

REMEDIAL ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Volume 1 – Non-Technical Summary

S177E – Redrock Quarry

Prepared for:

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an appropriate assessment, was required but was not carried out and the planning authority also determines that the development in question was carried out after 3 July 2008, the planning authority will issue a notice to the owner or operator of the quarry informing him or her that it intends to issue an enforcement notice under section 154 requiring the cessation of the operation of the quarry and the taking of such steps as the planning authority considers appropriate”

In August 2012, Carlow County Council determined under section 261A(2)(a)(i) that quarry development was carried out after 1st February 1990, which development would have required, having regard to the EIA Directive, an environmental impact assessment, but that such an assessment was not carried out. The reason given was that the site exceeded the mandatory threshold of 5 hectares for an EIA.

The determinations and decision of the Planning Authority were referred to the Board by the previous owner for review (ABP ref.: QV01.QV0145). The grounds for the included claims the site was Pre-63 based on the 1906 map, that there was no substantive evidence that there would be any significant impact on any Natura site, noting the hydrogeological assessment submitted when getting a discharge licence in 2011, and that there was an error in quarry registration with regard to the boundary.

The subsequent Board order, dated January 2014, confirmed the determination of the Planning Authority and concluded that the development would have required EIA and the decision that the extraction works do not have a pre-1964 authorisation and do not have a valid planning permission.

The previous owner of the quarry did not pursue a substitute consent application following this determination and the quarry has been largely abandoned since.

Milford Quarries Limited acquired the abandoned quarry in 2023 and applied for leave to seek substitute consent in May 2023 (ABP Ref: LS01.317194). Following the enactment of the *Planning and Development Amendment Act 2023*, the need to apply for Leave for Substitute Consent was removed from the legislation with effect from 16th December 2023. This application was therefore considered withdrawn by An Bord Pleanála.

Historical excavation has removed materials over an area of approximately 8.66 hectares.

1.2 Need for Environmental Impact Assessment Report (EIAR)

The EIA Directives have been transposed into Irish law for the purposes of this planning application by the provisions of *Part X of the Planning and Development Acts 2000, as amended*, and *Part 10 of the Planning and Development Regulations 2001, as amended*.

The EIAR Directives list those projects for which an EIA is mandatory (Annex I) and those projects for which an EIA may be required (Annex II).

Annex I projects are listed in Part 1 of Schedule 5 of the *Planning and Development Regulations 2001, as amended* (“the Regulations”).

The Project is not listed within Part 1 of Schedule 5 of the Regulations and therefore a mandatory EIA is not required under this Schedule.

With regard to Part 2 of Schedule 5 (Annex II) projects, the relevant threshold relating to the subject proposal is outlined below:

Class 2(b)

“Extraction of stone, gravel, sand or clay, where the area of extraction would be greater than 5 hectares.”

The development consisted of an extraction area of c. 8.66 ha and is therefore greater than the threshold listed above.

1.3 Purpose of an Environmental Impact Assessment Report

As noted, the 2014 Directive has redefined an EIA as a process, whereby an Environmental Impact Assessment Report is a key informing element.

The purpose of an EIAR is to assess the likely significant effects (direct and indirect) on the environment arising from the development as carried out. It is used during the consent process to inform EIA.

As per Article 5(1) of the amended Directive, an EIAR should provide the following information:

- Description of Project
- Description of Baseline Scenario
- Description of Likely Significant Effects
- Description of Avoidance/Mitigation Measures
- Description of Reasonable Alternatives (and rationale for chosen option)
- A Non-Technical Summary

Annex IV of the Directive sets out a more detailed outline of the information required in an EIAR. The subject EIAR has been prepared in full accordance with these stated requirements of Annex IV.

The preparation of the rEIAR has been coordinated by Tom Phillips + Associates, Town Planning Consultants (80 Harcourt Street, Dublin 2, D02 F449) in association with other members of the Project Team. Details of the members of the Project Team and their competencies are set out in Appendix 1.1 of Volume 2 of this rEIAR.

A copy of the full rEIAR is available for reference/purchase at An Coimisiún Pleanála (64 Marlborough Street, Dublin 1, D01 V902).

1.4 Scoping of the Environmental Impact Assessment Report

A non-statutory scoping exercise was conducted for this rEIAR to establish what format the rEIAR would take and the range and aspects of the environment to be considered, and led to a decision on the matters to be addressed and the format to be used (the so-called ‘grouped’ ER format – see Section 1.6). This exercise was conducted following consultations between the Applicant and its professional advisors.

The scope of the rEIAR conducted in regard to the proposed development includes the following:

- The requirements of the EIA Directive (Directive 2011/92/EU, the codified EIA Directive), the *Planning and Development Acts 2000 – 2015, and the Planning and Development Regulations, 2001 – 2015*;
- European Commission *Impact Assessment Guidelines, 2009*;
- *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (Draft), September 2015*;
- *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, May 2022*;
- Regard was also had to the EIA Directive 2014/52/EU adopted on 16th April 2014, and which came into force on 15th of May 2014 and the Circular Letter PL 1/2017 issued by the Department of Housing, Planning, Community and Local Government (15th May 2017); and
- The requirements of Carlow County Council, as elaborated in the current *Carlow County Development Plan 2022 – 2028* and as advised by the Officers, to facilitate evaluation of the proposed development.
- The historic development of the site and planning history
- The likely concerns of local residents and other third parties.
- The nature, location and scale of the proposal.
- The existing environment, as well as any vulnerable or sensitive features and current issues.
- The likely and significant impacts of the proposed development on the environment.
- The *Planning and Development Regulations 2001, as amended*, specify the aspects of the environment likely to be significantly affected by the proposed development, including in particular:
 - Population and Human Health, Biodiversity (Flora and Fauna).
 - Land, Soil, Water, Air, Climatic Factors, Noise and Vibration, the Landscape and Visual Impact.
 - Material Assets – Site Services, Traffic, and Transportation, Waste Management.
 - Architectural, Archaeological and Cultural Heritage.
 - The inter-relationship between the above factors and an indication of difficulties encountered in compiling the required information.

These considerations are addressed in the rEIAR.

1.5 rEIAR Methodology & Format

In addition to the 2014 Directive, the subject rEIAR has been informed by:

- *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements* (EPA, 2003);
- *Guidelines On the Information to Be Contained in Environmental Impact Assessment Reports* (EPA, May 2022);
- *Draft Advice Notes for Preparing Environmental Impact Statements, Draft* (EPA draft September 2015a);
- *Draft Revised Guidelines on the Information to be Contained in Environmental Impact Statements* (EOA draft September 2015b);
- *Environmental Impact Assessment of Projects: Guidance on Screening* (European Commission, 2017);
- *Environmental Impact Assessment of Projects: Guidance on Scoping* (European Commission, 2017);
- *Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report* (European Commission, 2017);

- *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment*, (August 2018);
- *Guidance of Integrating Climate Change and Biodiversity into Environmental Impact Assessment* (European Commission, 2013);
- *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* (Department of Environment, Community, and Local Government 2013);
- *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* (Government of Ireland, 2018);
- *Key Issues Consultation Paper on the Transposition of 2014 EIA Directive (2014/53/EU) in the Land Use Planning and EPA Licensing Systems* (Department of Housing, Planning, Community and Local Government 2017);
- *Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions* (European Commission, 1999);
- *Implementation of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment* (European Commission, 2003);
- *Circular PL 05/2018 – Transportation into Planning Law of Directive 2014/52/EU amending Directive 2011/92/EU on the effects of certain public and private projects on the environment (the EIA Directive) and Revised Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* (Department of Housing, Planning and Local Government, 2018);
- *Planning and Development Act 2000, as amended*; and
- *Planning and Development Regulation 2001, as amended*.

In addition to these guidance documents, all EU Directives and National Legislation relating to the specialist areas (e.g. Biodiversity, Air Quality, Climate and Noise) have been considered under each relevant environmental aspect. Specific guidance is addressed in the relevant chapters of this rEiAR.

Remedial EiARs require the assimilation, co-ordination and presentation of a wide range of relevant information in order to allow for the overall assessment of a proposed development. To allow for ease of presentation and consistency when considering the various environmental factors considered, a systematic structure is used for the main body of the Report.

1.6 rEiAR Study Team & Guarantee of Competency & Independence

The rEiAR was completed by a project team led by Tom Phillips + Associates, who also prepared a number of the chapters.

The members of the team, their qualifications and their respective inputs are outlined below in Table 1.1. The appendices for the rEiAR Chapters, as set out in Table 1.1, are provided in Volume 2 of the rEiAR.

