



RECEIVED: 01/03/2024

**Environmental Impact Assessment  
Report (EIAR) – Non-Technical  
Summary Volume 1  
Quarry Extension, Kilmacow,  
Co. Kilkenny  
Roadstone Ltd  
Fortunestown, Dublin 24, Co.  
Dublin**



MALONE O'REGAN

RECEIVED: 01/03/2024



Ground Floor – Unit 3  
Bracken Business Park  
Bracken Road, Sandyford  
Dublin 18, D18 V32Y  
Tel: +353- 1- 567 76 55  
Email: enviro@mores.ie

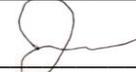
**Title: Environmental Impact Assessment Report (EIAR) – Non-Technical Summary  
Volume 1, Quarry Extension, Kilmacow, Co. Kilkenny, Roadstone Ltd,  
Fortunestown, Dublin 24, Co. Dublin**

**Job Number: E2189**

**Prepared By: Sarah de Courcy**

**Signed:** 

**Checked By: David Dwyer**

**Signed:** 

**Approved By: Kenneth Goodwin**

**Signed:** 

**Revision Record**

| Issue No. | Date     | Description | Remark | Prepared | Checked | Approved |
|-----------|----------|-------------|--------|----------|---------|----------|
| 01        | 29/02/24 | Report      | Final  | SDC      | DD      | KG       |
|           |          |             |        |          |         |          |

**Copyright and Third-Party Disclaimer**

Malone O'Regan Environmental (MOR) has prepared this report for the sole use of our client (as named on the front of the report) in accordance with the Client's instructions using all reasonable skill and competence and generally accepted consultancy principles. The report was prepared in accordance with the budget and terms of reference agreed with the Client and does not in any way constitute advice to any third party who is able to access it by any means. MOR excludes to the fullest extent lawfully permitted all liability whatsoever for any costs, liabilities or losses arising as a result of or reliance upon the contents of this report by any person or legal entity (other than the Client in accordance with the terms of reference). MOR has not verified any documents or information supplied by third parties and referred to herein in compiling this document and no warranty is provided as part of this document. No part of this report may be copied or reproduced without express written confirmation from MOR. Any methodology contained in this report is provided to the Client in confidence and must not be disclosed or copied to third parties without the prior written agreement of MOR. Disclosure of such information may constitute an actionable breach of confidence or may otherwise prejudice our commercial interests. Third parties who obtains access to this report by any means, including disclosure by the Client, will be subject to the Copyright and Third-Party Disclaimer contained herein.

# Environmental Impact Assessment Report (EIAR) – Non-Technical Summary

## Volume 1

Quarry Extension, Kilmacow, Co. Kilkenny

Roadstone Ltd

Fortunestown, Dublin 24, Co. Dublin

RECEIVED: 01/03/2024

### Contents

|          |   |           |
|----------|---|-----------|
| <b>1</b> | <b>INTRODUCTION</b>   | <b>1</b>  |
| 1.1      | General   | 1         |
| 1.2      | Overview of the Site and Context                                | 2         |
| 1.3      | Applicant   | 4         |
| 1.4      | Environmental Impact Assessment Report (EIAR)                   | 5         |
| 1.5      | Consultation  | 5         |
| <b>2</b> | <b>PLANNING CONTEXT &amp; NEED FOR THE PROPOSED DEVELOPMENT</b> | <b>6</b>  |
| 2.1      | Ownership of the Lands  | 6         |
| 2.2      | Planning History at the Site                                    | 6         |
| 2.3      | Planning Policy Context   | 7         |
| 2.4      | Need for the Proposed Development                               | 7         |
| <b>3</b> | <b>DESCRIPTION OF THE PROPOSED DEVELOPMENT</b>                  | <b>7</b>  |
| 3.1      | Construction Phase  | 8         |
| 3.2      | Operational Phase   | 8         |
| 3.2.1    | Operational Hours and Staffing                                  | 9         |
| 3.2.2    | Drainage  | 10        |
| 3.3      | Restoration Phase   | 10        |
| <b>4</b> | <b>ALTERNATIVES CONSIDERED</b>                                  | <b>10</b> |
| 4.1      | Alternative Locations   | 10        |
| 4.2      | Alternative Design  | 10        |
| 4.2.1    | Access  | 10        |
| 4.2.2    | Process   | 11        |
| 4.3      | Do Nothing Scenario   | 11        |
| <b>5</b> | <b>POPULATION AND HUMAN HEALTH</b>                              | <b>11</b> |
| <b>6</b> | <b>BIODIVERSITY</b>   | <b>12</b> |

|             |  |           |
|-------------|--|-----------|
| <b>6.1</b>  | <b>Habitats</b> .....                                      | <b>12</b> |
| <b>6.2</b>  | <b>Species</b> .....                                       | <b>13</b> |
| <b>7</b>    | <b>SOILS AND GEOLOGY</b> .....                             | <b>13</b> |
| <b>8</b>    | <b>WATER</b> .....   | <b>14</b> |
| <b>9</b>    | <b>AIR QUALITY</b> .....                                   | <b>15</b> |
| <b>10</b>   | <b>CLIMATE</b> .....                                       | <b>16</b> |
| <b>11</b>   | <b>NOISE AND VIBRATION</b> .....                           | <b>16</b> |
| <b>12</b>   | <b>LANDSCAPE AND VISUAL IMPACT</b> .....                   | <b>18</b> |
| <b>13</b>   | <b>CULTURAL HERITAGE</b> .....                             | <b>19</b> |
| <b>14</b>   | <b>MATERIAL ASSESTS - TRAFFIC</b> .....                    | <b>20</b> |
| <b>14.1</b> | <b>Traffic Analysis</b> .....                              | <b>20</b> |
| <b>14.2</b> | <b>Road Safety</b> .....                                   | <b>20</b> |
| <b>15</b>   | <b>MATERIAL ASSETS – NATURAL RESOURCES AND WASTE</b> ..... | <b>20</b> |
| <b>16</b>   | <b>INTERACTION OF ENVIRONMENTAL EFFECTS</b> .....          | <b>21</b> |
| <b>17</b>   | <b>SCHEDULE OF ENVIRONMENTAL COMMITMENTS</b> .....         | <b>21</b> |

## **FIGURES**

|             |   |   |
|-------------|---|---|
| Figure 1-1: | Site Location .....                                       | 2 |
| Figure 1-2: | Site Context .....  | 3 |
| Figure 1-3: | Site Context .....  | 4 |
| Figure 3-1: | Proposed Cross Sections of the Proposed Development ..... | 9 |

RECEIVED: 01/05/2024

# 1 INTRODUCTION

## 1.1 General

Malone O'Regan Environmental (MOR) was commissioned by Roadstone Ltd. (Roadstone) to prepare an Environmental Impact Assessment Report (EIAR) in support of a planning application to Kilkenny County Council (KCC).

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 will result in notable changes to the environment but without significant consequences.

