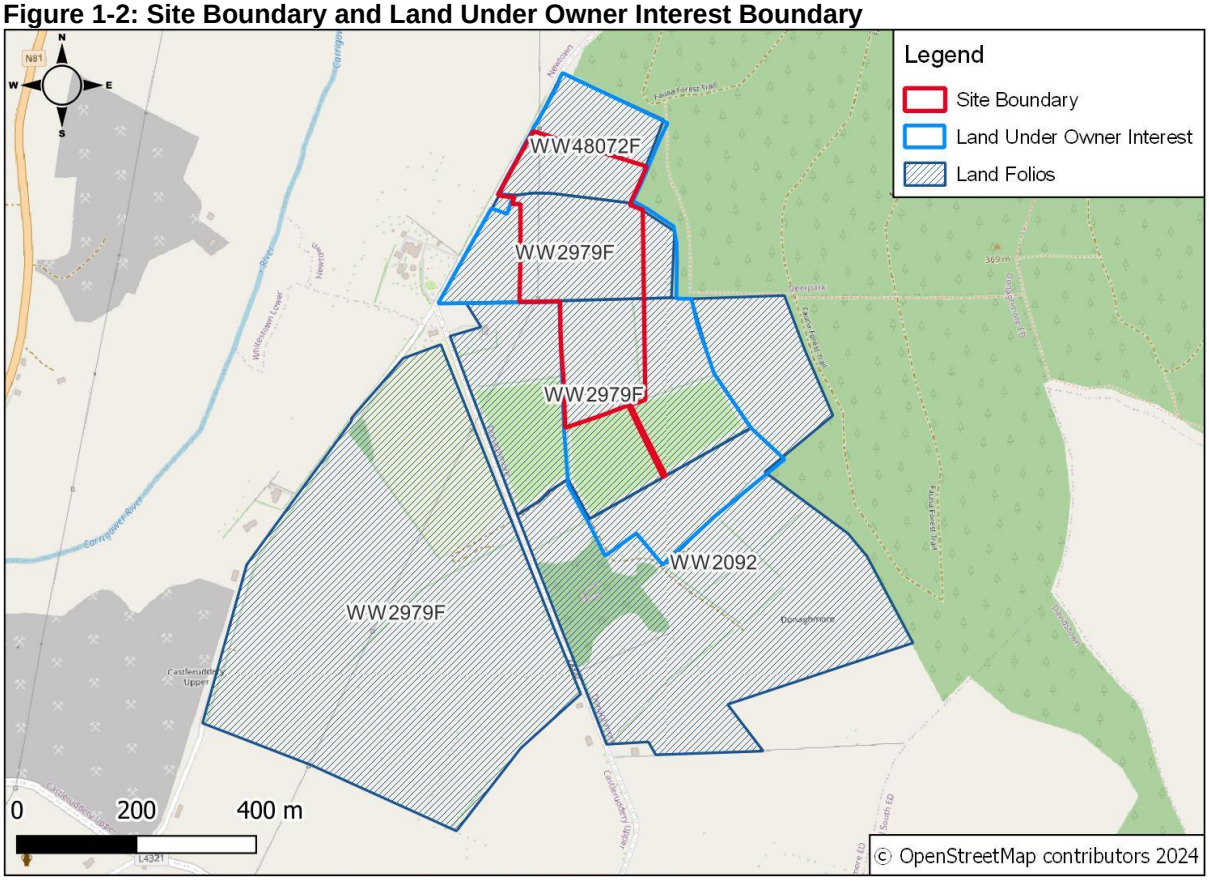


Figure 1-2 above also indicates lands under control of family members to the Applicant, specifically land folio's WW2226 and WW2979F which border local road L-4020.

1.4 Environmental Impact Assessment Report ('EIAR')

This Environmental Impact Assessment Report ('EIAR') has been prepared in accordance with all relevant legislative and best practice guidelines in support of the planning application.

1.5 Consultation

As part of the Environmental Impact Assessment, a non-statutory consultation document was issued to all relevant stakeholders, inviting their comments on the Proposed Development on 30th January 2023. All responses received were considered throughout each stage of the design of the Proposed Development and the Environmental Impact Assessment process. Table 1-1 below outlines the consultees who responded and where their responses were taken into consideration in Volume 2 of the EIAR.

The consultation outlined below was undertaken on the planning application 24/60294, which proposed a rock quarry over the same Site, including additional lands and for a more intense development. Additionally, submissions made during the planning application 24/60294, along with the Councils Planner Report and the Councils reasons for refusal, have been considered in developing this Proposed Development's design and development.

Table 1-1: Consultation and Consultee Responses

Consultee	Date of Responses	Method of Responses	Topics Raised	Relevant Chapter
An Taisce	N/A	N/A	N/A	N/A
Wicklow County Council	N/A	N/A	N/A	N/A
BirdWatch Ireland	N/A	N/A	N/A	N/A
Friends of the Irish Environment	N/A	N/A	N/A	N/A
Fáilte Ireland	N/A	N/A	N/A	N/A
Irish Wildlife Trust	N/A	N/A	N/A	N/A
Electricity Supply Board ('ESB')	N/A	N/A	N/A	N/A
Gas Networks Ireland	N/A	N/A	N/A	N/A
Department of Agriculture, Food and the Marine ('DAFM')	N/A	N/A	N/A	N/A
Department of Business, Enterprise and Innovation ('DBEI')	N/A	N/A	N/A	N/A
Environment ('DCCAE')	N/A	N/A	N/A	N/A

Consultee	Date of Responses	Method of Responses	Topics Raised	Relevant Chapter
Department of Culture, Heritage and the Gaeltacht ('DCHG')	N/A	N/A	N/A	N/A
Department of Rural and Community Development ('DRCD')	N/A	N/A	N/A	N/A
Department of Transport, Tourism and Sport ('DTTS')	N/A	N/A	N/A	N/A
Development Applications Unit – National Parks and Wildlife Service ('NPWS')	N/A	N/A	N/A	N/A
National Monuments Service	N/A	N/A	N/A	N/A
Environmental Protection Agency ('EPA')	N/A	N/A	N/A	N/A
Geological Survey of Ireland ('GSI')	N/A	N/A	N/A	N/A
The Heritage Council	N/A	N/A	N/A	N/A
Office of Public Works ('OPW')	N/A	N/A	N/A	N/A
Sustainable Energy Authority of Ireland ('SEAI')	N/A	N/A	N/A	N/A
Teagasc	N/A	N/A	N/A	N/A
Eastern-Midlands Waste Management Office	N/A	N/A	N/A	N/A

Consultee	Date of Responses	Method of Responses	Topics Raised	Relevant Chapter
Health Service Executive ('HSE')	08/03/2024	Letter	Consultation acknowledgement received. The consultee has raised the assessment of impacts arising from the Proposed Development in relation to water, land, soils and geology, air quality, climate change and Opportunity for Health Gain, noise and vibration and waste management as topics for attention. Additionally, the consultee has recommended that public consultation be undertaken, decommissioning/restoration is considered, and an environmental management system is put in place.	The topics raised by HSE are addressed in Chapters 3, 5, 7, 8, 9, 10 and 11, of the EIAR.
Inland Fisheries Ireland	15/02/2024	Email (letter attached)	Consultation acknowledgement received. The consultee directs attention to the Carrigower River and The Slaney River as important as the Special Area for Conservation. The consultee raises the assessment of suspended solids associated with road run-off on the local road network due to traffic generated by the proposed developmental road. Consultation acknowledgement received. The consultee has raised the assessment of archaeology and stated the need for appropriate mitigation measures where appropriate.	The topics raised by the consultee are addressed in Chapters 6 and 13.
Department of Housing, Local Government and Heritage	05/03/2024	Email (letter attached)	Consultation acknowledgement received. The consultee has raised the assessment of archaeology and stated the need for appropriate mitigation measures where appropriate.	The topics raised by the Department are addressed in Chapter 13.
Uisce Éireann	25/02/2024	Uisce Éireann	Consultation acknowledgement received. The consultee raised the assessment of the potential impact from backfill materials and to surface waters, groundwater and drinking water supplies and stated the need for appropriate mitigation measures as required.	The topics raised by Irish Water are addressed in Chapters 7 and 8.

Consultee	Date of Responses	Method of Responses	Topics Raised	Relevant Chapter
Transport Infrastructure Ireland ('TII')	08/02/2024	Email (letter attached)	Consultation acknowledgement received. The consultee has raised the assessment of impacts on the national road infrastructure and has requested that consultation take place with the local authority in relation to existing and future road schemes; The consultee has also specified the need for an assessment of noise. In addition, the consultee requests a Traffic and Transport Assessment, if it is deemed appropriate. Finally, the consultee has requested the identification of appropriate haul roads that can properly serve the material being exported from the Site.	The topics raised by TII are addressed in Chapters 9,10,11 and 14.

2 PLANNING CONTEXT & THE NEED FOR THE PROPOSED DEVELOPMENT

2.1 Site Ownership

The Site occupies an area of ca. 8.1ha which spans into the greenfield extension lands to the east and the south of the old quarry.

The Applicant owns the old rock quarry, which previously processed and stored aggregate on-site.

The greenfield extension lands are owned by a relative of Mr. Stephenson, who has given their consent for the Applicant to make a planning application for the development of lands within the Site boundary.

2.2 Planning History at the Site

The Site was a pre-1963 quarry development which sought, and was granted, planning in 1991 on ca. 2.5ha (Planning Ref. 90/006374) for a period of five years. Operations ceased following the expiry of the planning permission. The quarry was registered under S261 of the Planning and Development Act as QY/28 in Wicklow and identified as a basalt rock quarry.

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The Site comprises the old quarry and the proposed extension lands, primarily to the south and southeast. The proposed extension lands comprise of areas of scrub and improved agricultural grassland. This is a greenfield area with no history of planning applications on the WCC planning portal [1]. The northern area of the Site is located within the old quarry. This area has been completely stripped of overburden. To date, quarrying activities within this area have extracted material to a depth of ca. 173mAOD. The entrance to the old quarry, located adjacent to the local road (the L4320-0), lies at a level with the road at ca. 166-167mAOD.

2.3 Planning Guidance

The planning context of the Proposed Development has been considered in terms of all national, regional, and local planning contexts.