In accordance with EIA Directive 2014/52/EU, we confirm that experts involved in the preparation of the rEiAR are fully qualified and competent in their respective fields. Each has extensive proven expertise in the relevant field concerned, thus ensuring that the information provided herein is complete and of high quality.

Chapter	Aspects of the Environment Considered	Contributor	Person Responsible
Chapter 1	Introduction & Methodology	Tom Phillips + Associates (TPA)	Bernard Dwyer
Chapter 2	Site Location & Context	TPA	Bernard Dwyer
Chapter 3	Description of the Historic Development	TPA	Bernard Dwyer
Chapter 4	Key Alternatives Considered	TPA	Bernard Dwyer
Chapter 5	Population & Human Health	TPA	Bernard Dwyer
Chapter 6	Biodiversity	Ecology Ireland	Gavin Fennessy
Chapter 7	Land, Soils, & Geology	Hydro Environmental Services (HES)	Michael Gill
Chapter 8	Water (Hydrology & Hydrogeology)	HES	Michael Gill
Chapter 9	Air	AWN	Ciara Nolan
Chapter 10	Climate	AWN	Ciara Nolan
Chapter 11	Noise & Vibration	Wave Dynamics	James Cousins
Chapter 12	Material Assets - Waste	AWN	Chonail Bradley
Chapter 13	Material Assets – Traffic & Transportation	Transport Insights	Eoin Munn
Chapter 14	Archaeology	Charles Mount Archaeology	Dr. Charles Mount
Chapter 15	Landscape Visual Impact Assessment	Macroworks	Richard Barker
Chapter 16	Interactions & Cumulative Impacts	TPA	Bernard Dwyer
Chapter 17	Mitigation & Monitoring	TPA	Bernard Dwyer
	Non – Technical Summary	All Contributors outlined above	Compiled by TPA

Table 1.1: Interdisciplinary Team appointed to this rEIAR.

2.0 SITE LOCATION AND CONTEXT

The subject site encompasses a total area of approximately 41.86 ha in a wider landholding of 45.68 hectares, under ownership of the Applicant, Milford Quarries Ltd. The land is located within the townland of Clogrennane, Co. Carlow and directly sits along the Co. Laois/Co. Carlow border. The site is approximately 6 km south west of Carlow town and approximately 3 km north-west of Ballinabranna.

Within the overall landholding is the subject site, which consists of a sandstone rock quarry known as Redrock. The site is bounded by a private rural road that is connected to the L7129 Road to the west and the L7134 Road to the east. The M9 motorway can be accessed via Junction 6, approximately 5.5km to the south east of the site.

The site is approximately 2.1km west of the River Barrow, and the associated River Barrow and River Nore Special Area of Conservation (SAC - 002162).

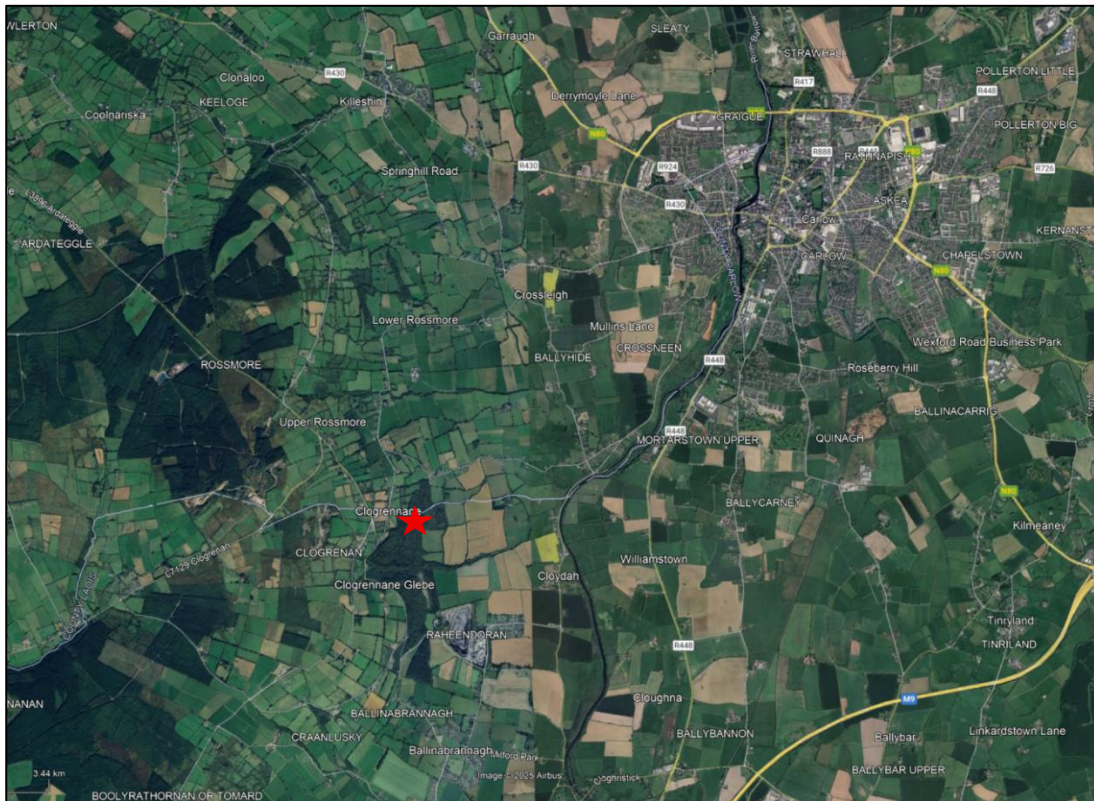
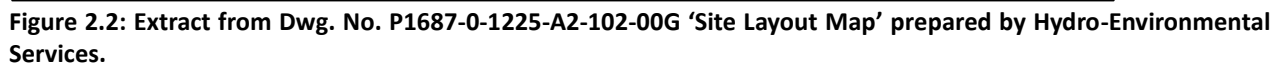


Figure 2.1: Location of existing disused quarry indicated by red star in relation to Carlow town (source: Google Earth; annotated by TPA, December 2025.)



The subject lands are in an elevated location west of the River Barrow Valley in an area dominated by agricultural lands and forestry. There are several inactive quarry pits in the surrounding area with the Clogrennane Lime Ltd. quarry located to the south east. There are a number of small settlements in the immediate area, including Ballinabranna, Kileeshal and Bilboa. Connectivity in the area is characterised by several intersecting local roads which have been shaped by the topography of the area.

The quarry was registered in 2005 under a different operator and included for the extraction of sandstone and siltstone, conducted primarily through mechanical methods. The total area extracted over the lifetime of the quarry was approximately 8.66 hectares. The quarry was originally registered on the basis of pre-63 origins owing to historical maps which showed a borrow pit in the north eastern corner of the site.

The need for substitute consent arises from previous S261A proceedings. Carlow County Council determined in 2012 that historic extraction had taken place at the site, which would have required a mandatory EIA as per Section 261(2)(a)(i) of the *Planning and Development Act 2000, as amended*.

The Planning Authority also determined that development had occurred post 26th of February 1997, which would have required an Appropriate Assessment, and this had not been conducted. Please refer to Section 3 for a detailed breakdown of the site's planning history with respect to quarry operations that occurred on site.

The S261A determinations and decision were referred to An Coimisiún Pleanála (then An Bord Pleanála), who upheld the determinations and decision of Carlow County Council.

The operators at the time were not in a position to remedy the above, and as a result, large scale commercial extraction ceased in 2014 following the determination of An Coimisiún Pleanála in relation to the S261A proceedings.

It should be noted that, to the best of our knowledge, no significant extraction activities began at the site until the period between 2000 and 2005, as evidenced by historic aerial imagery and based on discussions between the Applicants and the previous operators of the site. Further assessment of historic aerial imagery of the site confirms that the bulk of extraction at the site took place between 2005 and 2010-2012 timeframe. This is consistent with economic activity at the time.

The aerial imagery further suggests that there was a small level of extraction from the lands following the S261A proceedings. Information on this is limited, but we understand that relatively modest quantities of material were removed in campaigns c. 2018 and 2021. This material would most likely have been used locally for agricultural purposes.

As outlined on drawings prepared by Hydro Environmental Services, it is estimated that 650K m³ have been extracted in total from the site. The majority of this extraction took place in the period between 2005 and 2012. By 2012, 550K m³ had been extracted. Following this, a further 100K m³ were removed up until the Applicants took ownership in 2023. This equates to just over 8K m³ per year on average over that period (2012 – 2023). The lands during this period had effectively reverted to serving as a borrow pit for local users where small scale extraction took place to serve local agricultural road building, etc.