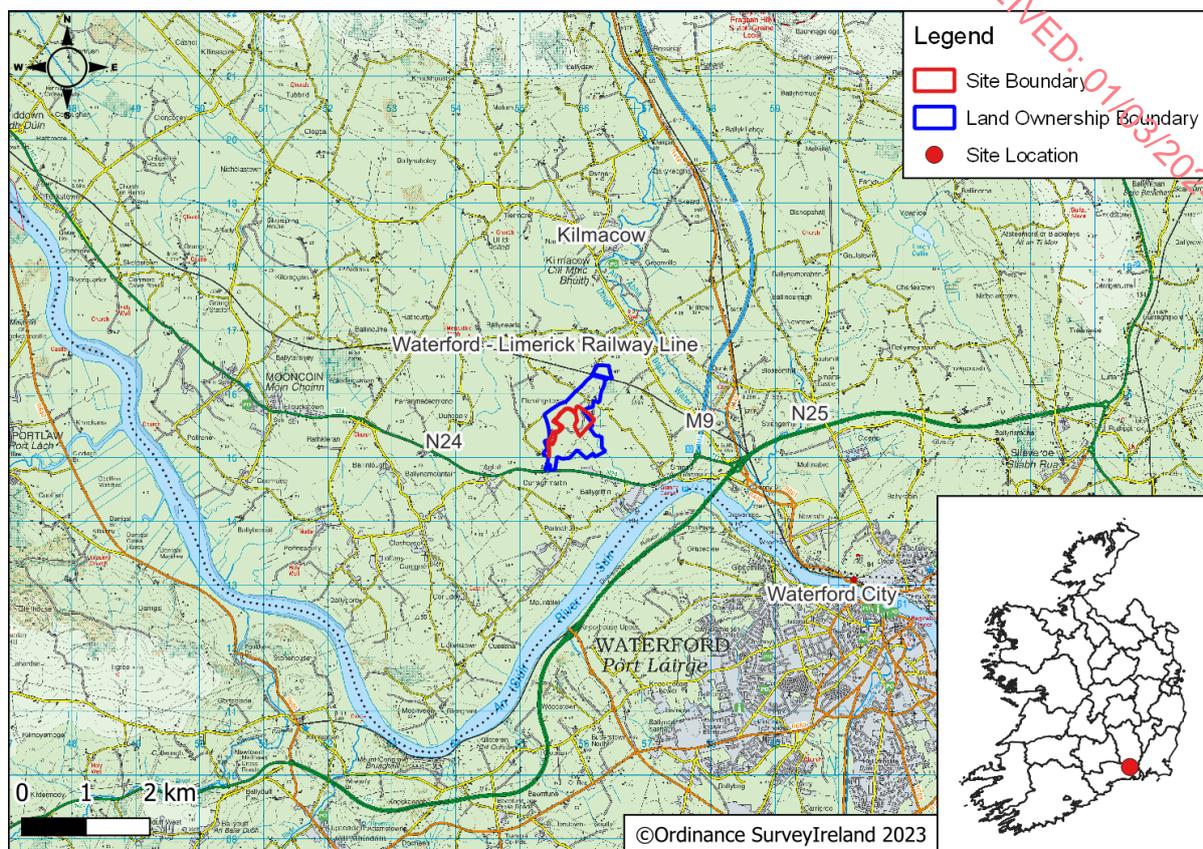
This EIAR is for a proposed development which seeks to expand the existing permitted extraction area of Kilmacow Quarry (granted under KCC planning reference 16700 henceforth referred to as ‘the Quarry’) into known aggregate stores to the east (the ‘Proposed Development’). The Proposed Development will involve the following works:

- The demolition of two agricultural sheds and a small pump house;
- 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 does not seek to increase the annual production output at the Quarry but to extend activities into lands to the east.

The Proposed Development will be located on a site covering an area of circa (ca.) 10.3 hectares (ha) within the townlands of Granny and Aglish North in Co. Kilkenny (Ordnance Survey centre co-ordinates ITM 655604 615465) (the ‘Site’). The Site is presented by the redline boundary in Figure 1-1 below. The Site encompasses a portion of the Quarry and the extension lands to the east. The Site is located ca.40km south of Kilkenny Town, Co. Kilkenny and ca.5.5km northwest of Waterford City, Co. Waterford.

Figure 1-1: Site Location



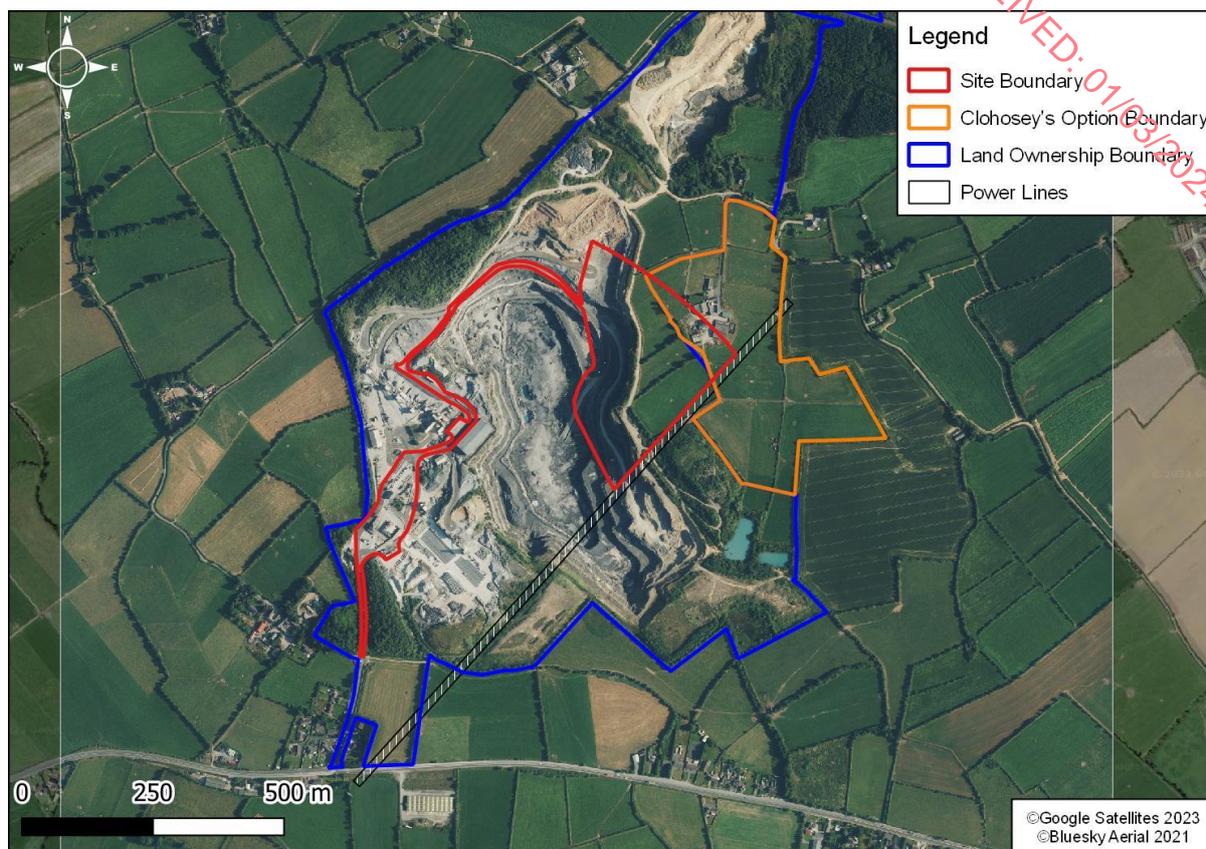
## 1.2 Overview of the Site and Context

The Site is located within County Kilkenny; however, its proximity to Waterford means that it also lies within the Waterford Metropolitan Area. The Site encompasses both the proposed extension lands and a portion of the Quarry.

Extraction at the Quarry dates back to 1971, when outline planning permission was granted for a quarry under planning ref 1/1/1754. To-date, aggregate within the Quarry has been extracted to a depth of -45metres Ordnance Datum. A portion of the Quarry was included within the Site boundary to allow for the seamless integration of both the existing and proposed extraction areas. The western portion of the Site also includes internal haul roads, an existing weighbridge and wheel wash and an established entrance along the L7434 local road.