The National Planning Framework lays out plans to manage more balanced growth between the major Irish cities (Dublin, Cork, Galway, Limerick and Waterford) and Ireland's rural communities. The National Development Plan also outlines the intent to invest in public infrastructure and housing. Both the National Planning Framework and the National Development Plan will require significant quantities of aggregate to deliver new infrastructure. The Irish Concrete Federation released a report stating that in order to meet the growth targets within the National Planning Framework and the National Development Plan, '1.5 billion tonnes of aggregates' are required.

The Eastern and Midland Regional Assembly intends to distribute future population growth and development across the region in a balanced and equitable manner and with a much greater focus on economic development and potential.

The Wicklow County Development Plan ('CDP') 2022-2028 was reviewed. The CDP includes objectives which relate to the extractive industry alongside meticulous guidelines to ensure responsible quarry operations. These guidelines encompass considerations such as noise pollution, dust emissions, water quality preservation, and landscape conservation, which have been considered as part of this assessment.

2.4 The Need for the Proposed Development

The Proposed Development will allow for the extraction of quality aggregates and supply to the extractive industry market. The benefit of supplying to this market for the economic growth of the region is in congruence with the aims set out in the CDP.

The policies and objectives of the local and strategic plans for the Eastern and Midlands area, as outlined in Section 2.5 in the EIAR, target the economic and infrastructural development of the region. These plans will require the supply of good quality aggregate material from a selection of competitive quarry operators and quarry sites.

3 DESCRIPTION OF THE PROPOSED DEVELOPMENT

The Proposed Development covers an area of ca. 8.1ha., extending from the old quarry at Deerpark into the greenfield extension lands to the east and south.

The Proposed Development seeks to re-commission the existing old quarry and extend into the land into the east and south for an overall extraction area of ca. 5.01ha. The Proposed Development seeks to extract to a level of 165mAOD. The Proposed Development also includes for all related ancillary works i.e., the provision of screening berms, tree planting and landscape works along the perimeter of the Site and the provision of final restoration works to include the extension area. Therefore, the Site boundary covers a total area of ca. 8.1ha.

Additional facilities such as a canteen, office and washroom facilities will be required and constructed in the old quarry.

The Site has an estimated reserve of ca. 1,283,500m^3 or 3,080,400 tonnes of aggregates. The Applicant is seeking 25-year planning permission for operations to remove this remaining reserve (up to 16 - 22 years permission for quarrying activities), up to one year for construction activities and the rehabilitation of the Site (two years permission). A mobile crushing and dry screening plant will be used. The Proposed Development plans to extract and process up to of 200,000 tonnes of aggregates per annum ('tpa') on average.

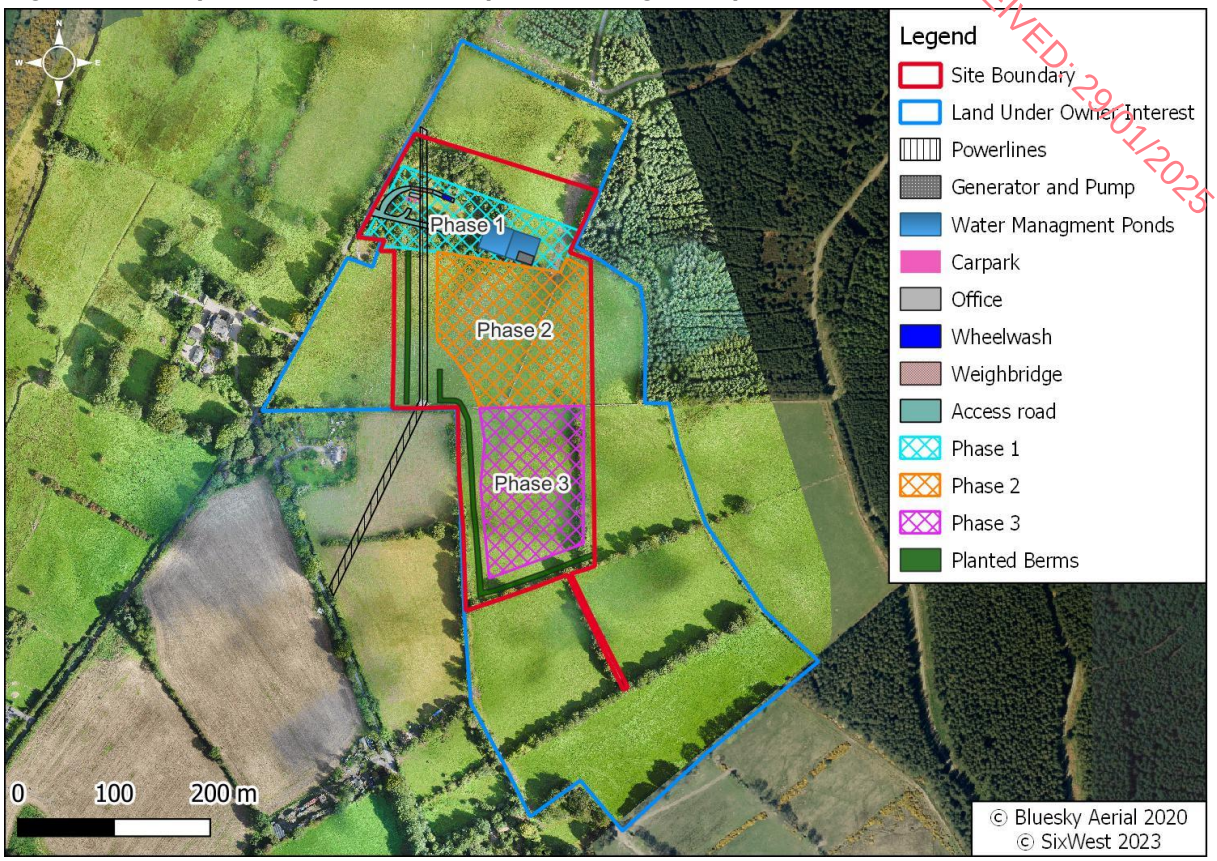
The Proposed Development activities will include the use of drilling and blasting of the rock face, the crushing and screening of aggregate by size/weight, including the placement of aggregate within stockpiles, and the haulage of aggregate from the Site.

Following the cessation of activities within the Site, a rehabilitation plan will be implemented. Therefore, a Restoration Plan will be submitted as part of this application and will ensure vegetation becomes established during the operational phase of the quarry, thereby reducing the overall impact (i.e. dust, visual, flora and fauna). The approximate timeline for the Proposed Development is:

- Construction Phase – (Up to 12 months);
- Operation Phase – 16-22 years; and,
- Restoration Phase – Two years.

The full extent of the Proposed Development during the operational phase is shown below in Figure 3-1.

Figure 3-1: Scope of Proposed Development during the Operational Phase



3.1 Construction Phase/Site Preparation

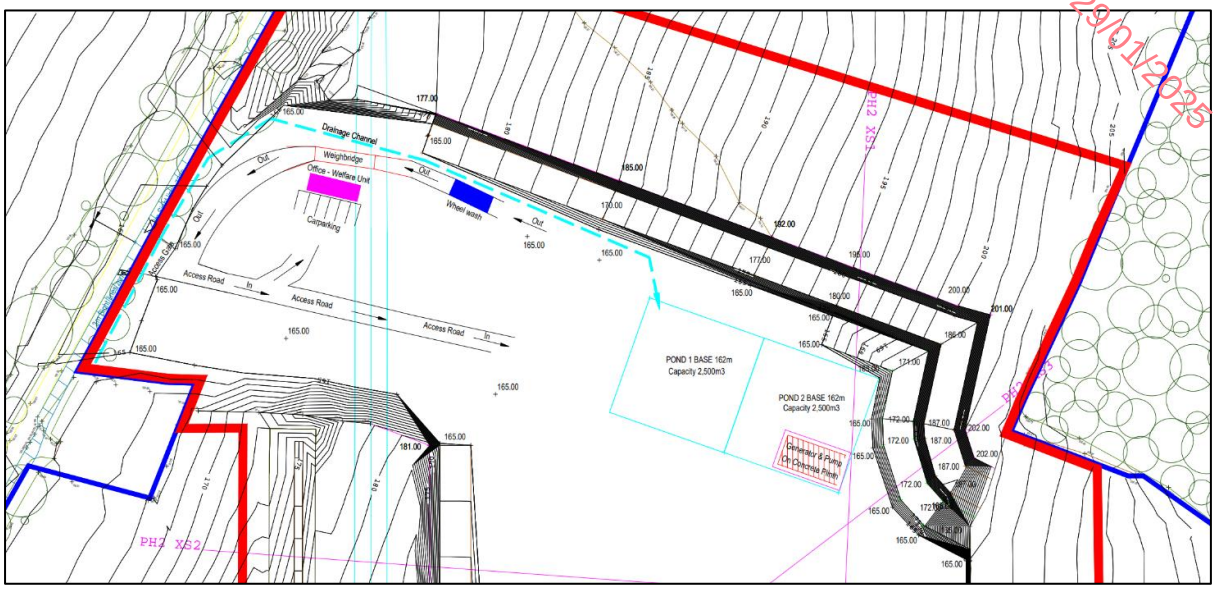
The Construction Phase relates to the preparation of the old quarry for aggregate processing activities. Initial work within the old quarry involves the clearing of vegetation and reduction in the floor level in order to prepare the face for blasting. During these works, the Site entrance will be improved to provide for a modern site entrance off the local road, positioning of an office with welfare, weighbridge, water management ponds, wheel wash and parking. A woodland area will also be planted to the north of the Site within the lands under the owner interest to compensate for vegetation clearance works.

Prior to each phase of operational development, as shown in Figure 3-1 above, the topsoil and overburden will need to be removed. This material will be utilised in the creation of the boundary embankments/berms and planted with native species to stabilise the berm. Additional planting will also occur along the eastern Site boundary. To minimise the area of exposed ground, soils and overburden will be removed prior to the need for a new phase of extraction. Plant and equipment used for overburden removal will primarily include the use of an excavator and wheel loaders. This phase will result in an exposed rock outcropping.