The lands are currently in a disused state, with previous surface water management features still intact and operational.

2.3 Surrounding Area

The site is bounded by the Co. Carlow and Co. Laois border and is situated within rural Carlow. The site is surrounded by a mixture of agricultural uses with localised commercial enterprises and rural one-off houses. Furthermore, the site is located in close proximity to Clogrennane Woods, which is owned by Coillte and is located to the east of the subject site.

Clogrennane has long been associated with the extractive industry, with much of the limestone used to construct buildings and monuments in Carlow town sourced from this area.¹ An additional active quarry, Clogrennane Lime Ltd., is located approximately 1.5 km to the south-east of the subject site.

¹ Carlow Tourism, Clogrennane Wood Looped Walk, <https://carlowtourism.com/outdoor-activities/clogrennane-wood-looped-walk-2/>

3.0 DESCRIPTION OF DEVELOPMENT

As set out in Chapter 2 of this rEIAR, the subject site² at Redrock Quarry is located in County Carlow in the townland of Clogrennane and borders County Laois. The quarry has remained inactive for a number of years and is currently inactive pending consent from An Coimisiún Pleanála.

3.1 Summary of the Historic Development

The quarry was registered in 2005 under a different operator and included for the extraction of sandstone and siltstone, conducted primarily through mechanical methods. The total area extracted over the lifetime of the quarry was approximately 8.66 hectares. The quarry was originally registered on the basis of pre-63 origins owing to historical maps which showed a borrow pit in the north eastern corner of the site.

The Applicants acquired the site in 2023 and there has been no extraction activity on the lands since this date. This S177E Substitute Consent application is being sought in order to regularise historic unauthorised development.

The need for substitute consent arises from previous S261A proceedings. The operators at the time were not in a position to remedy the above, and as a result, large scale commercial extraction ceased in 2014 following the determination of An Coimisiún Pleanála in relation to the S261A proceedings.

It should be noted that, to the best of our knowledge, no significant extraction activities began at the site until the period between 2000 and 2005, as evidenced by historic aerial imagery and based on discussions between the Applicants and the previous operators of the site. Further assessment of historic aerial imagery of the site confirms that the bulk of extraction at the site took place between 2005 and 2010-2012 timeframe. This is consistent with economic activity at the time.

The aerial imagery further suggests that there was a small level of extraction from the lands following the S261A proceedings. Information on this is limited, but we understand that relatively modest quantities of material were removed in campaigns c. 2018 and 2021. This material would most likely have been used locally for agricultural purposes.

As outlined on drawings prepared by Hydro Environmental Services, it is estimated that 650,000 m³ have been extracted in total from the site. The majority of this extraction took place in the period between 2005 and 2012. By 2012, 550K m³ had been extracted. Following this, a further 100K m³ were removed up until the Applicants took ownership in 2023. This equates to just over 8K m³ per year on average over that period (2012 – 2023). The lands during this period had effectively reverted to serving as a borrow pit for local users, where small-scale extraction took place to serve local agricultural, road-building, etc.

The lands are currently in a disused state, with previous surface water management features still intact and operational.

² Note: The terms subject site, development site and proposed development site are used interchangeably throughout this NTS



Figure 3.1: Extract of Dwg. No. 105-SC Site Development History (Source: Hydro-Environmental Services.)

The new owners and Applicant, Milford Quarries Limited, obtained the quarry on the 27th of March 2023. The quarry has remained inactive throughout the duration of the Applicant's ownership of the site.

3.2 Description of Historic Development

The development has been described in the statutory notices as follows:

Milford Quarries Ltd., intend to apply for Substitute Consent for development at a site in the townland of Clogrennane, Bilboa, Co. Carlow.

The development consisted of quarrying, including rock extraction by mechanical means, including extraction areas, stockpiling areas, surface water management and ancillary works. The quarry included an extraction area of approximately 8.66 hectares within a wider landholding of approximately 45.68 ha and involved the extraction of up to approximately 650,000 m³ of material over a c. 16-year period. The proposed development will also include a restoration plan for agricultural grassland using excavated materials from an existing infill area at the western portion of the site.

We understand that lands outside of the Applicant's ownership, adjacent to the main site entrance, were previously used as a yard and additional access road for the site, without the benefit of planning permission. This area has since been reinstated to its original use and does not form part of this application.

3.3 Screening

The west is screened by berms constructed from stripped soil/subsoil. While the north, east and south are screened by trees, ditches and the natural sloping topography.

The retrospective Landscape Visual Impact Assessment (Chapter 15 of this rEIAR) describes the study area surrounding the subject site as follows:

“The proposed development study area is located in the Hills and uplands area and is described as an area with the capacity to accommodate a range of uses without significant adverse effects on the appearance or character of the landscape having regards to the localised sensitivity factors.”

Further detail is provided in Chapter 15 - Landscape Visual Impact Assessment.

3.4 Drainage

A hydrogeological assessment has been undertaken and is detailed in Chapter 8 Hydrology. Currently, surface water outfalls from a large pond in the floor of the quarry void.

3.5 Access

Access to the site and its boundary is currently unsecured. Previous vehicular traffic would have accessed the site via the L7130 and the L7134. The constructed berms and some natural ditches hinder access to the site from the west and south. Security measures, including new entrance detail and site office, will be proposed as part of the subsequent application for future development to be made in accordance with Section 37L of the *Planning and Development Act 2000, as amended*.

Further detail is provided in Chapter 13 – Traffic.

3.6 Operating Hours

As outlined above, the quarry has ceased significant operations since approximately 2014, following the outcome of the S261A proceedings. Condition No. 8 of the initial Section 261 Registration limited operating hours to between 7a.m. and 6p.m. Monday to Friday and 7a.m. to 1p.m. Saturday. Operations were excluded on Sundays and Public Holidays.

3.7 Hydrological Context

Regionally, the majority of the proposed development site is located within the River Barrow surface water catchment and Hydrometric Area 14 of the Southeastern River Basin District. Meanwhile, the south-west of the proposed development site is located within the River Nore surface water catchment and Hydrometric Area 15 of the Southeastern River Basin District.

EPA mapping suggests a stream (identified as Raheendoran Stream) flows through the site before ultimately discharging into the River Barrow. However, walkover surveys and drainage mapping indicate that the course of this stream has been altered by the historic quarrying activities and no watercourses cross the existing quarry void. Water gathers in the floor of the existing quarry and drains out from an existing pond in the north of the quarry. From here, the stream/quarry discharge flows to the southeast along the existing quarry access road. The drain is culverted under the access road and flows to

There is no existing discharge from the quarry within the River Nore catchment. However, there is an unnamed stream c. 1.3km west of the site which connects to the Dinin River that ultimately discharges into the River Nore. It is possible that runoff from some areas in the west of the site may currently flow to the west towards the Dinin River.

[illegible]

3.8 Trade Effluent Discharge

- Notification of incidents and reporting
- Site design and management
- Emission to Waters
- Waste Management

Annual Environmental Reports associated with the Licence were not available. However, this is likely due to the fact that large scale operations began winding down shortly after the granting of this licence due to the economic downturn.

Chapter 8 of the rEIAR, prepared by Hydro Environmental Services (HES), includes Biological Q-rating data for EPA monitoring points upstream and downstream of the development site during the Extraction Phase. This is detailed in Table 8-8 and demonstrates that where information is available, Q-ratings were generally in the moderate to good range. HES also carried out additional Water Quality monitoring on various dates in 2025 at the existing settlement ponds and outfall locations. Details are outlined in Chapter 8.

3.9 Historic Mitigation

When the quarry was initially registered under Section 261 as QY14, a number of conditions were imposed to ensure environmental mitigation. The Section 261 Registration Notification dated 24th April 2007 includes 18 no. conditions, which sought assurances in relation to, *inter alia*, limiting noise levels, prohibiting surface water runoff to discharge to the public road, requiring any necessary environmental licencing is obtained, prohibiting washwater discharge, restricting the construction of ancillary buildings, requiring the public road is kept clean, requiring unsoiled surface water run-off collection and disposal, and requiring a restoration plan be submitted to the Planning Authority.

In addition, Condition no. 4 stated:

"The proposed development shall be operated so that the processes carried on, or the plant or machinery installed are such as could be carried on, or installed close to a residential area, without any detriment to the amenity of that area by reason of noise, vibration, smell, fumes, smoke, soot, ash, dust, or grit."

There were also conditions placed on the Trade Effluent Discharge Licence. It has not been possible to source any historic reporting in relation to adherence to conditions. However, baseline and surveying of the local and regional hydrology and other environmental factors indicate that there have been no adverse effects from the historic operations.