The eastern portion of the Site is comprised of agricultural fields bound by hedgerows and treelines. The majority of this land lies within the Roadstone Landholding. However, 0.95 hectares is located on lands owned by Mr. Liam Clohosey. Should this application be successful, Roadstone have agreed to purchase 10.9 hectares of land (which includes the 0.95 hectares within the Site boundary) from Mr. Clohosey. Therefore, the residential dwelling and farm buildings within the lands owned by Mr. Clohosey will be unoccupied should the Proposed Development proceed. Refer to Figure 1-2 below for context.

Figure 1-2: Site Context

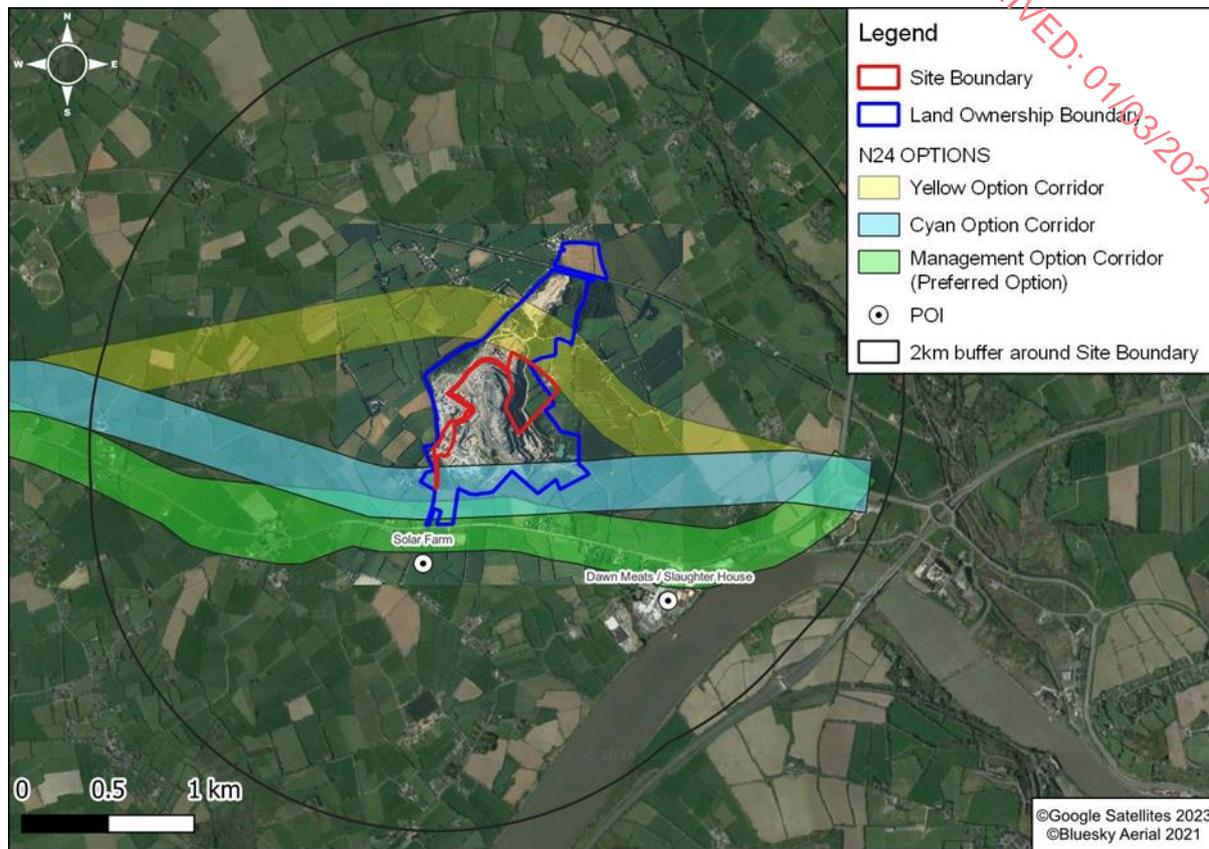


Kilkenny County Council, in partnership with Tipperary County Council, Transport Infrastructure Ireland (TII) and the Department of Transport (DoT) are developing the N24 Waterford to Cahir Road Scheme. The section of the N24 being considered by this project is approximately 60km in length. It extends from the M8 Junction 10 Cahir North Roundabout, north of Cahir in Co. Tipperary, to the southern terminal of the M9 Dublin to Waterford motorway at the Quarry Roundabout, north of Waterford City in Co. Kilkenny. There are four phases associated with this project;

1. Concept and Feasibility;
2. Options Selection;
3. Design and Environmental Evaluation; and,
4. Statutory Process.

The project is currently in Phase 2, whereby, three options for the amended route are up for consideration. One of these options extends through the northern portion of the Landholding. The other two options are located to the south of the Quarry. The public display of the preferred transport solution (option) was published on 23rd January 2024. The preferred transport solution is to upgrade the existing N24 corridor to the south of the Quarry (presented as the management option corridor in Figure 1-3 below). This preferred option will not affect the Site.

**Figure 1-3: Site Context**



Powerlines bound the Site to the southeast and the Yellow Option Corridor for the Waterford to Cahir Road Scheme is located to the north of the Site. The design of the Proposed Development and location of the Site has taken these elements into account.

The wider surrounding area is characterised by agricultural land, the local road network and one-off residential dwellings. The Waterford-Limerick railway is located ca.540m north of the Site. The N24 national road is located ca.215m south of the Site. The Flemingstown Stream is located ca.90m from the Site at its closest point. The existing attenuation ponds within the Quarry discharge to this stream. The Flemingstown Stream flows into the Middle Suir Estuary. The Middle Suir Estuary is located ca.1.4km southwest of the Site at its closest point. The Middle Suir Estuary forms part of the Lower River Suir SAC and is a key ecological and heritage feature of the surrounding landscape.

### 1.3 Applicant

Roadstone is an Irish company with origins in the 1930s. It became part of Cement Roadstone Holdings (CRH) pc in 1970 and the present-day company formed in 2009 through the amalgamation of CRH’s construction materials businesses in Ireland:

- Roadstone Dublin Ltd;
- Roadstone Provinces Ltd; and,
- John A. Wood Ltd.

It is the leading global diversified building materials business in the world, with 75,800 employees across 29 countries and is Ireland’s leading supplier of aggregates, construction, and road building materials. It is currently backfilling and restoring a number of former quarries around Ireland.

RECEIVED 01/03/2024

## 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 22<sup>nd</sup> November 2023. All of the 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.