The general infrastructure required for the Proposed Development, such as the Site office, welfare facilities, parking, weighbridge and wheel wash, are shown in Figure 3-2 below. Employee welfare will be provided by a new office, and the welfare unit will be placed adjacent to the proposed wheel wash and weighbridge. As part of on-site hygiene facilities, a toilet and sink will be constructed on-site. Wastewater produced by these facilities will be retained on-site, which will be specifically constructed for the facility. This system will be emptied on an as-needed basis by appropriately qualified waste contractors. This is to be accompanied by an internal road. Car parking spaces will be located close to the proposed office; see Figure 3-2 below. The construction phase will likely require up to one year to complete.

This is proposed in order to provide a more structured approach for the provision of services to incoming / departing trucks.

Figure 3-2: Proposed Site Infrastructure – Extract Drawing MD241119-12



3.2 Operational Phase

The Operational Phase involves a number of activities. The southern and eastern section of the Site retains the main volume of future aggregate, and this land will require site clearance, and the creation of embankments / berms prior to quarrying activities occurring. The proposed finished quarry floor is 165mAOD, therefore, to develop the Site to this quarry floor level of, up to three benches of 15m will be required on the eastern section of the Site.

The first step is the preparation of the rock, which will be completed by a competent blast specialist. This will include a review of the rock face to identify suitable depths and necessary blast pressure required to fracture the rock face in a safe manner. Following this review, the contractor will drill holes along the rock face and when complete, a predetermined explosive charge will be installed, and the hole sealed. This preparatory work will typically last for several days.

WCC and all residents within 500m from the Site boundary will be notified of the proposed blast date, including details for contacting the Site in the event of pre-blast enquiries or post-blast submissions.

On the date of a blast, a safety zone will be established, where all site personnel, plant and equipment are removed from this zone. The safety zone will be specified by the Blasting Specialist and will be enforced by the Site Manager. Typically, no other operations on the Site within the blast zone will occur during a planned blast event.

Once the plant and equipment re-enter the blast area, the rock is collected by wheel loaders and transported to the mobile crushing / screening plant. From the mechanical process, the rock is sized and graded and placed into stockpiles of graded rock.

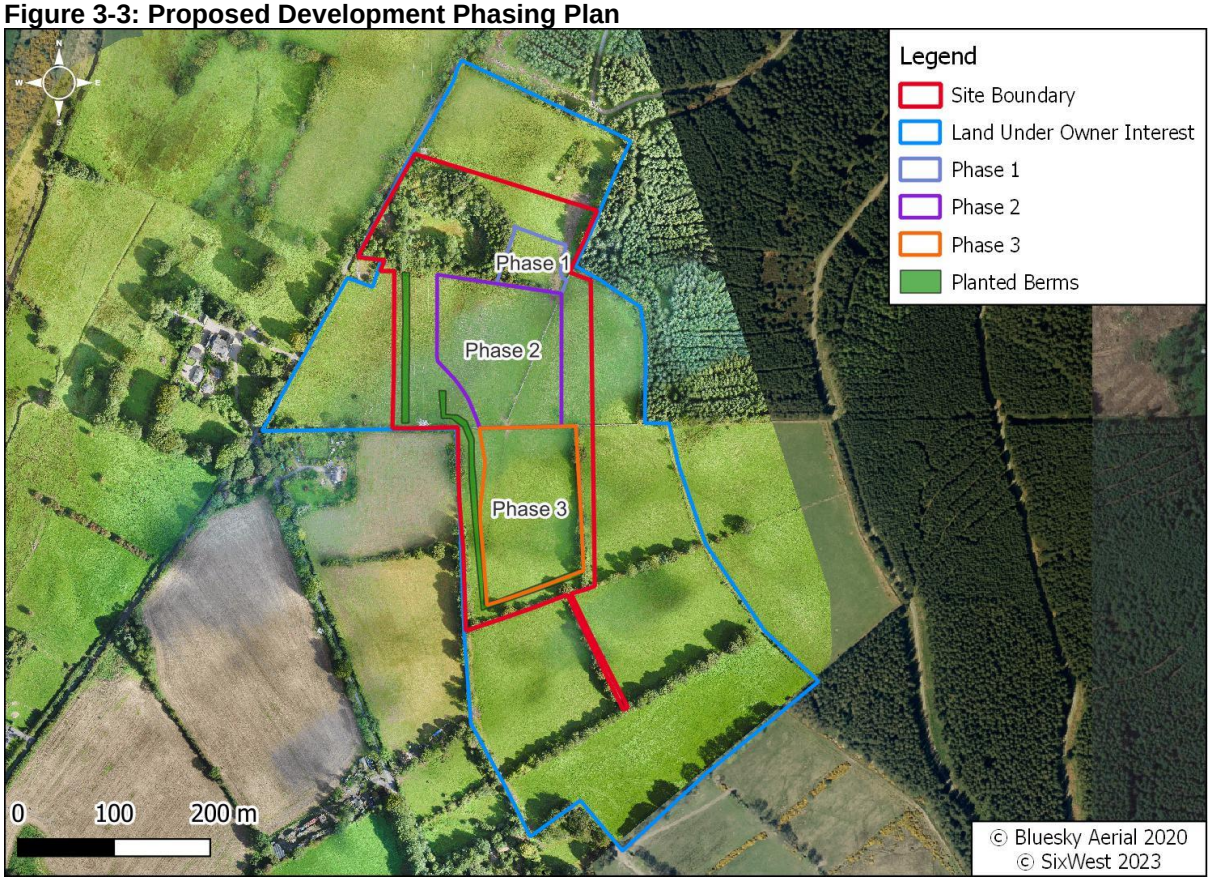
The ‘aggregate’ is then loaded onto trucks and transported to different sites for use.

During this Phase, on-site plant includes a front loader, excavator, dump trucks, mobile crushing / screening plant, transportation trucks and a drill rig for the rock face preparation.

3.2.1 Operational Extraction Phasing

The Proposed Development will be phased over its lifetime. This will limit the exposed rock at any one stage at existing ground level and will enable the establishment of boundary mitigation features, such as the tree and foliage growth on the southern berms. Although each phase of development is shown as a distinct element, operationally, it will be necessary to commence the next phase prior to the completion of a phase of development. These phases may occur chronologically or not, depending on the life stage of the quarry. This will ensure blasting occurs onto a quarry floor below it of ca. 15m depth, along with requirements for safe haulage routes. The phasing plan is outlined in Figure 3-3 below.

Figure 3-3: Proposed Development Phasing Plan



3.2.2 Operational Hours and Staffing

The main operational processing hours for the Proposed Development will be:

- Monday to Friday: 08:00 to 18:00;
- Saturday: 08:00 to 14:00; and,
- Sunday & Public Holidays: Closed.

Heavy Goods Vehicles ('HGVs') movements in and out of the quarry will occur up to one hour before and after processing operations – i.e. between 07:00 – 19:00. This is to allow for departure of HGVs loaded the previous day and ensure returning HGVs can access the Site at the end of the day.

The quarry will support ca. 5-8 full-time employees arising from on-site personnel, and maintenance personnel. The Proposed Development will result in increased employment indirectly through need for hauliers, and employee purchases at local businesses.

3.2.3 Drainage

Currently, the Site is not bounded by streams / rivers. Rainwater across the Site percolates to the ground. A drainage channel along the vehicular entrance connects to the water management system to prevent water from leaving the Site.

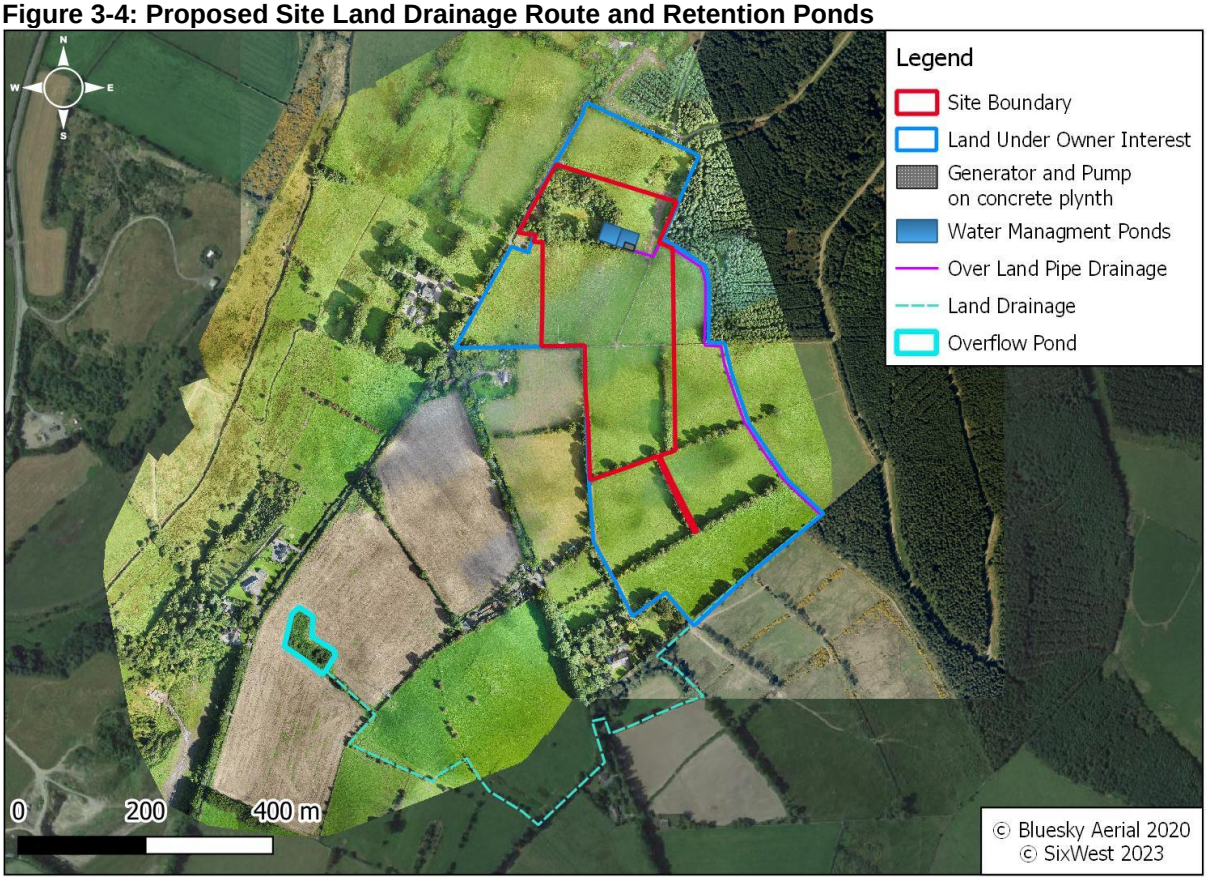
Water arising from the Proposed Development will consist of groundwater seepage and rainwater. Two water management ponds of ca. 2,500m^3 each will be developed during Phase 1 works to allow water on the ground of the quarry to drain into; refer to Figure 3-4 below for context.