4.0 ALTERNATIVES

This Chapter assesses the key alternatives considered by the Applicant in line with Schedule 6 of the *Planning and Development Regulations 2001, as amended*, Section 2 (b), which states:

“A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the person or persons who prepared the EIAR, which are relevant to the Proposed Development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the Proposed Development on the environment.”

From the outset, it is important to highlight that the subject chapter forms part of a rEIAR and therefore the assessment is retrospective. The historic development occurred prior to the purchase of the site by the Applicant. This chapter examines the alternatives available to the Applicant following receipt of ownership of the site. The Applicant has had regard to alternative considerations in relation to location, technology and remediation in the assessment of the historic development. It is not possible to scrutinise possible alternatives that may have been available in relation to project design, size or scale, as the Applicant has inherited the site and the historic development

4.1 Alternative Location

The Applicant was not involved in the historic extraction at this location, but it is understood that the previous landowner extracted materials from the site due to the presence of valuable sandstone. Other desirable factors of the location could include its relative remoteness from sensitive receptors and lack of visual impact due to its elevation. The site is in proximity to the national road network, approximately 8km from the M9 and 10km from the N78, which provides onward connection to relevant destinations.

As described in Chapter 2, the site has slowly developed over time but is recorded as being the source of either quarrying activity or a borrow pit going back to 1906. Alternative locations may be unsuitable or inappropriate for extraction due to factors such as ground conditions or proximity to sensitive receptors. The existence of further aggregate resources at this location (the extraction of which will be subject to a separate planning application in accordance with Section 37L of the *Planning and Development Act 2000, as amended*) demonstrates the ready availability of additional usable deposits of aggregate.

4.2 Alternative Technology

The Inspector's Report for ABP Ref. QV01.QV0145 (review of the Carlow County Council determination made under s.261A(2)(a)) noted that there was no evidence of blasting as a method of extraction, nor were there conditions relating to such in the S.261 registration. Discussions between the Applicants and previous operators have indicated that mechanical digging was the employed method of extraction. Mechanical digging is less invasive than blasting and may have been chosen for this reason. Mechanical digging is the least impactful form of rock extraction.

4.3 Alternative Remediation

4.3.1 Obtain Substitute Consent

The Applicant's preferred option is to obtain Substitute Consent. As the Applicant wishes to apply for permission for extraction at the site under Section 37L of the *Planning and Development Act 2000, as amended*, and intends to regularise the extraction that has already occurred without consent prior to the purchase of the site.

A grant of Substitute Consent would confirm that the historic development has not resulted in a significant impact on the receiving environment and is not resulting in any negative impacts on the natural environment which would deem the historic development to have been permitted at the time development commenced.

4.3.2 Complete Restoration

As described in Chapter 2, the site is currently idle, and commercial operations have ceased since approximately 2014. It does not appear that enforcement proceedings were taken by the Planning Authority against the landowner at the time that would have requested regularisation through Substitute Consent or restoration of the site. The restoration of the site to a greenfield agricultural use would result in the loss of a supply of nationally important resources available from the quarry. The Applicant is applying for Section 37L permission for the further extraction of materials from the subject site.

Furthermore, the restoration of this site could lead to the extraction of essential aggregates at another, existing greenfield site which may comprise habitat loss and potential significant effects requiring mitigation. As outlined above in Section 1.2, the site is a suitable location for the extraction of raw materials essential in the construction industry.

4.3.3 Do Nothing

A 'Do Nothing' scenario would involve leaving the site to restore naturally without any management or mitigation of any potential impacts. It would result in an unusable site that could attract antisocial activity, such as illegal dumping, and could potentially have significant environmental impacts such as a breakdown in the settlement pond system which would allow for sediment run-off to pollute the waterway. A Do-Nothing scenario would also preclude the rehabilitation of the site through the implementation of an effective restoration plan.

5.0 POPULATION AND HUMAN HEALTH

This chapter of the rEIAR NTS examines the potential impacts of the historic quarry development on human beings. The scope of the work includes an evaluation of the potential and indirect effects on the human populations of the surrounding environs and addresses impacts on amenity, the local economy and health.

The assessment of impacts on population and human health entailed the identification of key populations potentially affected by the proposed development, the definition of the study area, and quantitative, qualitative, and documentary research.

Key populations potentially affected by the development have been identified as persons residing and engaging in activities in close proximity to the quarry, persons with a stake in the general economy of the area, and persons enjoying the recreational and cultural amenities of the area.

The primary Study Area has been defined as the Small Area ('SA') 017012001 in which the site is located. Due to the proposed development being situated along the County Laois border, the adjacent SA (107087001) has been included in order to effectively analyse the surrounding environs of the site. The study area has been identified having regard to both data availability and the location of the subject site. Small Areas are the lowest level of geography at which detailed demographic data (i.e. Small Area Population Statistics published by the Central Statistics Office) are available for rural areas.

The area surrounding the site is predominantly rural in character. Residential properties in the vicinity of the site comprise one-off dwellings and farmhouses along local roads that are primarily to the north, south and east of the site. Further details of the receiving environment are provided in Chapter 2 of this rEIAR.

The subject site is located at Clogrennane. In the 2022 Census, the relevant SA (017012001) had a total population of 348 no. persons representing a population percentage change of +7% from the 2016 Census. This percentage change in population compares with the neighbouring SA (107087001), which has experienced a population change of +2% increase from 2016. Both areas saw their population decrease slightly in the 2016 Census, but their 2022 populations are marginally higher than in 2011. The overall population in the wider area has therefore remained largely static over the last 15 years since the quarry was in full operation.

A separate analysis was carried out in relation to new residential development in the area since the year 2000, which captures the active phase of the quarry and the later extraction phases. This analysis, which examined planning records submitted to both Carlow and Laois County Councils within a 1 km radius of the subject lands identified any permitted new residences in the area. A further analysis of aerial imagery reveals that approximately 16 no. of these permitted residences were constructed in the area over the last 25 years. Where existing dwellings were extended, or replacement builds took place, these results were discounted. A listing of these constructed dwellings is included as Appendix 5.1.

The analysis demonstrates that approximately 9 no. properties were permitted and constructed within the area during the period of most significant activity at the quarry between 2000 and 2014. There are no records of complaints from neighbouring residents during this timeframe. A further 7 no. properties have been permitted and developed in the intervening years with no recorded reports of impacts.

In addition, when S261A proceedings were underway, there were no submissions/observations by the public. This would suggest that the quarry operated successfully in the past, notwithstanding nearby sensitive receptors. This is further demonstrated through the analysis in the other chapters in the rEIAR, including the Noise and Hydrology chapters in particular.

An assessment of employment and deprivation is also provided.

Based on the qualitative analysis of the sensitivity of the receiving environment in relation to human health, there would appear to be very low health sensitivity in the area, indicating no long-term impacts from the historic development of the quarry.

Should there be no additional expansion of the quarry, the projected effects with regard to climate and air quality are expected to be neutral and imperceptible.

As the quarry is currently inactive, the effects on the surrounding area from noise and vibration are imperceptible and will remain so in the absence of future quarry expansion.

It is not considered that remedial mitigation is required as the historic landscape and visual effects are deemed not to be significant.

Should additional development not take place at the site and provided the pre-existing surface water management measures remain functional, it is not envisaged that any significant effects in terms of surface or ground waters would be experienced.

In relation to traffic, any residual impacts on traffic capacity on the receiving road network can be categorised as imperceptible.

In relation to waste, the overall effect is determined to be long-term, imperceptible, and neutral.

The development would represent a long-term positive effect for the local economy.

The Do Nothing Impacts are considered to be moderate, negative and long term.

The residual impact of the historic development will not be significant in terms of its effect on human beings.

6.0 BIODIVERSITY

6.1 Context and purpose

This non-technical summary sets out the main biodiversity and nature conservation points for the Substitute Consent application to regularise historic sandstone extraction and associated processing at the currently inactive Redrock Quarry. It focuses on the key ecological sensitivities, the principal changes arising from the historic quarry development, and the overall conclusions on likely residual effects.

6.2 Site overview and baseline

The Substitute Consent development site comprises approximately 41.86 ha, with the area of historic excavation measuring approximately 8.66 ha. The wider landholding is approximately 45.68 ha.

Quarrying activity took place between approximately 2005 and 2021. The baseline condition used for comparison is c. 1995, prior to quarry development.

Before quarrying, the site was predominantly improved agricultural grassland bounded by hedgerows and treelines.

6.3 Current habitats and ecological features

The present-day habitats at this site reflect the historic excavation void and surrounding farmland. No Annex I habitats were recorded within the substitute consent boundary.