**Table 1-1: Consultee Responses to the Scoping Document**

| Consultee                              | Date of Response | Method of Response      | Topics Raised  | Relevant Chapter   |
|--|------------------|-------------------------|--|--|
| Development Applications Unit (DAU)    | 23/11/2023       | Email                   | Consultation acknowledgement received by the DAU which is the coordinating unit for the Department of Housing, Local Government and Heritage (DeHLGH). The consultee has raised no topics for attention.   | N/A  |
| Uisce Éireann / Irish Water            | 21/12/2023       | Email (letter attached) | <p>Consultation acknowledgement received.</p> <p><i>“Due to the extent and depth of excavation proposed, a Dewatering Plan must be prepared and submitted for Uisce Éireann’s review as part of the planning application.”</i></p> <p><i>“The existing quarry is connected to an Uisce Éireann network that discharges wastewater to the Suir River a “protected”/ sensitive area, consideration as to whether the integrity of the site / conservation objectives of the site would be compromised should be identified within the report.”</i></p> <p>Additionally they request notification for when the proposal is lodged.</p>                                      | <p>8</p> <p>Sections 8.3.4 &amp; 8.4.2</p> <p>Sections 8.3.8, 8.4.5.3, and 8.4.5.5</p> |
| Transport Infrastructure Ireland (TII) | 22/12/2023       | Email                   | <p>Consultation acknowledgement received. The consultee has raised the assessment of impacts on local and national road infrastructure and has requested that consultation take place with the local authority in relation to existing and future road schemes including the N24 Cahir to Waterford Scheme.</p> <p>The consultee has also specified the need for an assessment of visual impact and 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.</p> | 11, 12, 14   |
| Health and Safety Authority (HSA)      | 16/01/2024       | Email (letter attached) | Consultation acknowledgement received. The consultee has raised no topics for attention.   | N/A  |

| Consultee                      | Date of Response | Method of Response      | Topics Raised   | Relevant Chapter               |
|--------------------------------|------------------|-------------------------|---|--------------------------------|
| Health Service Executive (HSE) | 09/02/2024       | Email (letter attached) | <p>Consultation acknowledgement received. The consultee has raised the following topics for attention: population and human health, water, lands and soils, air, dust and odour, climate change and opportunity for health gain, noise and vibration, waste management, ancillary facilities and cumulative impacts.</p> <p>Additionally, the consultee has requested that public consultation take place and a restoration plan is submitted. The consultee has also outlined dust control and mitigation measures to be implemented and requested the use of data from existing operations within the quarry as part of the EIAR.</p> | 5, 7, 8, 9, 10, 11, 14 and 15. |

RECEIVED: 09/03/2024

## 2 PLANNING CONTEXT & NEED FOR THE PROPOSED DEVELOPMENT

### 2.1 Ownership of the Lands

The Site occupies an area of ca.10.3ha which spans the greenfield extension lands and a portion of the Quarry. Roadstone owns the majority of these lands; however, 0.95ha of the Site is located on lands owned by Mr. Clohosey. Mr Clohosey has given his consent for Roadstone to make a planning application for development of lands within the Site boundary. The Roadstone landownership boundary encompasses ca.84ha in total. If the planning application is successful, the addition of the lands owned by Mr. Clohosey (ca.10.9ha within folio KK7688F) will bring the overall Landholding owned by Roadstone up to ca.95ha.

### 2.2 Planning History at the Site

The Quarry has a long history dating back to 1971, when initial planning permission was granted. Over the years, several permissions for quarrying operations and extensions were approved, indicating its ongoing use and development. These permissions were granted in 1977, 1999, 2004, and in 2017, showing a continuous acceptance of quarrying activities in the area.

Within the area owned by Mr. Clohosey, existing structures including a residential dwelling and various farm buildings are present. Historical mapping reveals that some farm buildings within this area have existed since the earliest available maps. The rest of the land owned by Mr. Clohosey has been used as pasture and has no known history of development.

Since 2016, the southern portion of the Quarry has been permitted (Waste Facility Permit - WFPKK 150008-01 and WFP-KK-21-0001-02) to accepted specific types of waste, such as concrete, bricks, tiles, ceramics, bituminous mixtures, and mixed construction and demolition waste.

Water from the Quarry is currently discharged into the Flemingstown stream under a valid discharge license. Under the terms of this discharge LICENSE, Roadstone are permitted to release a maximum volume of 13,000 cubic metres (m<sup>3</sup>) of trade water per day. This discharge is regulated by Local Authority, requiring compliance with emission limits set out in their licence (ENV/W82).

The asphalt plant operates in accordance with the conditions of Air Pollution Licence ENV/APL/13 which was issued on the 10th December 2010.

## 2.3 Planning Policy Context

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 Regional Spatial and Economic Strategy (RSES) for the Southern Region intends to strengthen and grow the cities of Cork, Limerick and Waterford and provide infrastructure and services in order to 'build a strong, resilient and sustainable region.' This document includes a Metropolitan Area Strategic Plan for Waterford City. This plan encompasses the townlands containing the Site given their proximity to Waterford City.

Given the proximity of the Site to Waterford, both the Kilkenny County Development Plan 2021-2027 and the Waterford City County Development Plan 2022-2028 were reviewed. Both county development plans include 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 Need for the Proposed Development

The National Planning Framework (NPF) outlines a strategic vision for Ireland's development, targeting the sustainable expansion of both rural communities and major cities – Cork, Dublin, Galway, Limerick, and Waterford – with a projected increase of approximately 1 million residents. This projected growth requires new infrastructure in the form of housing, educational facilities, transportation networks, and public services.

The Regional Spatial and Economic Strategy (RSES) for the Southern Region emphasises the responsible utilisation of natural resources while undertaking substantial developmental initiatives in alignment with national directives. Local policies echo this sentiment, emphasising the importance of the extractive industry as a source for raw material and employment and the proposed plans to expand of the Waterford Metropolitan Area.

The Proposed Development involves the extension of a well-situated quarry, abundant in high-quality rock reserves and complemented by robust and suitable infrastructure. As such, the Proposed Development aligns with these directives, proposing to supply essential construction materials to facilitate development in Kilkenny, Waterford and the wider region whilst contributing to the preservation of local employment opportunities into the foreseeable future.

## 3 DESCRIPTION OF THE PROPOSED DEVELOPMENT

The Proposed Development seeks to expand the existing permitted extraction area of the Quarry into land to the east in a seamless manner. The Proposed Development will involve the removal of aggregate within the proposed extraction area to the same depth as the existing extraction area within the Quarry (-45mOD). The Site has an estimated reserve of approximately 2,920,000m<sup>3</sup> (or around 7,592,000 metric tonnes) of aggregates within the proposed extraction area.

The Proposed Development will utilise the existing entrance, wheel wash, weighbridge and internal access roads within the Site boundary. Additional infrastructure within the wider

Quarry area including storage facilities, attenuation ponds, processing plant, the maintenance garage, site office, concrete batching plant and asphalt plant will be utilised as required.

It is proposed to extract aggregates within the permitted outputs of the Quarry which range from 700,000-1,000,000 tonnes of aggregates per annum. Given the potential variation in extraction rates due to economic and market factors, planning permission is sought for 20-year period. The approximate timeline for the Proposed Development is:

- Construction Phase – up to 6 months;
- Operation Phase – 19 years; and,
- Restoration Phase – 6 months.

### 3.1 Construction Phase

The following activities will take place during the construction phase:

- Installation of security fencing and signage around the periphery;
- Demolition / removal of two agricultural sheds and a pumphouse;
- Relocation of pipes transferring water from the existing extraction area to the attenuation ponds;
- Vegetation clearance;
- Removal of topsoil under archaeological supervision and overburden stripping;
- Construction of berms with overburden, covering in topsoil and planting with a mixture of trees and shrubs; and,
- Construction / preparation of haul routes.