Surface water run-off from the Site will percolate to the ground, with some evaporation across the exposed rock surface also occurring. Excess run-off water, typically arising during heavier rainfall will be directed to the water management ponds.

A drainage channel along the western entrance will connect to the water management system, where water is pumped uphill and directed south, ultimately reaching an existing pond situated in a family member's field to the south of the Site. Most on-site water will consist of rainwater and groundwater with occasional storm events requiring active management. To address this, provisions will be made for a pump and generator to remove excess water from the Site, channelling it into local land drains located along the southern boundary. This excess water will then flow to the pond southwest of the Site.

Seepage into the Proposed Development and rainfall will be of low volume, and during the majority of the year and during the opening years of phase 1 and phase 2, are calculated to be managed through percolation through the rock fissures and evaporation. During the later stages of the Proposed Development and during heavier rainfall events, periodic pumping of water from the water management ponds via an overground pipe to the land drain will occur, see Figure 3-4 below and Chapter 8 'Water (Hydrogeology and Hydrology)'.

Figure 3-4: Proposed Site Land Drainage Route and Retention Ponds



3.3 Rehabilitation Phase / Site Closure

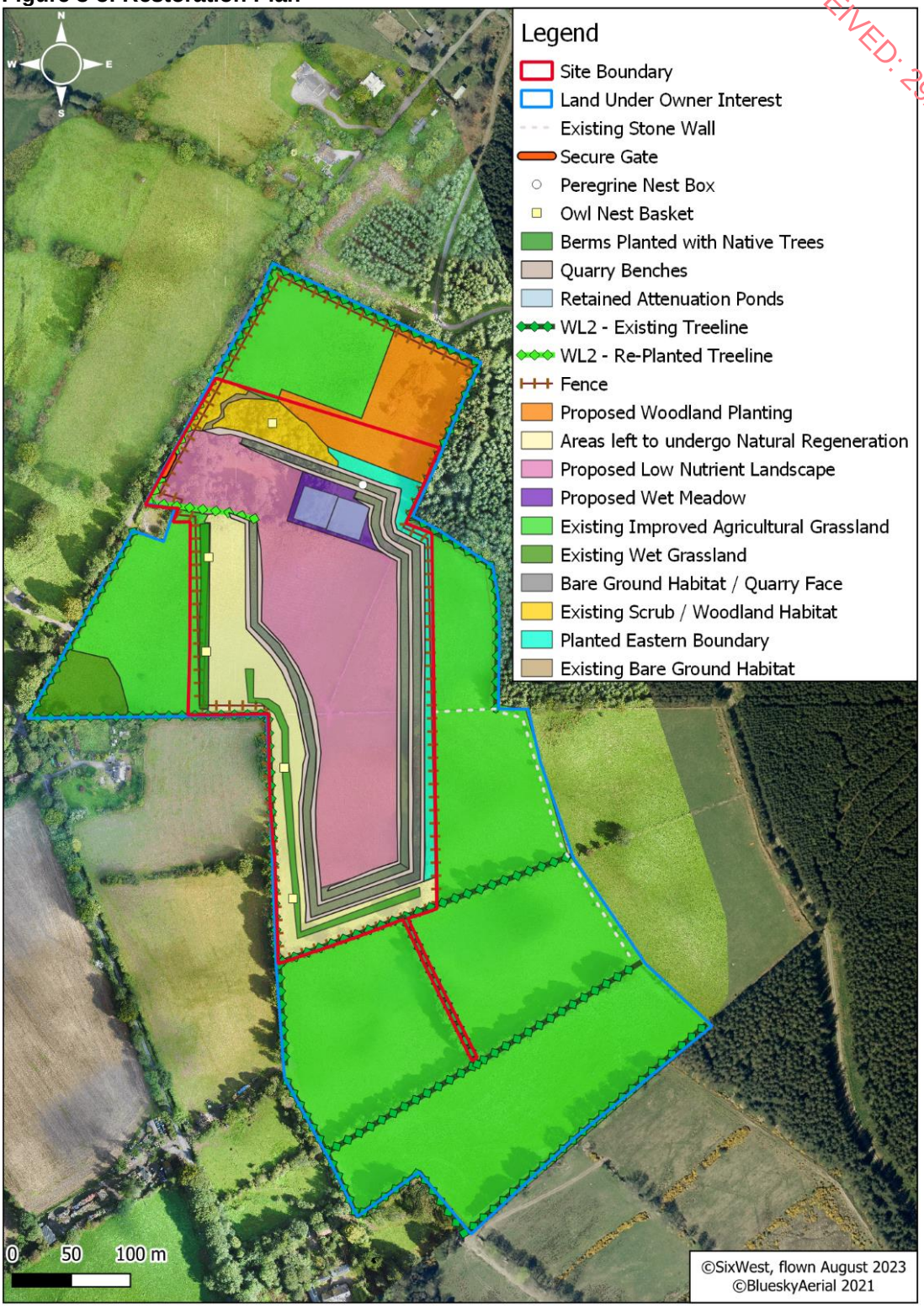
A Restoration Plan is submitted as part of this application in Volume 3 (Appendix 6-1). This plan outlines the proposed restoration measures for each phase of the Proposed Development alongside the measures to be undertaken once operations have ceased.

During the operational phase, planting along the berms, eastern boundary and within the woodland habitats will become established, thereby reducing the overall impact (i.e. dust, visual, flora and fauna) typically associated with quarry developments.

Once operations have ceased, the Restoration Plan will provide a mosaic of habitats including woodland areas, retained and re-planted treelines, ponds, bare ground/unvegetated quarry benches and areas of recolonising bare ground where natural succession and regeneration will occur over time. The Restoration Plan also includes for the installation of a peregrine falcon nest box within the Phase 1 quarry area along the northeast quarry face after quarrying in this area has ceased and five owl baskets within the northern and western portion of the Site and lands under owner interest including in the retained scrub / woodland habitat on the proposed berms planted with native trees. Refer to Figure 3-5 below for context.

Upon the completion of extraction activities, the Site will be made safe and developed to enable a biodiverse habitat to be maintained. A detailed Restoration Plan has been developed and is included with the EIAR and in Volume 3. The Plan covers both the immediate works on the Site and the aftercare for a period of 2 years post-closure.

Figure 3-5: Restoration Plan



4 CONSIDERATION OF ALTERNATIVES

4.1 Alternative Locations

Consideration was given to an alternative location for the Site.

The Applicant holds a landbank which encompasses the old quarry, and an agreement is in place with Mr. T. Stephenson for the use of additional greenfield lands to the east and south bordering this landbank.

The need for the quarry is for the supply of rock, rather than sands or gravels, with various aggregates having a different market. Within the local market area, there are limited sites that meet the rock criteria and range of environmental and commercial issues, with this Site the only one under the interest of the Applicant.

Alternative expansion to the north is constrained by the proximity of the land to residential dwellings and forestry. Potential lands to the west of the Site are constrained by the Donard Mountain Road and residential dwellings, and a steeply falling topography indicative of reducing likely aggregate resources. Expansion to the west would also be constrained by the proximity of the lands to the Carrigower River.

Taking into account these factors the Site which includes an agricultural field to the south and east of the old quarry. This land is a greenfield site with no previous planning history. The agricultural field is setback from the Donard Mountain Road and residential dwellings resulting in a viable extraction area for the Proposed Development.

Therefore, extending the quarry into the lands proposed is the most viable option.

4.2 Alternative Design

4.2.1 Access

Consideration was given to utilising an alternative access route to the Site.

A review of the surrounding road network was undertaken as part of the assessment of alternative access points.

The Site is only accessible from the Donard Mountain Road via the L4321 off the N81 to the south or the L4317 to the north.

Alternative access to the extension lands via the L8320 would involve the purchasing of additional lands to the south and southeast of the Site and the construction of a new Site entrance and access road.

This would increase the distance HGVs would have to traverse and the increased likelihood of effects to nearby receptors from the Proposed Development.

The proposed access is a recommission / improvement of the existing access within the old quarry. The proposed access has been designed to avoid sharp turns and links into the old quarry directly.

Upon deeper consideration, choosing an alternative access was deemed impractical due to the likelihood of logistical confusion, potential disruption to neighbours and the duplication of resources. As such, an alternative access was not considered to be a preferred option.

4.2.2 Alternative Extraction

Reasonable alternative methods of extraction are limited. The phasing of the Proposed Development was looked at. This included extension of the extraction area into lands on the eastern (higher elevation). However, as this increased visibility of the Site, this option was less preferred.

Additionally, the dropping of the overall Site one bench prior to developing the second and subsequent benches was considered. Again, progression into the higher elevation lands at the earlier timelines was found to be less preferred from a visual perspective.

As a rock quarry, the need for wet processing was not considered as part of the Proposed Development.

Alternative extraction methods to blasting are limited and typically look to mechanical pressure. Such methods to remove blasting result in higher typical noise levels associated with the quarry and in smaller volumes of rock being separated from the quarry face. Based on the acoustics of the mechanical extraction methods, the industry standard of blasting utilising a Blast Specialist and complying with industry standards in environmental control of such blasts and HSE guidelines is the preferred option.

4.3 Alternative Processing

The aggregate processing / screening methods for developments at this scale can require the use of fixed or mobile screening equipment.