The worked quarry area is mainly spoil and bare ground, with recolonising vegetation around the margins and several artificial ponds and flooded areas on the quarry floor.

Outside the void, the site includes improved and wet grassland with remnant hedgerows and treelines, plus patches of scrub and small areas of other habitats associated with the wider holding.

No Third Schedule invasive plant species are recorded for the 2 km grid square overlapping the site.

6.4 Main biodiversity changes arising from historic quarrying

The historic quarry development resulted in permanent change to habitat structure within the application boundary, primarily through land take, removal of field boundaries and alteration of a headwater watercourse.

Aerial imagery indicates that the active quarry area expanded from a small area in the north-east of the site, to approximately 3.61 ha by 2005 and approximately 6.29 ha by 2010, with further expansion to the current footprint by closure.

Between 1995 and quarry closure, the site is calculated to have lost approximately 2 km of internal field boundaries (mainly hedgerows and treelines) and approximately 0.2 to 0.3 km of external field boundaries, equating to approximately 35 percent of the original field boundary network.

The pre-quarry landscape supported a finer-grained field pattern that provided connectivity across the site. The current worked area is dominated by a large open void with limited marginal boundary vegetation, reducing structural connectivity for typical farmland fauna within the application boundary.

Historic quarrying removed the headwaters and on-site reach of the Raheendoran Stream within the extraction area. Water that formerly flowed along this headwater feature now accumulates on the quarry floor and is routed via settlement ponds and outfalls toward the Mortarstown Stream, and then onward to the Fushoge River and River Barrow.

6.5 Key species and ecological receptors

6.5.1 Terrestrial mammals

Walkovers and trail cameras recorded Irish Hare, Red Fox and Brown Rat within the site.

No breeding or resting places of protected non-volant mammals were recorded within the site, and no Otter evidence was found during surveys. Badger signs have been recorded previously in the wider site area, but no sett was identified within the Substitute Consent boundary.

6.5.2 Bats

Five bat species were confirmed at the site: Common Pipistrelle, Soprano Pipistrelle, Leisler's Bat, Daubenton's Bat and Brown Long-eared Bat.

Recorded activity was consistent with commuting and opportunistic foraging rather than concentrated activity associated with a roost.

No suitable roost structures or roost trees were identified within the site.

6.5.3 Birds

The site supports a modest bird community typical of farmland and disturbed ground, with limited nesting and foraging potential inside the worked quarry due to sparse vegetation.

Ten Sand Martin burrows were noted in spoil, with high vulnerability to collapse and predation.

Peregrine Falcon, an Annex I species, was recorded on several occasions. Survey evidence indicates regular use of a cliff as a roost is possible, but there is no evidence of current or recent nesting within the site.

6.5.4 Amphibians and other fauna

Common Frog and Smooth Newt were recorded in artificial ponds, including through eDNA sampling, and frogs were also observed during walkovers.

Butterflies and dragonflies were recorded in small numbers, and no rare or protected invertebrate species were found within the site.

6.6 Designated Sites and Appropriate Assessment

The Substitute Consent site is not within a European or nationally designated conservation site. The closest European site is the River Barrow and River Nore SAC (site code 002162), located at a minimum distance of approximately 2.1 km overland and over 2.5 km downstream along the surface water pathway.

The only credible pathway between the quarry and the River Barrow and River Nore SAC is hydrological, via local drainage to the Mortarstown Stream and onward to the SAC downstream.

Noise, dust and visual disturbance pathways are not considered plausible for SAC qualifying interest species at the distances involved.

On a precautionary basis, the SAC remains screened in for appropriate assessment, and a Natura Impact Statement accompanies the EIAR. The Natura Impact Statement concludes that no significant effects on the integrity of the River Barrow and River Nore SAC, or any other European site, arose from the quarry development when environmental controls and mitigation are applied.

6.7 Environmental controls, mitigation and restoration measures

Environmental controls were applied during operation to limit the risk of water quality effects downstream. A site restoration plan is also proposed to improve habitat structure over time.

Key risks in the absence of controls relate to suspended solids and turbidity in run-off, intermittent hydrocarbon contamination, and potential alkaline residues associated with site activities.

Settlement and attenuation features, together with surface water management practices, are designed to minimise the mobilisation of silt and contaminants to receiving waters.

The restoration plan includes planting of soil storage areas with native woodland mosaics, retention of existing boundary vegetation, riparian planting along the watercourse exiting the site, and allowing parts of the quarry floor to naturally regenerate.

6.8 Conclusion

Residual effects are those remaining after the historic quarry works, taking account of environmental management and water controls, and the proposed restoration measures.

Overall residual ecological effects are confined to the local area and are generally assessed as slight to moderate adverse, with some slight beneficial outcomes for amphibians associated with quarry ponds. No significant residual impacts at county, regional or national level are assessed.

No residual adverse effects on the integrity of any European site are identified, consistent with the conclusions of the Natura Impact Statement.

7.0 LAND, SOILS AND GEOLOGY

The Development relates to all activities completed at the development site relating to the previous unauthorised extraction of sandstone bedrock at Red Rock Quarry, a disused sandstone bedrock quarry located at Clongrenan, Co. Carlow. The Development Site is located at the eastern edge of the Castlecomer Plateau, approximately 5km south-west of Carlow town and approximately 7.5km northwest of Leighlinbridge.

The geological characteristics of the development site have been investigated through the completion of site walkover surveys, inspections of the existing quarry faces, geophysical surveys and borehole drilling. The soils/subsoils at the development site are relatively thin, with a range of subsoil conditions noted across the site. Soils and subsoils have been removed from the existing quarry void to facilitate the previous extraction of bedrock at Red Rock. Subsoils encountered in the lands surrounding the existing quarry comprised typically of silty, gravelly CLAY. The soils and subsoils encountered during the site investigations correlate with the published Teagasc/GSI soils and subsoils maps of the local area.

The development site is mapped to be underlain by the Moyadd Coal Formation (shale, siltstone and sandstone) and the Bregaun Flagstone Formation (sandstone and siltstone). The existing quarry void provides excellent exposures of the local bedrock, with sandstone located towards the southwest of the quarry and shale more dominant elsewhere.

There are no geological heritage sites located within the development site. An abandoned coal mine, Old Rossmore County Geological Site (CGS), is located approximately 300m to the north-west. the development had no potential to impact this CGS.

The baseline for the remedial impact assessment on land, soils and geology is 1995, which is considered as this year predates the extraction of bedrock. In 1995, only a small historic borrow pit existing at the site which had not been used for some time. The Extraction Phase covers the period from 1995 to 2014, when the majority of the extraction and activities at the development site ceased. The Post Extraction Phase covers the period between 2014 and 2023, when only minor consolidation works and monitoring were undertaken. The Current Phase includes the period from 2023 to the Present Day and covers the time period in which the Applicant had ownership of the site.

From a land, soils and geology perspective, the main impacts occurred during the Extraction Phase between the 1995 baseline and 2014. This is when the vast majority of the bedrock was extracted and the quarry extended to the south. This resulted in a significant effect to the land, soils and geological environment associated with a change in land use, alteration of topography, disturbance and relocation of soils/subsoils and extraction of rock. Minor site consolidation works were completed during the Post Extraction Phase. By the end of the Post Extraction Phase, the extraction area stood at 8.66ha, and the volume of rock removed from the site is estimated to have been approximately 650,000m³. There has been no extraction of bedrock or change in land since the Applicant took ownership of the development site in 2023.

The proposed restoration plan for the development site has also been assessed. The plan includes restoration of the site to agricultural grassland with some areas of native woodland to be planted. The restoration plan will have a positive effect on land. However, the site will never return to its 1995 baseline condition which was present before the commencement of bedrock extraction. The assessment confirms that no cumulative effects on land, soils and geology have occurred. Similarly, there will be no cumulative effects from the implementation of the restoration plan. Effects on land, soils and geology will only occur as direct effects, and therefore cannot extend beyond the boundary of the development site.

8.0 HYDROLOGY

The development relates to all activities completed at the development site relating to the previous unauthorised extraction of sandstone bedrock at Red Rock Quarry, a disused sandstone bedrock quarry located at Clongrenan, Co. Carlow. The development site is located at the eastern edge of the Castlecomer Plateau, approximately 5km southwest of Carlow town and approximately 7.5km northwest of Leighlinbridge.

The hydrological and hydrogeological regime at the proposed development site has been investigated through the completion of walkover surveys, drainage mapping, surface water quality monitoring, surface water flow monitoring, borehole drilling, groundwater sampling and groundwater level monitoring.