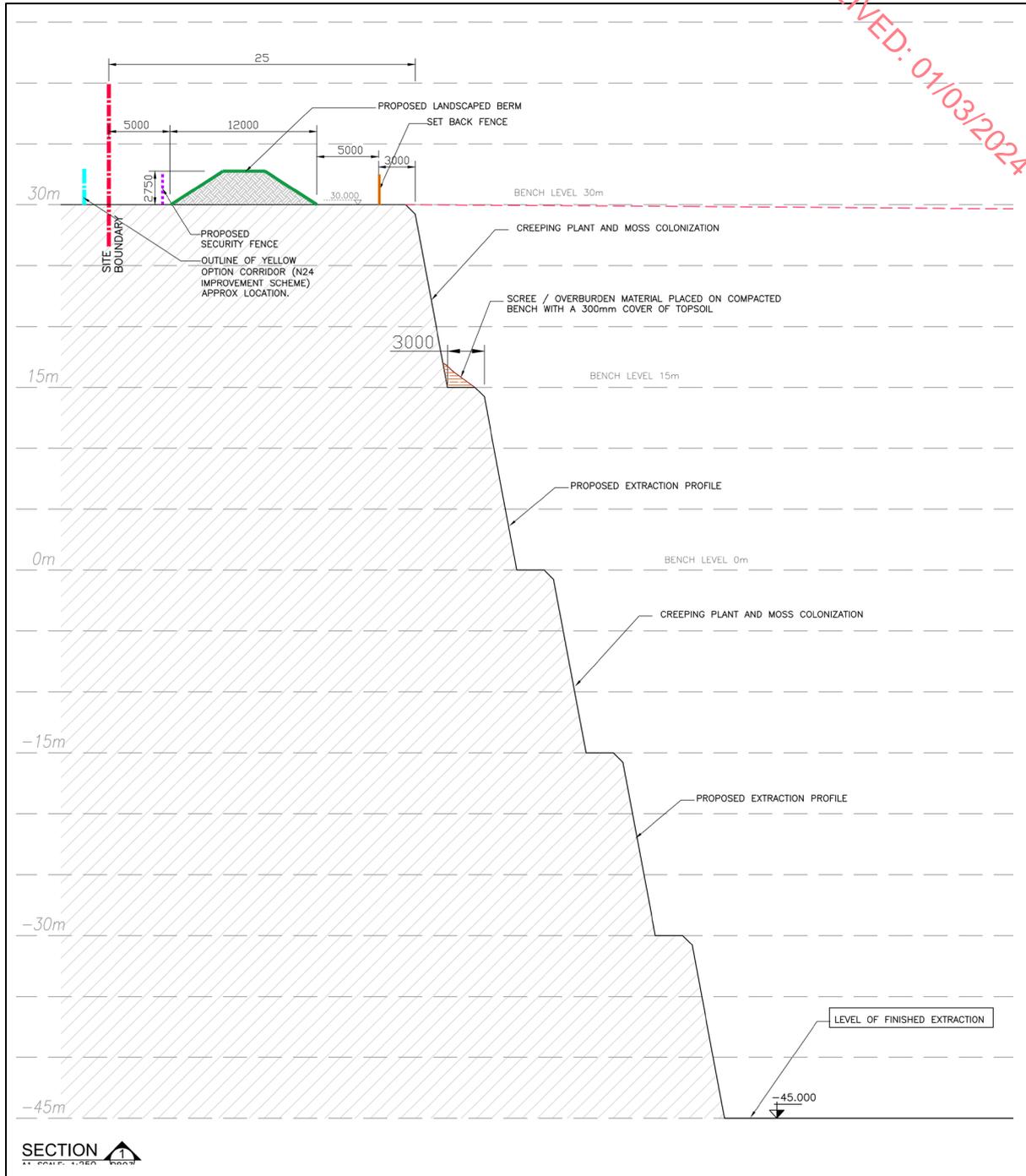
### 3.2 Operational Phase

During the operational phase, standard blasting methods will be used to produce broken rock within the proposed extraction area. A mobile crusher and screening plant will operate within the Quarry floor. Processed blast rock will be hauled to the fixed crushing and screening plant within the Quarry using articulated dump trucks.

The quarry extension will be approximately 5 benches deep when complete. Each bench will be 15m in height, bringing the finished ground level to ca. -45m above ordnance datum (mOD) (from existing levels of ca. 34mOD). Cross sections of the Proposed Development's finished extraction levels are included in Figure 3-1 below, as extracted from Drawing P804\_P.

The Proposed Development will utilise the existing access and internal haul routes within the Quarry. HGVs will travel via the N24 and L7434 to gain access to the Site. Return routes will utilise the same route. The proposed operations onsite will follow the currently authorised average of around 550 trips per day (250 HGV outward trips, 15 staff outward trips and 10 outward miscellaneous trips per day) under Kilkenny Planning Reference 16/700. No fuel will be stored within the Site boundary.

**Figure 3-1: Proposed Cross Sections of the Proposed Development**



### 3.2.1 Operational Hours and Staffing

Site operational hours will be kept as per the existing authorised times of:

- 07:00 – 20:00 Monday – Friday;
- 07:00 – 18:00 Saturday; and,
- Closed Sundays and Bank Holidays.

The Quarry supports ca.15-20 full time employees arising from onsite personnel, hauliers and maintenance personnel. Additional employment is generated from the Site through the direct

contracting for machinery maintenance and upkeep, as well as ancillary requirements for professional services.

The Proposed Development will utilise existing infrastructure for employees such as the canteen, office or washroom as these facilities within the Quarry.

### **3.2.2 Drainage**

The existing extraction area within the Quarry is currently operating underneath the groundwater table and the Proposed Development seeks to extract to the same depth. Water is currently removed from the quarry floor via pumps which direct water up the eastern face and through pipes into two settlement ponds to the southeast of the Site. This process will not change as a result of the Proposed Development; however, the route of the pipes to the attenuation ponds will be altered to accommodate the proposed extraction area. The attenuation ponds discharge to Flemingstown Stream which drains into the Middle Suir Estuary ca. 1.3km southeast of the Site. General surface water run-off within the wider Site will percolate to ground in line with the current drainage regime.

### **3.3 Restoration Phase**

Once operations have ceased, water will be allowed to flood the Quarry floor to form an artificial lake. Vegetation will be planted along the outskirts of this lake and floating vegetation rafts will be introduced. The Site will be made secure from unauthorised access. A Restoration Plan for the Site has been submitted as part of this application and is presented in Volume 3 of the EIAR. The Restoration Plan has been designed to align with the existing restoration plan which was submitted and agreed with the Competent Authority under planning reference 16/700.

## **4 ALTERNATIVES CONSIDERED**

### **4.1 Alternative Locations**

Consideration was given to an alternative location for the Site.

The presence of the Waterford-Limerick railway line within the northern portion of the Roadstone landholding and the proximity to residential areas, make extending the Quarry northwards impractical.

An alternative expansion to the west poses challenges in establishing a new extraction zone rather than extending operations along an existing quarry face. As such, an expansion to the west.

Taking into account the superior rock quality and proximity to well-established quarry infrastructure, the Site emerged as the most suitable choice. Its location, within lands predominantly owned by Roadstone, facilitates a significant extension, ensuring sufficient separation from the proposed N24 Road Improvement Scheme and residential zones.

### **4.2 Alternative Design**

#### **4.2.1 Access**

Consideration was given to utilising the secondary access point into the Quarry off the L7433 local road. However, opting for this access point would heighten the volume of heavy goods vehicles (HGVs) on the local road network north of the Site, potentially causing traffic disruptions. Additional infrastructure, such as a wheel wash and weighbridge, would also be required to prevent the tracking of material onto the road and to enable the sign in / out of HGVs.

Upon deeper consideration, choosing this secondary access was deemed impractical due to the likelihood of logistical confusion, potential disruption to neighbours and the duplication of resources. Consequently, it was this option that was dropped from further consideration.

## 4.2.2 Process

There are limited processes suitable for the extraction and screening of aggregate material. The aggregate extraction, for developments of this scale, can typically require the use of loading shovels and dump trucks. Alternative variations, through the use of variations to plant onsite, i.e. different brands / sized machinery, are not seen as cost effective. The existing plant have been in operation within the Quarry and personnel can maintain and use them effectively. They are well maintained with a documented service history. Furthermore, the development of fixed screening and crushing plant within the Site was not considered necessary or cost-effective, given the presence of suitable secondary plant within the Quarry.