A fixed aggregate processing / screening plant can provide a large central processing area within the Site. This can allow the devolvement of storage areas and management of stockpiles around the central processing area. Potential noise / dust effects arising from the processing are centralised within the quarry void. However, a fixed processing plant requires a large area within the Site, which is installed on the ground and cannot be moved again. It often requires construction of foundation and ancillary structures, i.e., silos in the early stage. This leads to a generally larger investment and higher maintenance costs. Moreover, as the development reaches later stages of aggregate phasing, longer haul routes must be established for aggregates to be transported from the working face to the fixed processing plant.

Mobile aggregate processing / screening plant can be compact equipment which reduces the need for a large area to process and especially suitable for developments with complicated terrain. The high mobility makes the plant easily transported to other areas close to the quarry working face. Mobile aggregate processing/screening plant can be more economical and with the option of hybrid power of diesel and electricity, which can be cost-effective.

The use of mobile screening equipment was determined to be the most effective form of aggregate processing. Aggregate processing can be done close to the working face or transported on-site as needed.

4.4 Alternative Rehabilitation

A Restoration Plan for the Proposed Development includes the establishment of native species of vegetation along the landscaping berms, which will have become well-established over the course of the Operational Phase.

A Restoration Plan for the Proposed Development includes the establishment of native species of vegetation along the landscaping berms and a proposed woodland area, which will have become well-established over the course of the Operational Phase.

Water management ponds developed during phase 1 will be maintained on-site as water features, while the main quarry floor will be covered in soils and re-sown as a species-rich grassland. The benches and quarry walls will be left to recolonise species and as a habitat for nesting species.

Some consideration was given to the restoration of the Site through the import of inert soil and stone material. However, quarries present an opportunity for biodiversity, including solitary bees, rare floral plants and bird species such as peregrine falcon. It is considered that the habitats created once extraction has ceased will form part of a mosaic of habitats which will

support biodiversity. Therefore, the proposed restoration of the Site will be an appropriate end use of the land.

4.5 Alternative Layout

The original plan proposed extending the current phases (1-3) and adding two additional phases (4 and 5), on a larger scale. Phase 4 was to involve directing operations toward the east of the Site. Phase 5 would have extended operations towards the north and along the eastern boundary.

Following the refusal, the project was reviewed in light of the concerns raised by both submissions on the file and the Council and the Proposed Development outlined in this application has been designed.

4.6 Alternative Uses Including a "Do Nothing" Scenario

In addition to the main alternatives considered above, a "do-nothing" scenario was also considered.

The greenfield area of the Site is currently being used for agricultural purposes. The ecological surveys conducted on-site concluded that the Site is not of significant conservation value - refer to Chapter 6 for further details Therefore, a "do-nothing" scenario would result in the Site persisting in its current state as agricultural grassland.

The failure to develop the Site will remove a viable resource that will facilitate further development in the Eastern region, while the resultant rehabilitated Site would provide productive ecological land after operations have ceased on-site.

5 POPULATION AND HUMAN HEALTH

A desk-based study was carried out to characterise the environment in relation to the human population including the receiving population, population changes over time, employment levels and human health indicators. Information from the Central Statistics Office ('CSO') was analysed according to guidance from the Institute of Public Health ('IPH'), in particular the Health Sensitivity Conceptual Model.

The Proposed Development will be a direct provider of employment during the working life of the Quarry. Indirect employment arising from the quarry will result from the requirements of machinery maintenance, upkeep, deliveries, and professional services.

Mitigation measures have been included in relevant chapters within the EIAR to address any potential effects to human health arising from the Proposed Development.

The effect of the Proposed Development on the population and local economy in terms of direct employment can be considered as long-term and positive. The overall effect on human health was considered long-term and not significant. The effects on the local and regional aggregate supply can be considered as long-term, positive and moderate. The residual effect in terms of human health within the local population will be long-term and slight to moderate.

6 BIODIVERSITY

A comprehensive suite of ecological surveys and assessments, based on best practice guidance, were conducted at the Site. The assessments considered the full life cycle of the Proposed Development including the construction phase, operational phase, and restoration phase. The Site was assessed by suitably qualified MOR Environmental ecologists. An initial walkover was conducted to assess the extent and quality of habitats present, to cover the full lands under owner interest. The field surveys conducted on-site were extended to also identify the potential for these habitats to support other features of nature conservation importance and protected species (bats, breeding birds and reptiles).

There are no designated ecological sites within the Site boundary. However, the boundaries of three SACs and two SPAs are located within 15km of the Site. Given the distance and intervening lands between these European sites, most were screened out from further consideration. Further consideration was given to the Slaney River Valley SAC, in the NIS due to the potential connection through groundwater to the SAC.

A combined Stage One: Appropriate Assessment Screening Report and Stage Two: NIS has been prepared in support of this planning application. The NIS concluded that the Proposed Development, either alone or in-combination with other plans or projects, will not result in any significant adverse effects on any European sites or any of their designated features of interest following the implementation of appropriate mitigation measures. All mitigation measures have been incorporated to the Proposed Development.

6.1 Habitats

The northwestern portion of the Site contains the old quarry void which includes areas of hardstanding and a gated entrance. The old quarry has steep edges and vegetated margins consisting of mixed broadleaved woodland, scrub, dense bracken and recolonised bear ground. This habitat is slowly transitioning towards a mixture of grassland and scrub habitats.

Across the remainder of the Site, improved agricultural grassland was the dominant habitat onsite. Other agricultural grassland fields were present outside of the Site boundary in the lands under owner interest to the north, east and south. At the time of the survey, all agricultural fields were utilised as pastures for sheep.

The wider Study Area outside the Site boundary within the lands under ownership interest identified habitats of improved agricultural grassland, wet grassland, treelines and stone walls. These were a continuation of the habitats found on-site.

Loss or disturbance to improved agricultural grassland fields, spoil and bare ground and/or immature scrub habitats were not considered to be significant given the low ecological value of these habitats. However, the loss of treelines and woodland/scrub habitats within the Site boundary to facilitate the Proposed Development warranted further assessment. Mitigation measures have been included to ensure the protection of any species utilising these habitats (refer to Section 6.2 below) and to replace any vegetation removed. An area of woodland will be planted in the north of the lands under owner interest which will partially compensate for the removal of vegetation on-site. Screening berms and boundary planting will be introduced around the proposed extraction area. The berms will be planted with a mix of native tree species to ensure a net increase in vegetation on-site. As such, the impact of the Proposed Development on habitats is considered to be not significant.

After each phase of operations, the stored topsoil and overburden will be spread across the quarry floor to kick-start the restoration process. Once quarrying activities have ceased, the Restoration Plan will provide a mosaic of habitats including woodland areas, retained and re-planted treelines, ponds, bare ground/unvegetated quarry benches and areas of recolonising bare ground where natural succession and regeneration will occur over time. A wet meadow will also be introduced onsite alongside a peregrine falcon nest box and several owl nest baskets. The creation/protection of these habitats will ensure that the Proposed Development does not have a significant negative effect on biodiversity.

6.2 Species

Following the initial assessment of the Site and to ensure a comprehensive assessment of the potential impacts of the Proposed Development the following surveys were undertaken: raptor surveys, breeding bird surveys, badger surveys, bat surveys, reptiles and invasive species. These surveys covered various areas within the Site boundary, the lands under owner interest and habitats of note outside of the site boundary and lands under owner interest, collectively referred to as ‘the Study Area’.

No bats were recorded roosting in any trees. During the dusk and dawn survey, six bat species were recorded foraging and commuting within the Site. Therefore, it is considered that the Site is of high local value to foraging/commuting bats. A full bat report can be found within Volume 3 of this EIAR.

A total of 44 bird species were recorded during the breeding bird surveys conducted by MOR Environmental Ecologists and Dr. Marc Ruddock, Mr Douglas Ruddock and Mr. James Irons in 2023. One species, long-eared owl, were confirmed to be breeding on-site and a number of species were considered possibly breeding. Updated peregrine falcon surveys conducted in 2024 by Dr. Marc Ruddock, Mr Douglas Ruddock, Mr. James Irons and Mr Alan Ferguson did not identify any evidence of peregrine activity or successful breeding within the quarry. A full bird report and raptor report can be found within Volume 3 of this EIAR.

The Study Area was considered to have suitable habitats for reptiles identified within the north and the centre of the Site. However, seven field surveys were undertaken at the Site, no reptiles or evidence of reptiles were identified. A full reptile report can be found within Volume 3 of this EIAR.

The Study Area is not considered suitable for otters and there was no direct evidence of otter using the Site in the form of otter spraints, prints or feeding remains. However, it was concluded that otter may forage on amphibians within the pond located ca. 490m to the south of the Site. The Study Area was considered suitable for commuting and foraging terrestrial

mammals such as pine martens and hedgehogs. However, no direct evidence of these species was identified during the field surveys.

Taking the above into account, the Proposed Development may result in some disturbance to wildlife in the area. Therefore, specific mitigation measures have been included for the protection of bats, birds, and terrestrial mammals. These mitigation measures include the protection of retained treelines to remain as suitable foraging and commuting habitats for bats, the maintenance of buffers between future potential peregrine falcon nests and blasting and supervising the removal of vegetation on-site to avoid potential disturbance to terrestrial mammals. Human access will be restricted below cliffs which are expected to be actively utilised by peregrine falcon during the operational life of the Proposed Development which will allow peregrine falcon to use the Site as a breeding site. Additionally, no vegetation removal will take place during the breeding bird season (1st March to 31st August), and the restoration plan includes woodland and boundary planting which will replace the vegetation removed to facilitate the Proposed Development. Bats, birds and terrestrial mammals will be able to use the proposed planting onsite for potential nesting, foraging and commuting. Peregrine nest boxes and owl baskets will be introduced on-site to create habitat for protected species.

No plant species protected under the Flora Protection Order were recorded within the Study Area and no regulated high-impact invasive species were identified. However, biosecurity considerations and measures to prevent the introduction of invasive species onsite will be implemented for the duration of the works.

Considering the nature of the Proposed Development, the mitigation measures to be implemented and the proposed planting and restoration of the Site, it is concluded that the Proposed Development will be consistent with the National, Local and Municipal planning policies and objectives, and the effect on local biodiversity will be not significant.