The majority of the development site is located in the River Barrow surface water catchment, with a small area in the southwest situated in the River Nore surface water catchment. Within the River Nore catchment, the Development Site is located in the Dinin River sub-catchment. However, within this sub-catchment there are no watercourses located in the vicinity of the Development Site. Within the River Barrow catchment, the EPA map a watercourse, referred to as the Raheendoran Stream to flow to the east, through the Development Site. However, site inspections and walkover surveys have shown that this watercourse is no longer present within the site. The upper reaches of this stream have been lost as a result of the previous quarrying activities. Water at the site now gathers in flooded areas on the floor of the quarry void, and is discharged at 2 no. locations which merge downstream of the quarry, before travelling to the northeast and discharging into the Mortarstown Stream. The Mortarstown Stream is a tributary of the Fushoge River which in turn discharges into the River Barrow. A direct hydrological connection exists between the proposed development site and the River Barrow and River Nore SAC.

The site is underlain by the Bregaun Flagstone Formation and the Moyadd Coal Formation. The sandstones, siltstones and shales comprising these formations are of low permeability and are classified by the GSI as Poor Bedrock Aquifers. This means that the hydrogeological regime of the Development Site is characterised by high rates of surface water runoff and low rates of groundwater recharge. Groundwater flowpaths are short, follow local topography and discharge into nearby streams. Surface waters were therefore the primary receptors in relation to potential qualitative effects associated with the historic activities. There were no significant effects on groundwater levels due to the low permeability of the bedrock aquifers, the topographical setting of the site at the side of a hill, and given that the floor of the quarry stands at 304mOD. During site walkover surveys no significant inflows of groundwater into the existing quarry void were recorded.

The baseline for the remedial impact assessment on the hydrological and hydrogeological environment is 1995 as this year predates the extraction of bedrock. In 1995, only a small historic borrow pit existing at the site which had not been used for some time. The Extraction Phase covers the period from 1995 to 2014, when the majority of the extraction and activities at the development site ceased. The Post Extraction Phase covers the period between 2014 and 2023 when only minor consolidation works and monitoring were undertaken. The Current Phase includes the period from 2023 to the Present Day and covers the time period in which the Applicant had ownership of the site.

The Extraction Phase was found to have a profound effect on the hydromorphology of the Raheendoran Stream. With the expansion of the quarry void during this phase, the upper reaches of this stream were lost (approximately 120m in length). The water which used to flow into the Raheendoran Stream was redirected, via the quarry water management system (which comprised of flooded areas of quarry floor, settlement ponds and outfalls), to the Mortarstown Stream. The quarry drainage system ensured that there was no discharge of untreated or

unattenuated waters. The volumes of water which were redirected were small and comparable to those recorded during the site surveys (2l/s). Therefore, this redirection of flows did not have a significant effect on flows in either the receiving Mortarstown Stream or the Raheendoran Stream.

The quarry water management system also provided treatment for suspended solids through settlement, therefore protecting downstream surface water quality. The quarry also operated under conditions imposed by Carlow County Council in 2007 and the discharge licence in 2011. The operation of the quarry in accordance with these conditions would have been effective in addressing potential negative effects on the water environment. Furthermore, EPA Q-ratings in the Fushoge River downstream of the site do not record indicate any deterioration in water quality.

No significant effects would have occurred during the Post Extraction or Current Phases due to the limited activity at the development site.

The proposed restoration of the development site has also been assessed. The plans include restoration of the site to agricultural grasslands and areas of native woodland. These plans will have a positive effects on the water environment.

Furthermore, the developments did not result in the change in the WFD status of the underlying groundwater body or any downgradient surface waterbodies.

The quarry water management system ensured that the Development did not result in any significant effects on downstream surface water quality, downstream designated sites, local groundwater and groundwater well supplies. The only significant effect relates to the loss of the upper reaches of the Raheendoran Stream.

9.0 AIR QUALITY

The potential air quality impacts associated with the historic development are detailed within Chapter 9 of the rEIAR. The assessment focused on potential impacts to air quality as a result of operational quarrying activities.

9.1 Baseline

In terms of the existing air quality environment, data available from similar environments indicates that levels of dust, particulate matter less than 10 microns (PM₁₀) and particulate matter less than 2.5 microns (PM_{2.5}) are generally well below the National and European Union (EU) ambient air quality standards.

9.2 Impact Assessment

Impacts to air quality associated with the historic quarrying activities were as a result of day-to-day quarrying activities, movement of vehicles on site and processing of materials. Air dispersion modelling was carried out using the United States Environmental Protection Agency's regulatory model AERMOD. The aim of the study was to assess the contribution of operational emissions of dust, PM₁₀ and PM_{2.5} from the historic operations at the quarry to off-site levels of the pollutants. This study was carried out based on worst case predicted levels of operation at the quarry and the operational hours.

The results of the dispersion modelling assessment show that dust deposition levels and annual mean concentrations of PM_{2.5} from the historic quarrying operations are below the relevant limit values. In relation to PM₁₀, historic quarrying activities resulted in annual mean PM₁₀ concentrations that are below the relevant limit value; however, the daily PM₁₀ limit value of 50 µg/m³ is exceeded in all assessment years. Exceedances are observed at a maximum of 7 no. of the 25 no. closest sensitive receptors to the site in the worst-case year assessed. These 7 no. receptors are located in closest proximity to the quarry.

The results indicate that the effect of the operational phase (i.e. Substitute Consent Operations Scenario) on air quality is **localised, direct, long-term, negative and significant**.

Quarrying activities ceased on site by 2014, and there are no activities taking place on site at present, as a result, there are currently no impacts to air quality associated with the development site.

9.3 Mitigation Measures

There were a number of mitigation measures on site to reduce dust emissions. These measures have been incorporated into the modelling assessment to determine the impact of the site on levels of dust deposition and ambient levels of particulate matter. The measures are listed in Section 9.6 of Chapter 9 of the rEIAR.

9.4 Residual Impacts

The assessment involved modelling emissions from the historic quarrying operations. Predicted dust deposition rates and annual mean concentrations of PM₁₀ and PM_{2.5} from the quarrying operations are in compliance with the ambient air quality limit values, which are set for the protection of human health and the environment. Predicted 24-hour PM₁₀ concentrations are above the daily limit value of 50 µg/m³ for the protection of human health and the environment.

It can be concluded that the historic development had a **localised, direct, long-term, negative and significant** effect on air quality.

10.0 CLIMATE

The potential impact on climate associated with the historic development is detailed within Chapter 10 of the rEIAR. The climate assessment has focused on the potential greenhouse gas emissions during the operational phase of the development.

10.1 Baseline Environment

The climate baseline was determined by reference to data from the EPA on Ireland's total greenhouse gas (GHG) emissions from 1990 to 2024. GHG emissions in 2024 are -3.4% less than emissions in 1990, which is the second consecutive year that emissions are below the 1990 historic baseline. Between 1990 and 2024 the greatest overall increase in emissions is from the Transport sector.

In relation to the current climate GHG emissions baseline, and in order to frame the historic baseline against a current climate context, Ireland's compliance with the EU Effort Sharing Regulation (ESR) (EU 2018/842) and the published carbon budgets is considered. The EPA state that Ireland had total GHG emissions of 57.64 Mt CO₂e in 2024. This is 1.03 Mt CO₂e higher than Ireland's annual target for emissions in 2024. EPA data indicate that from 2021- 2024 Ireland has used 82.5% of the 295 Mt CO₂e Carbon Budget for the five-year period 2021-2025. This leaves 17.5% of the budget available for 2025, requiring a substantial 10.3% annual emissions reduction for 2025 to stay within budget.

10.2 Impact Assessment

The potential impacts on climate have been assessed through a greenhouse gas assessment (GHGA). The GHGA quantifies the GHG emissions from a project over its lifetime and compares these emissions to relevant carbon budgets, targets and policy to contextualise magnitude.

The impact of the operation of the historic development on Ireland's total national greenhouse gas emissions is compared to Ireland's 2024 total greenhouse gas emissions, the relevant sectoral emissions ceilings and 2030 carbon budgets. Any adverse impacts are predicted to primarily occur during the operational phase, with the dominant sources of greenhouse gas emissions as a result of the development due to site activities, fuel usage and traffic emissions.

Calculation of the GHG emissions associated with the operational site fuel usage and traffic emissions was calculated using the online Transport Infrastructure Ireland Carbon Tool. The GHG emissions associated with the proposed development are predicted to be a small fraction of Ireland's 2030 carbon budget of 27.7 MtCO₂e and the sectoral emissions ceilings for the Industry and Transport sectors.

Quarrying activities ceased on site by 2014, and there are no activities taking place on site at present. As a result, there are currently no impacts to climate associated with the development site.