## 4.3 Do Nothing Scenario

The assessment of alternatives didn't just cover potential changes but also considered a scenario where no action is taken, termed as the "do-nothing" approach. This approach would confine Roadstone to the existing plans approved for the Quarry (as per planning reference 16/700). Essentially, it involves maintaining current quarry operations until the stone reserves allowed for extraction in the permitted area are fully depleted. Following the cessation of operations, the original restoration plan submitted under planning reference 16/700 would be implemented to restore the Site.

However, opting for the "do-nothing" approach has implications. It would curtail the Quarry's operational lifespan, leading to a shorter period of local employment opportunities. The Quarry currently holds permission to extract between 700,000 to 1,000,000 tonnes of aggregates annually, subject to market conditions, and this extraction volume would persist under the Proposed Development. This extraction activity is pivotal for supplying aggregates crucial for the local, regional and national development plans. Selecting the "do-nothing" approach is not considered to be feasible as it would likely exacerbate the existing scarcity of high-quality aggregate materials in the region. Moreover, not pursuing the Quarry extension would mean forfeiting the opportunity to conserve vital aggregate reserves. Any reserves present in the extension lands would continue to be used for farming instead of being utilised for aggregate extraction.

# 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 sensitivity of the local population to any potential impacts was deemed to be low.

The Proposed Development has been a provider of employment during the working life of the Quarry. The Proposed Development is not a health-related project and will not create additional specific demands on the local health infrastructure.

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 neutral. 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 'imperceptible' to 'not significant' and long-term.

## 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 ecologists. After the initial walkover, it was not considered necessary to undertake ecology surveys within the built-up portion of the Quarry containing the wheel wash, carpark, weighbridge and main Site entrance. This area will not be altered as a result of the Proposed Development and is considered to be of low-negligible biodiversity value. However, the field surveys conducted onsite were extended to cover the entirety of Mr. Clohosey's landholding and the existing quarry void (the 'Study Area').

There are no designated ecological sites within the Site boundary. However, the Site is hydrologically connected to the Lower River Suir SAC via the existing attenuation ponds and Flemingstown Stream.

A combined Stage One: Appropriate Assessment Screening Report and Stage Two: Natura Impact Statement (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 Natura 2000 site or any of their designated features of interest following the implementation of appropriate mitigation measures.

### 6.1 Habitats

The western portion of the Site contains a section of the existing quarry void alongside existing infrastructure including a secure and established entrance, access road, weighbridge and wheel wash. Vegetation was sparse or absent in these areas at the time of survey.

The eastern portion of the Site contains pockets of scrub, three improved agricultural grassland fields bound by hedgerows and treelines and a section of farmyard. The farmyard is paved with concrete slabs and contains agricultural sheds and outbuildings. As part of the Proposed Development two sheds within the Site boundary and a pumphouse will be removed. The wider Study Area is a continuation of these habitats and is dominated by active quarry or agricultural lands. Flemingstown Stream is located approximately 90m east of the Site boundary and two attenuation ponds which service the Quarry are located to the southeast.

Loss or disturbance to improved agricultural grassland fields, spoil and bare ground, active quarry habitats and / or scrub habitats was not considered to be significant given the low ecological value of these habitats. However, the loss of hedgerows and treelines within the Site boundary and the demolition of three structures 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. Two screening berms will be introduced around the proposed extraction area. These berms will be planted with a mix of tree and shrub cover to ensure a net increase in vegetation onsite. As such, the impact of the Proposed Development on habitats is considered to be not significant.

Once quarrying activities have ceased, water will not be pumped offsite. Instead, water will flood the quarry floor forming an artificial lake. The shallow sections of the lake will be planted with suitable aquatic vegetation and floating vegetation rafts will be introduced. The creation 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, specialist peregrine falcon, barn swallow, breeding bird and bat surveys were undertaken. These surveys covered the Study Area.

No bat roosts were recorded during the dusk emergence and dawn re-entry surveys conducted in 2022 and 2023. However, the Study Area was considered to be of low-moderate value for commuting and foraging bats. A full bat report can be found within Volume 3 of this EIAR.

A total of twenty-four bird species were recorded during the breeding bird transect surveys conducted in 2023, barn swallows and starlings were identified nesting within the farm outbuildings in 2023 and peregrine falcons were identified breeding onsite in 2021 and 2022 but not 2023. A full bird report can be found within Volume 3 of this EIAR.

The Study Area was not considered suitable for amphibians or otters; however, a hydrological connection was identified between the Study Area and habitats supporting otter (the Middle Suir Estuary) via the Flemingstown Stream and attenuation ponds. In addition, the Study Area was considered suitable for commuting and foraging terrestrial mammals such as badgers and hedgehogs. No direct evidence of these species was identified during the field surveys, but multiple mammal paths and suitable habitats were recorded.

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.

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 SOILS AND GEOLOGY

The Proposed Development will continue to extract limestone in a vertical and horizontal manner near an already permitted extraction area. The total Site area is 10.3ha and comprises primarily agricultural grassland/farmstead on the east of the Site as well as areas of the existing quarry footprint. The greenfield area inside the Site is 3.4ha which will be used for extraction (2.2ha), berm construction and buffers.

Geophysical and drilling Investigations undertaken at the Site show that the proposed extraction area lies within generally good quality competent limestone.

The primary impact will be the extraction of bedrock (2,920,000m<sup>3</sup> / 7,592,000 tonnes) which is an acceptable part of the Proposed Development. Approximately 8,500m<sup>3</sup> of overburden will also be stripped to access the underlying bedrock. This overburden will be stored at the Site as berms, which will be planted and kept onsite.

Hydrocarbons, in the form of fuels and oils, will be used onsite during extraction works. 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. The operation of the Quarry and yard includes existing management for the control of hydrocarbons and chemical and these already minimise as far as possible the risk of spillage that could lead to ground contamination.

Highest standards of site management will continue to be maintained and utmost care and vigilance followed to prevent accidental contamination or unnecessary disturbance to the Site and surrounding environment during operation of the Proposed Development.

The potential residual effects associated with land, soils and geology contamination and subsequent health effects are not significant.

The final restoration of the quarry void is seen as a positive effect with respect land, soils and geology. The restoration plan is deemed the most appropriate for this kind of development.

## 8 WATER

On a local scale the Landholding exists within three river waterbody sub-basins. The Site as well as the current permitted extraction area are located in the Flemingstown (Kilkenny)\_010 sub-basin. The Flemingstown Stream is the receiving water for the existing licensed quarry discharge (ENV/W82).

Smaller areas on the north and west of the Landholding are mapped to lie within the Blackwater\_Kilmacow\_040 sub-basin and Ullid\_010 sub-basin respectively.

The Site is located on limestone bedrock that is classified as a Locally Important Aquifer by the GSI (i.e. localised groundwater flowpaths). Observed groundwater inflows into the existing quarry void are relatively low volume which is consistent with the aquifer classification.

There are no natural surface water drainage features within the Quarry or Site and all surface water runoff from the current extraction area drains towards sumps on the quarry floor where it is pumped to a settlement pond and hydrocarbon interceptor for licensed discharge to the Flemingstown Stream. All drainage from the Site will be directed towards the existing quarry floor during all phases of the Proposed Development.