7 LAND USE, SOILS AND GEOLOGY

The Proposed Development will consist of the re-commencement of the old rock quarry along with the extension of the quarry into reserves to the south and east of the old quarry. The old quarrying activities within this the existing quarry have extracted material to a depth of 165mAOD in some areas. The Proposed Development seeks to quarry this additional land which covers a total extraction area of ca. 5.01ha comprising of scrub and improved agricultural grassland to ca. 165mAOD.

The Site is currently used for agriculture and goes from a high elevation of ca. 209mAOD on the east to a low elevation of 198mAOD at the boundary with the local road which adjoins the southwestern boundary. A drainage channel is positioned to the west along the Site entrance. Within the historic quarry, the exposed quarry face is still visible with extends down to a quarry floor of 165mAOD.

Site-specific borehole drilling investigations undertaken at the Site show that the proposed extraction area may have ca. 112,500m^3 of overburden needed to be excavated. This material will be used in the peripheral berms at the Site with additional materials stored at the Site for future restoration works on the Site. To minimise the area of exposed ground, the removal of soils and overburden will be done on a phased basis:

- In Phase 1, there will be ca. 8,500m^3 of soil removal during this phase taking into account the average thickness of overburden present during the site investigations at BH03 and BH04 (ca. 2.5m) over an area of ca. 3,400m^2;
- Phase 2 will extend the quarry south along the western boundary. This phase is on the lower elevation ground and will benefit from the berm creation to the west. An estimated volume of ca. 50,000m^3 of soil will be removed in this phase of work taking into account the average thickness of overburden present during the site investigations at BH04 and BH07 (ca. 2.5m) over an area of ca. 17,000m^2; and,
- Phase 3 will complete the southern extent of the Proposed Development along the western boundary. The western berms will be established with tree development improving the visual screening. An estimated volume of ca. 54,000m^3 of soil will be removed in this phase of work taking into account the average thickness of overburden present during the site investigations at BH02, BH06 and BH07 (ca. 2.7m) over an area of 20,000m^2.

Although each phase of development is shown as a distinct element, operationally it will be necessary to commence the next phase prior to the completion of a phase of development.

The Proposed Development will affect the local soils as original soil conditions will be altered through the removal and short-term storage on-site. However, these soils have a “low” receptor sensitivity, based on the predominantly mineral nature of the soils, the lack of archaeological interest and the lack of community, recreational and educational usage of the land. The impact of the soil removal from agricultural pasture soil function will be negative and slight. The overall impact will be slight, negative, and permanent in relation to land and soils, without the proper mitigation measures.

During the restoration stage of the Proposed Development, the exposed rock ground (quarry floor) will be covered utilising the on-site stored over-burden and soils and allowed to naturally regenerate over time. The Site will not be restored for agricultural purposes. Therefore, the Proposed Development will change the land use from a mineral extraction site to a vegetated area providing different habitats. Overall, these changes in land use represent neutral effect, with the land providing different benefits dependent on use. However, considering the size of the Site relative to the availability of agricultural pasture in the county, or within Ireland as a

whole, there will be an imperceptible negative effect on the available agricultural pasture following restoration.

Hydrocarbons, in the form of fuels and oils, will be used on-site during extraction works. A hydrocarbon release could potentially pose a risk to land and soil. However, the volumes will be small in the context of the scale of the project and will be handled in accordance with best practice mitigation measures. Items of plant and machinery will be refuelled by a competent person utilising adequately sized and positioned drip trays. All on-site plant will be refuelled, using best practices, by a mobile fuel bowser contracted to the Site as required.

The potential residual effects associated with land, soils and geology are likely to be slight irreversible long-term negative effects. This is due to the permanent alteration of the original soil character to a new character derived from the reworking of soils and subsoils during the stripping of the overburden.

The restoration phase of the Proposed Development will be undertaken in phases. Subsoils and topsoil's stored onsite will be spread across the quarry floor, changing its land use and will leave ca. 2.4-3m depth of soils across the quarry floor, based on current calculations of available overburden. This will allow for natural regeneration to occur. As such, the land will not be suitable for intensive agricultural purposes. Considering the size and the relative availability of agricultural pasture in Ireland, restoration will result in an imperceptible negative effect on the available agricultural pasture.

8 WATER

The desk study has shown that the Geological Survey of Ireland ('GSI') classifies the aquifer beneath the Site as a Locally Important Aquifer ('LI') – Bedrock which is Moderately Productive only in Local Zones. This aquifer forms part of the wider Ballyglass groundwater body. There is no groundwater Protection Schemes within 5km of the Site.

The groundwater vulnerability provides a measure of the ability of contaminants to migrate vertically to an aquifer and is a function of the subsoil permeability and its thickness. The Site is classified as having Rock at or near Surface (X), with the southeastern area classified as Extreme (E) vulnerability. A site walk-over confirmed the agricultural land use of the Site, with the exception of the historic quarry area, where the quarry face and quarry floor are still present.

Groundwater levels were measured on-site and the groundwater gradient (flow direction) across the Site is east to west. Generally, there is not much variation in the water levels during the monitoring period from November 2023 to March 2024 (i.e., winter levels).

One groundwater sample was collected for each of the onsite wells (BH01 – BH07) and submitted for laboratory chemical analysis. Generally, levels were reported at or below limits. One exceedance of the Groundwater Regulation Values ('GAC') - (European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I. No. 9 of 2010 as amended) dissolved nickel limits was detected at BH03. One exceedance of lower GAC total ammonium limits was detected at BH03. No exceedances of the GAC limits were detected at the other on-site wells during the monitoring event. These results represent ambient conditions within the groundwater body, as the Site is currently under agricultural use.

The Site is located within the Slaney & Wexford Harbour catchment and sub catchment. The nearest waterbody is the CARRIGOWER_020 waterbody, which is located ca. 330m west of the Site and is assigned a "Good" status under the WFD 2016-2021 monitoring round and is currently considered "not at risk" of meeting its environmental objectives.

The Site is not located within any fluvial or pluvial flood zones. One flood event and one recurring flood incident was identified within the vicinity of the Site. The flood event is located

2.4km northeast of the Site, occurring in Donard Village. The recurring flood event is located 1km southwest of the Site, with the source listed as "river". The Office of Public Works ('OPW') notes that the flooding covers lands both sides of the N81 road.

There are no natural surface water drainage features within the Site and all surface water runoff on-site percolates to ground. It is envisaged, based on the comprehensive groundwater assessments undertaken, that Phase 1 and Phase 2 works will result in minimal additional groundwater inflow to the Site, and therefore continued surface water run-off will continue to percolate to ground from the Proposed Development. During storm events, and as the Proposed Development moves into Phase 3, excess water (run-off, groundwater seepage and rainwater) will drain towards the water management ponds constructed within Phase 1 on the quarry floor.

The Proposed Development will increase the groundwater vulnerability on-site where it is currently classified as Extreme, through the exposure of bedrock throughout the quarry floor (rock will now be at or near the surface). The increased vulnerability represents a imperceptible negative effect to the vulnerability of the underlying Groundwater Body ('GWB') Status, as the affected area represents ca. 0.005% of the GWB area.

Groundwater abstraction on-site will be restricted to a single well that will act as a water supply for the welfare facilities and as a water supply for the wheel wash during periods off prolonged dry weather. These activities will be supplemented by water held within the water management ponds on-site. It is not predicted that these facilities will result in notable pressures on groundwater availability, having an imperceptible negative impact on groundwater availability.

The estimated total groundwater ingress into the quarry is estimated to be approximately 2l/sec. Given that the closest groundwater well recorded in the GSI mapping tool online is ca. 1.24km southwest of the Site and the fact that the groundwater flow direction is from east to west, it is unlikely that there would be any significant effect on the neighbouring wells arising from the Proposed Development. Given that the bedrock is of low permeability and the fact that groundwater and surface water run-off will be managed by infiltration at the Site and excess water directed to the water management ponds, it is determined that the potential groundwater into the quarry due to blasting will have an imperceptible effect.

To characterise the surface water quality locally, four water samples were taken. Two were taken from the CARRIGOWER_020 waterbody and two from land drains locally. All samples were laboratory analysed and were compliant within the surface water regulatory limits.

Water management for the Proposed Development utilises some component of water evaporation and percolation, with excess water directed to proposed water management ponds on-site. To prevent overflowing within these ponds, excess water will be pumped through an over ground pipe to an existing land drainage system south of the proposed excavation land that discharges to a pond further south of the Site. The pond is located within the confines of an agricultural field owned by the same landowner whose agreement is presented for the proposed extraction works. This pond is not categorised and/or recognised as a surface waterbody under the WFD by the Environmental Protection Agency ('EPA') and hence has no associated quality or risk status assigned. There is no identified direct connection between this off-site pond and nearby surface waterbodies.

The first water management pond will allow suspended solids to settle before moving into the second water management pond. Further settlement will occur in the second water management pond. Visual inspections will be carried out prior to pumping from the water management ponds to the receiving existing land drain. Silt fencing will be installed where required to prevent the erosion of on-site berms into the quarry pit and water management ponds.

Additionally, to carry out the works at the Proposed Development, heavy machinery will be required. As such, fuels and hydrocarbon oils utilised during these operations could pose a risk to groundwater, from a potential spill. Mitigation will be required to reduce the risk and effect of such a spill or release from occurring. Operational procedures will be implemented onsite to control spills, through standard mitigation such as use of competent personnel during re-fuelling, use of drip trays while refuelling, collection and storage of hazardous waste for disposal by an authorised waste contractor and inspection of the water management ponds prior discharging excess water. An incident response procedure will be in place to swiftly contain and mitigate incident should they occur. The contained spill material will be disposed of appropriately using a fully licensed waste contractor, so that further contamination is reduced.

9 AIR QUALITY

The main potential effects on air quality from the Proposed Development are dust emissions, which could give rise to the following effects;

- Disamenity due to dust deposited on surfaces, which leads to 'soiling'; and,
- Increased concentrations of dust particles suspended in the air (PM_{10}).

A disamenity dust risk assessment was completed in accordance with the Institute of Air Quality Management's ('IAQM') Guidance on the Assessment of Mineral Dust Impacts for Planning. This assessment aimed to determine the risk of impact from dust soiling on properties (or receptors) in the vicinity of the Site.