10.3 Mitigation Measures

The information available indicates that there were no specific mitigation measures implemented on site in relation to reducing emissions or climate impacts.

10.4 Residual Impacts

The historic quarrying activities resulted in some GHG emissions which impacted climate. The impact to climate has been assessed as moderate adverse using the TII significance criteria; this is a development which:

- The project's GHG impacts are partially mitigated.
- The project has partially complied with do-minimum standards set through regulation, and have not fully complied with local or national policies; and
- Falls short of full contribution to Ireland's trajectory towards net zero.

In accordance with the EPA guidelines (EPA, 2022), this equates to a ***direct, long-term, negative, significant*** effect.

11.0 NOISE AND VIBRATION

11.1 Introduction

Chapter 11 of the rEIAR provides a baseline assessment of the environmental setting of the development site in terms of environmental noise and vibration and discusses the potential likely significant effects that may have arisen from the historic extraction activities at the development. The assessment considers the noise and vibration impact of the construction phase and operational phase on the surrounding environment.

11.2 Baseline Conditions

The baseline environment relevant to the noise and vibration assessment includes existing noise sources and receptors within the study area. These elements are key in informing the noise impact assessment scope and methodology.

An attended noise survey was conducted to assess the background noise levels and the typical noise sources and levels from the operation of the proposed quarry located in Clogrennane, Co. Carlow.

Results and analysis of the baseline noise survey, in conjunction with the baseline traffic flow information serve as a reference point for evaluating the potential impacts of the overall proposed development.

11.3 Assessment of Construction Effects

The construction phase of the proposed development would have inevitably introduced noise into the environment. However, recommended mitigation measures outlined in Section 11.8 of Chapter 11 Noise & Vibration ensure that construction noise impacts would be imperceptible at nearby Noise Sensitive Locations. Following a review of the operations based on the information provided, there are no relevant sources of vibration associated with the historical construction phase of the Development. Historically, there were no complaints regarding noise and vibration during the construction phase.

11.4 Operational Noise Assessment

The assessment of operational noise predicts imperceptible significance, which will have a negligible impact on NSL's. There is no historical noise and vibration monitoring relating to the operational phase of the Development. Historically, there were no complaints regarding noise and vibration during the operational phase.

11.5 Mitigation Measures

Several mitigation measures are outlined in Section 11.8 of Chapter 11 Noise & Vibration as good practice. These measures include the use of noise barriers, careful scheduling of construction activities to avoid sensitive times, and the selection of quieter machinery and equipment. The implementation of these measures aims to reduce noise levels during construction, ensuring that the impacts on NSL's are minimised.

11.6 Residual Effects

The impact of residual noise, considering the emissions, phasing and intensity of site activities, alongside the mitigation measures implemented and the context of the existing ambient environment, is assessed to be not significant on a local scale. Furthermore, it is regarded as imperceptible in the broader environment, particularly given the absence of submissions, complaints, or enforcement actions related to noise or vibration. The development has undergone a comprehensive assessment and has been determined to comply with the established noise and vibration limits during both the site preparation phase and the operational phase.

11.7 Conclusion

Chapter 11 Noise and Vibration provides a comprehensive evaluation of the noise and vibration impacts related to the Development. It identifies potential effects during both the construction and operational phases. By applying established methodologies and implementing effective mitigation measures, the project sought to minimise adverse noise and vibration impacts. This approach ensures compatibility between the development and the surrounding environment and helps maintain the quality of life for residents.

12.0 MATERIAL ASSETS – WASTE

12.1 Introduction

AWN Consulting undertook the waste management assessment. The receiving environment is largely defined by Carlow County Council (CCC) as the local authority responsible for setting and administering waste management activities in the area through regional and development zone specific policies and regulations.

There will be waste materials generated from site clearance works, excavations, construction of the development and from the operation of the development.

12.2 Potential Impacts and Mitigation Measures of the Proposed Development

12.2.1 Construction Phase

During the construction phase the mismanagement of waste, including the inadequate storage of waste, inadequate handling of hazardous waste, the use of inappropriate or insufficient segregation techniques, and the use of non-permitted waste contractors, would likely lead to negative impacts such as waste unnecessarily being diverted to landfill, litter pollution which may lead to vermin, runoff pollution from waste, fly tipping and illegal dumping of waste. In the absence of mitigation, the effect on the local and regional environment is likely to be **long-term, significant and negative**.

12.2.2 Operational Phase

The potential impacts on the environment during the operational phase of the proposed development would be caused by improper, or lack of waste management. In the absence of mitigation, the effect on the local and regional environment is likely to be **long-term, significant and negative**.

12.3 Residual Effect of the Proposed Development

12.3.1 Construction Phase

During the construction phase, typical construction waste materials will be generated which will be source segregated on-site into appropriate skips/containers, within designated waste storage areas and removed from the site by suitably permitted waste contractors as required, to authorised waste facilities, by appropriately licensed waste contractors. The accurate keeping of waste records will be undertaken. All waste leaving the site will be recorded, and copies of relevant documentation will be maintained.

This will all be overseen by the main contractor, who will appoint a construction phase Resource Manager to ensure effective management of waste during the excavation and construction works. All construction staff will be provided with training regarding the waste management procedures on site.

A carefully planned approach to waste management and adherence to the site-specific Resource and Waste Management Plan (Appendix 12.1) and Chapter 12 during the construction phase will ensure that the effect on the environment will be **short-term, neutral and imperceptible**.

12.3.2 Operational Phase

During the operational phase, waste will be generated by the Operator. Dedicated waste storage areas (WSAs) will be allocated for the development for the use by the staff. The WSA will be appropriately sized to accommodate the estimated waste arising from the development. The WSA will be allocated to ensure a convenient and efficient management strategy with source segregation a priority. Waste will be collected by permitted waste contractors and removed off-site for re-use, recycling, recovery and/or disposal.

Provided the mitigation measures outlined in chapter 12 are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted effect of the operational phase on the environment will be **long-term, neutral** and **imperceptible**.

12.4 Cumulative Impact of the Proposed Development

12.4.1 Construction Phase

There are existing residential and commercial developments in the surrounding area, along with the multiple permissions remaining in place in the area. In a worst-case scenario, multiple developments in the area could be developed concurrently or overlap in the construction phase. Due to the high number of waste contractors servicing the CCC region, as provided by the National Waste Collection Permit Office and the EPA, there would be sufficient contractors available to handle waste generated from a large number of these sites simultaneously, if required. Similar waste materials would be generated by all of the developments.

Other developments in the area will be required to manage waste in compliance with national and local legislation, policies and plans which will mitigate against any potential cumulative effects associated with waste generation and waste management. As such, the cumulative effect will be **short-term, imperceptible** and **neutral**.

12.4.2 Operational Phase

There are existing residential and commercial developments close by, along with the multiple permissions remaining in place. All of the current and potential developments will generate similar waste types during their operational phases. Authorised waste contractors will be required to collect waste materials segregated, at a minimum, into recyclables, organic waste and non-recyclables. An increased density of development in the area is likely to improve the efficiency of waste collection in the area.

Other developments in the area will be required to manage waste in compliance with national and local legislation, policies and plans which will mitigate any potential cumulative impacts associated with waste generation and waste management. As such, the cumulative effect will be a **long-term, imperceptible** and **neutral**.

13.0 TRAFFIC

13.1 Introduction

Transport Insights has been commissioned by Milford Quarries Ltd., to prepare the rEIAR) Traffic and Transport Chapter in relation to the historic operation of a quarry at a site at Clogrennane, Co. Carlow.

13.2 Characteristics of the Historic Development

13.2.1 Site Access Arrangements

For the purposes of this rEIAR, it is understood that the site arrangements would have been as per those set out within the existing situation, i.e. set out within Section 13.4.1, and illustrated within Figure 13.2 of the rEIAR.

13.2.2 Historic Development Description and Site Layout

The historic development has resulted in the removal of materials over an area of approximately 8.75 hectares. The exact quantum of development per annum is not currently known; however, evidence of a quarry is shown on a map dated 1906, and commercial extraction at the quarry ceased no later than 2014.

The quarry, which was formally registered in 2005, may have had an output of ca. 300,000- 500,000 tonnes per annum.

The layout of the site is as per Section 13.4.1 of this rEIAR chapter. The development would have accommodated staff and visitor car parking, staff welfare, relevant machinery (potentially static and mobile), and a weighbridge. Further details are not currently available.

13.3 Impacts of the Historic Development

13.3.1 Construction Phase

As noted in the preceding section, full details of the historic development are not currently available; however, given the land use, it is assumed that construction phase impacts would have been minimal.