The long-term groundwater level monitoring data gathered by the Applicant that the groundwater catchment to the Quarry is localised to the Landholding, and this is not expected to change significantly as a result of the extension. Overall, groundwater inflows to the Quarry make up a lesser proportion of the overall quarry discharge during wet periods. No significant additional groundwater inflows are anticipated because of the proposed extension.

No amendment to the existing discharge licence is being sought as proposed future discharges will not exceed the current volumetric limit (13,000m<sup>3</sup>/day). Discharge water quality is largely compliant with the existing discharge limits. Discharge from the Quarry will continue to be passed through an adequately sized settlement pond and hydrocarbon interceptor during the operational phase. The discharge quality is monitored on a quarterly basis, and this is to continue. Discharge volumes are continuously monitored at the discharge point location.

Based on the long-term groundwater level monitoring data for local private wells there is no evidence to suggest that the Quarry is significantly impacting on local wells. Due to the fact that the Quarry is already operating at its maximum permissible depth (-45m OD) and that the proposed bedrock for extraction is already being dewatering to some extent, no significant increase in the groundwater cone of drawdown is expected outside of the Landholding.

There is a network of monitoring wells at the Landholding that will continue to be monitored regularly for groundwater levels and groundwater quality. Potential effects on local wells will continue to be monitored using a select network of external monitoring wells.

There is no proposal to amend the existing discharge licence limits in terms of volume or discharge quality and therefore no additional potential impacts are anticipated on downstream receiving waters in terms of surface water quality, flows or flood risk. There will also be no effect on the WFD status of receiving waters.

The only designated site that is hydrologically connected to the Site is the Lower River Suir SAC. The Lower River Suir SAC is located immediately downstream of Flemingstown Stream which is the quarry discharge receiving water. However, there will be no exceedance of the current discharge volumetric limit. The scheduled quarterly discharge water quality monitoring shows that the water quality is generally compliant with the discharge licence threshold values. The proposed extension will therefore not significantly affect Lower River Suir SAC which is a transitional/estuarine waterbody at the location of the Site.

Due to the fact that there will be no alteration of the quarry discharge regime (primary pathway to downstream watercourses) and no significant alteration of the hydrogeological regime, the potential for cumulative effects is imperceptible.

As part of the restoration works, the quarry sump pumps will be removed from the quarry void and the groundwater level will be allowed to return to its natural level. There will be no drainage/discharge from the Site post closure.

## 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<sub>10</sub>).

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.

In brief, 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. Following the analysis, it was determined that there was a low risk of dust soiling occurring at seven of eight receptors in the absence of mitigation. The potential dust soiling at these receptors has the potential to have a slight adverse effect. Therefore, a number of site-specific mitigation measures were identified. The implementation of these measures reduces the risk of dust soiling occurring at these receptors from low to negligible. The disamenity dust risk assessment was extended to assess the potential cumulative and in-combination effect from other sources. In brief, the pathway from other potential sources was deemed to be ineffective, hence the risk of impact from in-combination effects was identified to be negligible.

Increased concentrations of dust particles in the air (PM<sub>10</sub>) can affect human health. Therefore, the methodology outlined by the IAQM guidelines was followed to determine the risk of increased PM<sub>10</sub> particles in the air arising from the Proposed Development. In brief, given the existing background concentrations of PM<sub>10</sub>, 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.

Monitoring of dust deposition will be completed at five locations (D1, D2, D3, D4, D5) located around the boundary of the Proposed Development. An additional monitoring point is proposed (D6) along the eastern boundary of the Proposed Development, to ensure mitigation measures are being implemented appropriately.

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 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 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 302 days, it was calculated that the entire Quarry (existing activities and the Proposed Development) would be responsible for approximately 6,600 tonnes of carbon dioxide equivalent (CO<sub>2e</sub>). These emissions were distributed as followed:

- Approximately 1,900 tonnes of CO<sub>2e</sub> from plant operating onsite on mineral diesel across the year; and,
- Approximately 4,700 tonnes of CO<sub>2e</sub> from vehicles associated with the Proposed Development (including heavy good/ light good and employee vehicles).

These emissions were compared as a percentage to the relevant sectoral emission ceilings, assigned by the Irish Government as targets of CO<sub>2e</sub> for specific sectors (e.g. the Transport sector) to achieve across two periods (2021 to 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 councils climate vulnerability assessment. Considering the nature of the hazards and their recognition in the Kilkenny 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.

Under the Environmental Noise Directive (END), noise emissions from the national road N24 were reviewed in the context of the publicly available prepared Strategic Noise Mapping. The review, combined with noise monitoring undertaken in October 2023, indicated that traffic noise is the dominant contribution to noise emissions south of the Site.

A detailed assessment was undertaken of potential noise emissions that could arise during the different phases. To assess the likely noise effect, a review of the locality was conducted to identify noise and vibration sensitive receptors. This process identified 6 receptors which were named NSR01-NSR06, all of which are domestic homes/properties.

As detailed in Section 3, the Construction phase will be completed prior to aggregate operations within the site. This phase will occur over a discrete up to 6 months period. Due to

the activity proposed this phase was assessed to typical construction noise standards namely BS5228-1. All proposed works within this phase were found to be within typical construction noise limits.

Operational noise modeling was conducted using Soft Noise Predictor version 2023 software. The noise model incorporated the Site-specific noise sources and the layout of the local environment but did not incorporate ambient sources (e.g., road traffic). The model 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 NSRs.

The predicted noise levels at sensitive receptors, during the operational phase of the Proposed Development will be below the typical noise nuisance values at NSRs as per the Department of the Environment Heritage and Local Government 'Quarries and ancillary activities: Guidelines for Planning Authorities' 2004 and the Environmental Protection Agency's 'Environmental management guidelines: Environmental management in the extractive industry (non-scheduled minerals) 2006.

In addition to set limit criteria an assessment, based on the likely change to the acoustic environment arising from the operational phase works commencing, was undertaken. This used the methodology outlined within the Institute of Acoustics and the Institute of Environmental Management and Assessment guidance 'Guidelines for Environmental Impact Assessment', 2014. Utilising this methodology 6 NSR's were identified as having slight local effect from the Proposed Development operations, this effect is indicative of works that are potentially audible, but non-intrusive, at the sensitive receptor.

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. Under current onsite practices, as a standard procedure, all blast events on the Site were monitored by the blast specialist for both air-over pressure and vibration. A review of the blast record for the last two years indicate that blasts were below the industry standard compliance limits.

Operational Phase localised vibration will occur during quarry face blasting. Blasting during previous operations at the Quarry is considered as a good representation of future predicted blast events at the Proposed Development as the Site setting remains the same and blasts will be designed in line with historical blast experience.

Based on the existing experience at this Site, a 150m buffer is sufficient to mitigate blasting vibration and has been used in the design of this project. The potential risk zone extends approximately 250 meters, and under such circumstances, the unoccupied farmyard may experience a vibration effect. However, it is noteworthy that there has not been any exceedances historically, through competent blast design. The blast event is therefore a temporary local moderate effect, considering the standard control measures onsite and known experience through years of blast management within the Quarry. It should be noted that these buildings will be unoccupied, and part of the Landholding should the planning application be successful.

During the Restoration Phase of works the noise will be associated with planting marginal and emergent vegetation appropriate to the environment. Much of this work will occur within the proposed extraction area and will require a tractor. It is not anticipated that this phase will produce noise in exceedance of construction limit guidelines.