The risk assessment followed the source-pathway-receptor concept. The assessment quantified the likely emissions from the source (the Proposed Development), identified the pathway effectiveness (frequency of wind >5.5m/s) and determined the distance / orientation of receptors to the source. The analysis determined that there was a 'negligible risk' of dust soiling occurring at four human receptors (SR01-SR04) and one ecological receptor (ES01). A 'low risk' was identified at two human receptors (SR05-SR06) in the absence of mitigation. The potential dust soiling at these receptors has the potential to have a 'negligible effect' to a 'slight adverse effects' on one human-sensitive receptor (SR05). Therefore, a number of site-specific mitigation measures were identified. The implementation of these measures further reduces the risk of dust soiling occurring at these receptors to 'negligible'. The disamenity dust risk assessment was extended to assess the potential cumulative and in-combination effects from other sources. The pathway from other potential sources was deemed to be ineffective. Hence, the risk of impact from cumulative and in-combination effects was identified to be 'negligible'.

Increased concentrations of dust particles in the air (PM_{10}) can affect human health. Therefore, the methodology outlined by the IAQM guidelines was followed to determine the risk of increased PM_{10} particles in the air arising from the Proposed Development. Given the existing background concentrations of PM_{10}, it was determined that there was little risk of process contributions from the Proposed Development leading to an exceedance of the annual mean objective of Air Quality Standards.

To characterise compliance with the measures outlined in this assessment future monitoring of dust deposition will be completed at four locations (DM1, DM2, DM3, DM4) located around the boundary of the Proposed Development.

Based on the receiving environment, type and intensity of activities (associated with the Proposed Development), and the mitigation measures to be implemented, the residual effects on human health and disamenity dust will be 'not significant'.

Based on the receiving environment, type and intensity of activities (associated with the Proposed Development), and the mitigation measures to be implemented, the residual effects on ecological receptors from disamenity dust will be 'not significant'.

10 CLIMATE

The potential effects of the Proposed Development on climate primarily stem from the release of greenhouse gas ('GHG') emissions. Additionally, the assessment considered the potential effects of current and future climate change on the Proposed Development.

During a typical Operational Year, assumed to be 288 days, it was calculated that the entire Scope 1 (Direct Emissions) from the Proposed Development would be responsible for approximately 1,349 tonnes of carbon dioxide equivalent ('tCO_2e'). These emissions were distributed as followed:

- Approximately 674.5 tonnes of CO_2e from plant operating on-site on mineral diesel across the year; and,
- Approximately 946.1 tonnes of CO_2e from vehicles associated with the Proposed Development (including heavy good/ light good and employee vehicles).

Scope 2 emissions (indirect emissions) were calculated at 16,500kWh, which is expected to result in 4.97 tCO_2e across a typical year. These low emissions are considered insignificant in the context of the Electricity sectoral emission ceilings (ca. 0.00002% and 0.0001% respectively).

These emissions were compared as a percentage to the relevant sectoral emission ceilings, assigned by the Irish Government as targets of CO_2e for specific sectors (e.g., the Transport sector) to achieve across two periods (2021 top 2025 and 2026 to 2030). Emissions that could not be compared against a specific sector (such as plant emissions) were compared as a percentage against the total National Carbon Budget for these two periods. Based on the low contributions of the plant and transport emissions to the relevant budgets, the effects of the Proposed Development on GHG emissions were considered not significant.

To determine the potential effects of modern and future climate change on the Proposed Development, a Climate Change Risk Assessment was conducted following the Government of Ireland's, Annex B Guidelines. The assessment determined the potential risk of the Proposed Development to potential hazards such as Droughts, Flooding, Extreme Rainfall and Wildfires, to assess the risk of the Proposed Development to these hazards. Based on the frequency and the perceived impact of these hazards on assets associated with the Proposed Development, it was perceived that the risk to the Proposed Development from these hazards are those already assessed by the local council's climate vulnerability assessment. Considering the nature of the hazards and their recognition in the Wicklow County Council Climate Change Risk Assessment, the effects of climate change on the Proposed Development were considered not significant.

11 NOISE AND VIBRATION

A comprehensive noise and vibration impact assessment was conducted based on best practice guidance, both statutory and non-statutory noise impact assessment criteria for the Proposed Development during its Site Preparation, Operational and Restoration phases.

The surrounding roads including the Donard Mountain Road are not classified as major roads as per the Environmental Noise Regulations 2006 and therefore no strategic noise maps have been developed.

A detailed assessment was undertaken of the Proposed Development. To assess the likely noise effect, the existing environment was characterised. Initially a review of the locality was conducted to identify noise and vibration sensitive receptors. This process identified five receptors which were named NSR01-NSR05, all of which are domestic homes / properties.

A baseline noise survey was undertaken within the study area utilising a precision sound level meter, and data collected during daytime hours. Utilising this survey at each local receptor (NSR01-NSR05) were assigned baseline noise values associated with existing ambient (without the Proposed Development operating) environment.

The Site Preparation phase (Construction Phase) will be completed prior to aggregate operations within the Site. This phase will occur over a discrete up to twelve-month period. Due to the activities proposed this phase was assessed to typical construction noise standards namely. All proposed works within this phase were found to be within typical construction noise limits. Vibration from the Site Preparation Phase of works are negligible.

Operational noise modelling was conducted using iNoise V2024 software. Three noise models have been conducted to represent three different scenarios. Scenario A, with normal operation at the first bench, will include all equipment, Scenario B, with normal operation at the first bench without the drilling rig, and Scenario C, with HGV movements only from 7am to 8am. The models, A and B, assumed all sources were fully operational for the full working day. The outputs of the modelling were then added to the measured ambient background levels, as per best practice, to ascertain the likely future sound environment. This ensures the assessment accommodates the cumulative, as well as project-specific, impacts on the Noise-Sensitive Receptors (‘NSRs’).

The predicted noise levels at sensitive receptors during the operational phase and the ‘worst case’ scenario of the Proposed Development will operate in compliance with the typical noise nuisance values at NSRs for the three scenarios.

A key aspect to the operational phase will be the breaking of aggregates from the face via blasting. The blast event itself is a short duration, high intensity, predominately low acoustic frequency event. An integral part of the rock blast is the emission during the event into the air, known as air overpressure. The predominant sound pressure within this air overpressure is low frequency and inaudible. As a standard procedure, all blast events on the Site will be monitored by the blast specialist for both air-over pressure and vibration. Receptors within 500m will be informed prior to any blast activity, with monitoring occurring at the closest receptor to the blast.

Operational Phase localised vibration will occur during quarry face blasting. However, efficient blasting ensues that as much of the explosive energy as possible is utilised for rock fragmentation, and ground vibration and air overpressure is an inefficient use of this energy. The blast event is of momentary duration (seconds to minutes, per event). The blast event is, therefore, a momentary duration, locally significant effect without mitigation. The mitigation proposed for blast events is a mixture of controlling the blasts ensuring all health and safety protocols are fully adhered to, the appointment of competent and trained contractors for

managing the blast design, and communications with all residences within 500m of the blast regarding the scheduling. Blasts will only occur between 9am and 5pm Monday to Friday.

During the Restoration Phase of works the noise will be associated with spreading of soils and topsoil from onsite stockpiles. Much of this work will require minimal plant equipment and will predominantly occur within the quarry floor.

The Restoration Phase will not introduce new sound characteristics, nor will the Restoration Phase present sound qualities typically deemed to be objectionable, such as tonal or clearly impulsive/impact sounds. Moreover, no Restoration Phase vibration is likely.

Based on the assessment the predicted effects during the Restoration Phase is deemed to be not significant short-term effect on a local basis.

Following mitigation measures, the residual noise effect, based on the proposed emissions, phasing and intensity of the Site, the mitigation and practices to be employed and within the context of the existing ambient environment, is deemed to be neutral.

It is proposed, during operation that noise monitoring will occur within the Proposed Development and reported to the Competent Authority. General activities onsite will be acoustically monitored with a site-specific noise limit, measured or calculated to NSR of daytime $L_{Aeq,1hr}$ 55dB, in-line with best practices by the EPA. Additionally blast monitoring will occur with both air over pressure and vibration monitoring at the closest NSR's to the proposed blast event.

Following the implementation of mitigation measures effects are assessed to be likely imperceptible and long-term during the construction and operational phases, and likely not significant and short-term during the restoration phase.

12 LANDSCAPE AND VISUAL

This Landscape, Visual Impact Assessment ('LVIA') report describes the landscape context of the Proposed Development and assesses the likely landscape and visual impacts on the receiving environment. Although closely linked, landscape and visual impacts are separately evaluated.

The production of this LVIA involved a desk study to establish an appropriate study area, fieldwork to establish the landscape character of the receiving environment and an assessment of the significance of the landscape and visual impacts of the Proposed Development. A 3km radius study area has been selected for this impact assessment to balance potential significant effects (most potential within 2km) and the need to examine several sensitive receptors in the broader landscape context.

Chapter 17 'Natural Heritage and Biodiversity' of the CDP identifies the Landscape Categories surrounding the Site. The Proposed Development is located across both the 'Corridor Area' and 'Areas of High Amenity' Landscape Character Category and the subsequent Landscape Character Area 'The N81' and 'Transitional Lands'. Other landscape areas located within the study area include the 'Urban Area', while much of the southern extent of the study area is also contained by the landscape area 'Baltinglass Hills Area of High Amenity'. The Proposed Development is contained across landscape sensitivity classifications ranging between Low to Medium. Chapter 17 'Natural Heritage and Biodiversity' of the CDP includes lists and maps of designated scenic views and prospects. 'Prospect 48: N81 at Merginstown Glen – Prospect of Carrigower river valley' is located within the study area.