Mitigation on noise during construction will include:

- Site Preparation works will be designed to avoid noisy work outside the hours of: Monday to Friday 7:00 to 18:00; and Saturday 07:00 to 14:00;
- Work occurring outside these hours will be subject to tighter construction stage noise limits, as per BS5228 (Section 11.2.1.1 of the EIAR);
- Nomination of a responsible person to accept and respond to complaints;
- Ensuring all plant and equipment is serviced and in good repair;
- Avoidance of plant or equipment left idling;
- Planning of works to ensure drop heights from equipment or during demolition are minimised to reduce noise generated; and,
- Noise monitoring programme during construction phase works.

Following mitigation, the residual construction stage effect is deemed to be imperceptible and short-term.

Mitigation on noise during operation will include:

- All plant (fixed and mobile) is maintained to a high standard to reduce any tonal or impulsive sounds;
- All plant is throttled down or switched off when not in use;
- Drop heights of material are minimised;
- Where possible, plant and machinery are enclosed or cladded; and,
- Internal routes are reduced in gradients and routed to minimise noise emissions from vehicles onsite.

Prior to any blast a blast specification will be developed by the explosives supervisor, be specific to each individual blast to occur on the site and take full cognisance of the site conditions on the day of the blast event. This specification will ensure:

- Minimisation of fly rock being projected outside of the declared danger zone;
- Minimise the risk of misfires; and,
- Enable location of misfires to be identified.

Ensure faces are left in a safe condition following the blast event.

Following mitigation, the residual operational stage effects is deemed to be negligible negative, local, and reversible during the main operational phase of works.

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. Additionally blast monitoring will continue with both air over pressure and vibration monitoring at the closest NSR's to the proposed blast event.

## 12 LANDSCAPE AND VISUAL IMPACT

Macro Works Ltd. were commissioned by Malone O'Regan Environmental Services Ltd. to undertake a Landscape and Visual Impact Assessment (LVIA) report for the Proposed Development. The LVIA report is presented in Volume 2 Chapter 12 of the EIAR. This 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.

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 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 between potential significant impacts (most potential within 1km) and the need to examine a number of sensitive receptors (such as historic sites and population centres) in the broader landscape context.

According to the Landscape Character Assessment that was prepared for Kilkenny County in 2003 and published by Kilkenny County Council, the Site is located within Landscape Character Area 'G - South Kilkenny Lowlands', with Landscape Character Area 'J - Suir Valley' occupying the southern portion of the study area. The landscape character area within which the Site is located is defined by lowland features. (N.B., the Quarry existed when the Kilkenny Landscape Character Assessment was written.)

The Site boundary includes a portion of the Quarry, which has existed for over 20 years. The Proposed Development includes extending the Quarry face further to the east and cutting in terraces below pre-existing/ surrounding terrain at the rim of the Quarry. The predominant land use in the vicinity of the Site is that of agricultural farmland, with the fields in adjacent land holdings consisting of a mix of agricultural uses and a variety of sizes and boundary types, interspersed with residences, which have increased along the local roads.

Regarding landscape impacts, quarrying has long been present alongside rural land use and major transport routes; as such, the Proposed Development represents a continuation of quarrying activities and material transportation status quo. Consequently, the significance of landscape impact is considered, on balance, to be no greater than 'Moderate-slight,' 'Negative,' and 'Permanent'.

Four viewpoints were assessed regarding visual impacts, representing a range of viewing angles, distances, and contexts. For all identified views, the Proposed Development will not be discernible. Thus, the significance of visual impacts is deemed to be 'Imperceptible,' 'Negative,' and 'Permanent'.

Overall, the Proposed Development is not considered to give rise to any significant landscape or visual impacts. Instead, such impacts are considered in the lower order of significance, even in the immediate surroundings of the Site.

### 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 Kilkenny County Development Plan 2021-2027 is the statutory plan detailing the development objectives / policies of the local authority. The plan includes objectives and policies, relevant to this assessment.

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 resource. A detailed investigation of the archaeological and historical background of the Site, the Landholding and the surrounding area extending 1km from the development boundary was undertaken. A field inspection was also carried out on the 8<sup>th</sup> December 2023 to identify and assess any known archaeological sites and previously unrecorded features and portable finds within the Site.

There are no structures listed in the Record of Protected Structures located within the Site or wider study area. There are three structures in the study area listed in the NIAH. The field inspection identified three unlisted upstanding structures in the vicinity of the Site – these structures are not examples of significant architectural heritage.

Examination of the Record of Monuments and Places indicates that the Site and existing access road extend through the zone of notification of two fulacht fiadh sites. However, the road access that extends through the area of notification has already been developed and therefore, will not have any impact on the fulacht fia sites.

There are no sites or monuments listed in the sites and monuments record (SMR) within the Site boundary or in the study area.

There will be no direct or indirect effects on any known items of archaeology, buildings of architectural heritage significance, or cultural heritage in the Site or the vicinity during the construction, operational or restoration phases of the Proposed Development.

However, as a precautionary measure, all soil-stripping in those areas 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 MATERIAL ASSESTS - TRAFFIC

PMCE Ltd were commissioned by Malone O'Regan Environmental Services Ltd. 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, and local road junctions, will continue to operate within capacity for each of the assessment years 2024, 2029, and 2039. Therefore, the risk of congestion within the local road network is imperceptible.

### 14.2 Road Safety

The Proposed Development will benefit from an existing, well-defined entrance off the L7434 local road via the Quarry mini-roundabout junction. This access has previously been designed to accommodate quarry traffic and no amendments are proposed.

Therefore, the impact of the Proposed Development, in relation to road safety and the existing road infrastructure, was determined to be imperceptible. However, fresh line markings at the mini-roundabout, on-going vegetation removal, and power washing the footway at the mini-roundabout were identified as measures that will maintain the quality of infrastructure at the quarry access.

Following traffic analysis, it is concluded that the Proposed Development will have an imperceptible impact on traffic on the existing road network will be imperceptible for each of the assessment years 2024, 2029 and 2039.

## 15 MATERIAL ASSETS – NATURAL RESOURCES AND WASTE

This chapter of the EIAR provides a description and assessment of the potential, likely and significant effects of the Proposed Development on natural resources and waste infrastructure. The IEMA guide to: Materials and Waste in Environmental Impact Assessment outlines the following definitions of sensitive receptors:

- Materials: “Consuming materials impacts upon their immediate and (in the case of primary materials) long term availability, this results in the depletion of natural resources and adversely impacts the environment”; and,
- Waste: “The sensitive receptor is landfill capacity. Landfill is a finite resource, and hence – through the ongoing disposal of waste – there is a continued need to expand existing and develop new facilities. This required the depletion of natural and other resources which, in turn, adversely impacts the environment”.

During the construction phase of the Proposed Development, minimal waste is expected. Demolition of 2No buildings will occur, with concrete to be sent to the waste facility in the

Quarry. Any remaining demolition materials, such as steel and wood, will be sent to a C&D recycling facility.

Similarly, during the operational phase, no significant waste is anticipated as pre-existing operations continue without major changes.

Consequently, changes in baseline waste generation, landfill capacity, and soil and stone capacity have been scoped out from assessment. However, the Proposed Development is anticipated to enhance material availability, and this aspect has been scoped in.

During the operational phase of the Proposed Development, approximately 7,590,000 tonnes of aggregates are expected to be generated over its lifespan. This will contribute to increased availability of aggregates in the region, aligning with the objectives of Project Ireland 2040, which aims to address the demand for “approximately 1.5 billion tonnes of aggregates” associated with the development goals of Project Ireland 2040. The additional availability from the Proposed Development constitutes approximately 0.008% of the required volume for Project Ireland 2040. Overall, the impact of the operational phase on material availability is deemed to be neutral positive.

## **16 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).

## **17 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. Roadstone are 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.