The Proposed Development is situated along the west-facing slopes of a local hill in the townland of Deerpark that forms part of the foothills of the Wicklow Mountains, cloaked in a patchwork of fields, woodlands and forestry blocks. To the west, the terrain descends to a broad area of low rolling terrain in the surrounds of the Carrigower River, which is located some ca. 300m to the west of the Site at its nearest point. To the east, the terrain is much more varied as it transitions towards the more upland parts of the Wicklow Mountains in the surrounds of the Glen of Imaal. The River Slaney is one of the more notable watercourses within the study area and is situated some 1.2km south of the Site. The principal centre of population within the 3km study area is the small village of Donard. Otherwise, the study area comprises a modest rural population with the most notable clusters of dwellings situated in the surroundings of the N81 corridor. The N81 is the primary transport corridor, with the R412 regional road being the only other major route within the study area. Whilst the study area itself is not highly synonymous with outdoor recreation, the wider landscape to the east presents strong recreational values associated with the Wicklow Mountains and includes numerous local and national walking and hiking trails. Localised heritage and recreational features within the study area include Castleruddery Stone Circle, Donoughmore Church and Cemetery, and a local looped walking trail on the elevated lands to the north of the Site.

Regarding landscape impacts, the Proposed Development is contained across landscape sensitivity classifications ranging between Low to Medium, with the more elevated eastern parts of the site of a 'Medium' sensitivity, whilst the less elevated parts of the site are classified with a 'Low' sensitivity rating. Overall, this is considered a pleasant but robust landscape context that has undergone longstanding human intervention. Whilst some parts of the study area present with a typical pastoral aesthetic and afford distant views of uplands, the study area represents a robust working transitional rural landscape with values associated with rural productivity and subsistence for the local population. Whilst the Proposed Development will notably intensify the extractive industry within the local landscape, it will not appear as an incongruous development type in the surrounding local landscape due to the presence of smaller quarries and sand pits in the area. It is considered that the magnitude of landscape impact for the Proposed Development is High-medium within the immediate vicinity, being

those lands contained within approximately 500-1000m of the Proposed Development. Thereafter, the magnitude of landscape impact is deemed to reduce to Low and Negligible, as the Proposed Development becomes a progressively smaller component of the overall landscape fabric and is heavily screened from surrounding receptors, which limits its potential to notably alter the landscape character. The Medium-low landscape sensitivity judgement attributed to the study area, coupled with a High-medium magnitude of landscape impact in the immediate vicinity (<1000m) of the Proposed Development is considered to result in an overall significance of no greater than Moderate, with the remainder of the 3km radius study area likely to experience Slight or Imperceptible landscape impacts.

Visual impacts were assessed at eight (8 No.) viewpoints which represent different receptors, viewing distances and viewing angles within the study area. Visibility of the Proposed Development is limited to the western half of the study area, with the clearest views tending to be from more distant receptors than those in the immediate site's vicinity. Viewpoints VP2, VP3, and VP4 are all located at some ca. 900m-1.4km to the west/northwest of the Site and afford some of the clearest potential visibility of the Proposed Development. Whilst the alterations to the landform will likely be noticed from here and have the potential to draw the eye, the Proposed Development does notably detract from the more distant views of the elevated lands within the Wicklow Mountains.

In terms of cumulative impacts, the main cumulative effect in this instance is related to the existing quarries and sand and gravel pits within the surrounding study area, which have been mentioned throughout the assessment. The in-combination effects of the existing extractive industry developments within the study area and the Proposed Development have already been undertaken with respect to both landscape effects and visual effects and are not considered to result in significant cumulative effects.

Based on the landscape and visual impact judgements provided throughout this LVIA, the Proposed Development is not considered to give rise to any significant residual impacts.

13 CULTURAL HERITAGE

Impacts on the archaeological, architectural, and cultural heritage of the Site and the surrounding area arising from the Proposed Development were assessed. The assessment consisted of:

- Baseline Studies; and,
- Assessment of the Site.

The CDP is the statutory plan detailing the development objectives/policies of the relevant local authority. The plan includes objectives and policies, relevant to this assessment, i.e., regarding cultural heritage.

Baseline studies of the Site consisted of using existing written and graphical information to identify the likely context, character, significance, and sensitivity of the known or potential cultural heritage, archaeological and structural resources. A detailed investigation of the archaeological and historical background of the Site, the land under owner interest and the surrounding area extending 1km from the Site boundary were undertaken. A field inspection was carried out on the 21st July 2023 to identify and assess any unknown archaeological sites, previously unrecorded features and portable finds within the Site.

Examination of the Record of Monuments and Places for Co. Wicklow indicated that there are no Recorded Monuments within the Proposed Development. The closest Recorded Monument externally to the Proposed Development is described in the Record of Monuments as 'WI021-018---- Deerpark Ringfort – rath'. This monument is located ca. 540m northwest of the Proposed Development and will not be directly or indirectly impacted by the Proposed Development. There are no sites or monuments listed in the sites and monuments record ('SMR') within the Proposed Development. The closest SMR externally to the Proposed Development is described as: 'WI021-084---- Castleruddery Upper Designed landscape feature'. This is ca. 480m southwest of the Proposed Development. This is considered to be too far distant to be directly or indirectly impacted by the Proposed Development.

There are no structures listed in the Record of Protected Structures located within the Site boundary. There is one structure in the study area listed in the Records of Protected Structures. This structure is located ca. 990m south of the Proposed Development and is considered to be too far distant to be directly or indirectly impacted by the Proposed Development.

The review established that there are no structures within the Proposed Development listed in the National Inventory of Architectural Heritage ('NIAH'). There is one structure in the study area listed in the NIAH which is located ca. 0.96km south of the Proposed Development and is considered to be too distant to be directly or indirectly impacted by the Proposed Development.

Fieldwork was carried out to identify any additional unlisted upstanding structures in the vicinity of the Proposed Development. This involved assessing all upstanding structures that are marked on the 1910 edition of the six-inch Ordnance Survey mapping within 300m of the Proposed Development. There are five such structures in this area. The setting of structure No. 3, the former Rectory, could potentially be subject to a worst case, negative, significant, and long-term effect while the quarry is in operation. However, the construction of a landscaped screening mound on the western side of the Site where it faces the structure will mitigate this.

As a precautionary measure, all soil-stripping in areas 2 and 3 identified in the field inspection should be monitored by a qualified archaeologist under licence from the National Monuments

Service. Any archaeological material identified during monitoring should be preserved by record under licence from the National Monuments Service in advance of development.

14 TRAFFIC & TRANSPORT

PMCE Ltd were commissioned by MOR Environmental. to undertake an assessment of the traffic impacts associated with the Proposed Development, the findings of which are presented in Volume 2 Chapter 14 of the EIAR.

14.1 Traffic Analysis

Following a Traffic and Transport Assessment, both link and junction capacity analysis were undertaken to determine if the Proposed Development would lead to congestion on the local road network. The results of the Link and Junction Capacity Analysis indicate that the local road (Donard Mountain Road), and junctions within the surrounding road network, will continue to operate within capacity for each of the assessment years 2024, 2029, and 2039. It is estimated that 42 loads per day (25 tonnes per load), will be required in a typical day of out-going aggregates at the Proposed Development. Therefore, the risk of congestion within the local road network, as a result of the increase in traffic generated by the Proposed Development, is imperceptible.

14.2 Road Safety

Visibility splays at the Site access are currently restricted in both directions due to overgrown vegetation. Hedges and trees near the Site access will be trimmed/removed, where necessary, to achieve the required sightlines, and these will be maintained regularly in order to ensure that the sightlines at the access are kept clear at all times. All Site related Light Vehicles and HGVs will enter the Site via the existing old quarry entrance on the Donard Mountain Road, which will be improved and gated and secured when activities are not occurring within the Site.

The cross-section of the Donard Mountain Road is narrow in places, particularly between the L4321 and Old Rectory junctions. There are existing laybys on the road, although some are informal and substandard, as well as field gates/property accesses, where vehicles can pull in, however HGVs may experience difficulties when passing opposing vehicles, particularly other HGVs, at these locations. Additional passing bays and widening were identified as measures that will maintain the quality of infrastructure along the quarry haulage route. It is recommended that passing-bays/laybys be constructed at regular intervals along the Donard Mountain Road between the access to the Site and its junction with the L4321. It is also recommended that signs be erected along the Donard Mountain Road to advise other users that the road is being used by HGVs.

The Donard Mountain Road is otherwise lightly trafficked, follows a straight alignment over the majority of its length and has acceptable forward visibility.

Visibility splays at the junction between the L4321 and the Donard Mountain Road are restricted by vegetation and also by the horizontal alignment of the L4321. Due to the existing horizontal alignment of the L4321, it is not considered possible to achieve the full required visibility splays without realigning the road; however, the visibility can be maximised by cutting back vegetation on either side.

A Falling Weight Deflectometer ('FWD') Survey was undertaken on the 17th December 2024 by Milestone Pavement Technologies along the full length of the haul route between the junction of the N81 and the L4321 and the proposed site access on the Donard Mountain Road. The results of the FWD Survey indicate overlay strengthening would be required along the haul route over a design life of 20 years; however, this would be required both with and without the Proposed development.

Following traffic analysis, it is concluded that the Proposed Development will have an imperceptible effect on traffic on the existing road network for each of the assessment years 2024, 2029 and 2039, in relation to congestion and junction capacity.

If passing-bays/laybys are determined to be required on the Donard Mountain Road, following the recommended investigation, this will have a significant effect on the cross-section of the Donard Mountain Road between the Site and its junction with the L4321.

However, additional passing bays and widening were identified as measures that will maintain the quality of infrastructure along the quarry haulage route. Additional passing bays will be investigated to support the passing of two HGVs and developed in consultation with the Local Authority.

If the road pavement along the haul route is strengthened, as recommended by the results of the FWD Survey, this will have a significant effect on the road pavement of the Donard Mountain Road between the Site and its junction with the L4321.

However, pavement strengthening is identified as a measure that will maintain the quality of infrastructure along the quarry haulage route.

15 INTERACTION OF ENVIRONMENTAL EFFECTS

In accordance with Environmental Impact Assessment Report ('EIAR') best practice procedures, the cumulative impacts associated with all of the relevant interactions has been addressed in the specific specialist chapters of the main EIAR report (Volume 2).

16 SCHEDULE OF ENVIRONMENTAL COMMITMENTS

As part of the EIAR, all of the mitigation measures arising from each of the individual assessments for all phases were summarised in an overall Schedule of Environmental Commitments that is presented at the end of Volume 2 of the EIAR. The Applicant is fully committed to implementing all of these commitments. The implementation of these measures will ensure that the Proposed Development will not result in any significant adverse impacts on the receiving environment.