13.3.2 Operational Phase

The historic development is expected to generate a limited number of additional traffic movements on the local network. Based on the number of staff expected to work on site i.e. 3 no., a total of 6 no. staff trips are generated i.e. two LV trips per staff member.

Regarding HV movements, the historic site may have had an extraction output of 300-500,000 tonnes of material per annum. It is assumed for calculation purposes, a figure of 400,000 tonnes per annum.

It is noted that a typical payload departing site would have been 25 tonnes. This equates to an average of 58 no. HVs arriving and 58 no. HVs departing the site each day (including ad hoc HV trips).

13.4 Mitigation Measures

13.4.1 Construction Phase

Due to the passage of time and the lack of information available, the construction phase mitigation measures that were used for the historic development are currently unclear.

13.4.2 Operational Phase

Due to the passage of time and the lack of information available, operational phase mitigation measures that were used for the historic development are currently unclear.

13.5 Residual Impacts

The residual impacts of the historic development are reflected in the current situation, as explored throughout the rEIAR Chapter.

14.0 ARCHAEOLOGY

14.1 Section Purpose

Section 12 of the rEIAR provides an assessment of the effects on the archaeological, architectural and cultural heritage of the application site and the surrounding area of a proposal for continued use and extension of the existing sand pit. This assessment included consideration of both potential effects from the proposal and cumulative effects of other extractive or sizable industries in the surroundings of the site.

14.2 Setting and Existing Conditions

The application site is located in the Townland of Clogrenan, Co. Carlow on OS Six Inch sheet No. 6, east of the L7129 road, and c.1.5km east of the town of Bilboa.

There will be no direct or indirect effects on any known items of archaeology, cultural heritage, or buildings of special architectural significance in the application area or the vicinity. The substitute consent area has already been extracted, and no worst-case scenario arises.

14.3 Potential Effects and Mitigation

There are no known impacts on archaeology, cultural heritage, or buildings of special architectural significance and no mitigation is required.

15.0 LVIA

The Landscape and Visual Impact Assessment (LVIA) contained in Chapter 15 describes the landscape context of the historic development up to the present day and assesses the landscape and visual impacts of the scheme on the receiving environment. Although closely linked, landscape and visual impacts are assessed separately.

- **Landscape Impact Assessment (LIA)** relates to assessing effects of a development on the landscape as a resource in its own right and is concerned with how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character.
- **Visual Impact Assessment (VIA)** relates to assessing effects of a development on specific views and on the general visual amenity experienced by people. This deals with how the surroundings of individuals or groups of people may be specifically affected by changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/or introduction of new elements.

The rLVIA methodology is based on the Landscape Institute and the Institute of Environmental Management and Assessment (IEMA) publication entitled Guidelines for Landscape and Visual Impact Assessment, 2013 (GLVIA3) in combination with best practice. The rLVIA provides an assessment of how the existing development has affected the physical features and fabric of the landscape, and then how it influences landscape character and views with reference to published descriptions of character and an understanding of the historic and contemporary character of the landscape as informed through desktop and site studies.

The existing development is located on the border of County Carlow and County Laois, just inside the former and therefore designations of both the current and former Carlow County Development Plans and Laois County Development Plans are relevant. Appendix 7 of the current Carlow County Development Plan (2022-2028) contains the 'Carlow County Landscape Character Assessment and Schedule of Protected Views'. This, in turn, cites and carries over a 2009 Landscape Character Assessment and Schedule of Protected views following a review of same that concluded it was of the highest standards. There is no record available online of a comprehensive Carlow Landscape Character Assessment having existed before 2009. A Landscape Character Assessment update was carried out by Laois County Council in 2022, which is incorporated into the Laois County Development Plan (2021-2027) as Appendix 6. The landscape characterisations appear to be consistent with previous iterations of the Laois Landscape Character Assessment.

In relation to the Carlow Landscape Character Assessment, the site is contained entirely within the 'Killeslin Hills' Landscape Character Area. Within the Laois Landscape Character Assessment, where landscape character types are used to define different areas, the proposed development is adjacent to the 'Hills and Uplands' area, which also occupies much of the southern half of the study area.

According to the maps available in the Laois and Carlow County Development Plans, there are two scenic views that fall within the study area, and these have been in place for several iterations of both County Development Plans. In both County Development Plans, a description of the scenic view and what it is protecting is provided; they are as follows:

Carlow CDP

- SV33- View from Milford on local road L3039, protecting views north and east of the River Barrow.

Laois CDP

- SV21- View from Killeslin, Rossmore on local road L3896, protecting views towards lowlands of Graiguecullen/Carlow.

The Carlow scenic designation (SV33) is just at the edge of the study area and oriented in the opposite direction to the proposed development. The Laois designation (SV21) is oriented away from the proposed development and also falls outside of the Zone of Theoretical Visibility (ZTV – See section 15.4.2), indicating no potential for visibility. Therefore, neither of the scenic designations is considered relevant to the visual impact assessment.

In terms of the current landscape condition (baseline condition), the proposed development is located in an upland area ranging between 310m AOD and 330m AOD. The existing quarry is located on relatively flat to gently undulating land at the eastern edge of the Castlecomer Plateau. The plateau stretches to the west, while the landform immediately to the east of the site falls rapidly as an escarpment towards the flat landscape of the Barrow River valley. In terms of watercourses, the River Barrow is the most prominent within the study area, running north-south through the study area and approximately 2km to the east of the proposed development at its nearest point.

The existing quarry is currently surrounded by a mixture of scrubland and rough grazing within its western sections, with improved grassland and hedgerows occupying the eastern side, which begins to slope towards the Barrow valley.

The principal land use within the study area is that of rural agricultural farmland comprising of small to medium sized fields bound by a network of mixed hedgerow vegetation. There are also multiple dense areas of commercial conifer forestry surrounding the proposed development. Large areas of forest are located to the north-west and south-west of the site, and Clogrennane Woods is located approximately 130m from the proposed site boundary at its nearest point. Other notable land uses include the Clogrennane Lime Works Quarry located to the south east of the proposed site, adjacent to Clogrennane Woods.

Historic aerial photography from 2005 shows the existing quarry as a modest scale sand and gravel pit at the northern end of its current extent. Within the surrounding area is a large operating quarry only a short distance (c. 600m) to the northwest across the County Laois border. Commercial conifer plantations were present but are much smaller and less prevalent than they are today. The Clogrennane Lime quarry to the southeast was fully operational in 2005 albeit with a marginally smaller footprint and at a lesser depth (based on benching patterns and shading within the quarry).

The study area currently contains a modest and dispersed rural population residing in farmsteads and clusters of rural dwellings, noting that the more notable settlement of Carlow lies just beyond the study area to the northeast. The closest local receptors to the proposed development are situated approximately 250m from the existing quarry to the east and northeast. In 2005 only about half of the near dwellings to the northeast of the quarry had been constructed.

The village of Ballinabrannagh is the largest settlement contained within the study area and is situated approximately 2km southeast of the site boundary at its nearest point. It was only a crossroads settlement based around a church in 2005 and appears to have expanded with new residential housing estates in the years between 2005 and 2010 based on aerial photography. The smaller village of Bilboa is also located 1.6km west of the site. Much of the immediate surroundings of the site is made up of a network of local roads connecting the central study area. The R448 is a regional route that connects Carlow to the M9 and passes just beyond the study area to the east. There are no other major routes within the study area. The

local road network existed in 2005 and much earlier, as did the R448, though it may not have been known as such. The M9 motorway was only constructed about 16 years ago.

The most prominent tourism and heritage feature within the study area is the River Barrow which runs in a southward direction some 2km to the east of the proposed development site and attracts water based recreationalists. The Barrow Way is a walking and biking route that runs along the River Barrow corridor attracting tourists and recreationalists to the area. Other notable amenities within the area include Clogrennane Woods, owned by Coillte, which offers hiking and walking routes. In terms of heritage areas, the Milford Mill, which is an historical landmark, sits to the south-east of the proposed development along the banks of the River Barrow. Recreational use of the River Barrow is likely to have increased in more recent years as well as Clogrennane Woods due to the improved provision of visitor facilities.

In terms of historic landscape effects, the existing quarry expanded sporadically from its first establishment over 100 years ago as a modest sand and gravel pit for local use to a more commercial enterprise from the early 2000's up to extraction cessation not later than 2014. It formed part of a network of quarries within the study area and was the smallest of these, contained in a discrete section of the Castlecomer Plateau, where it was not readily visible and therefore had little influence on the prevailing landscape character. This has long been a productive rural landscape hosting intensive arable agricultural, other quarrying and transport infrastructure present throughout the wider landscape context.

The expanding quarry replaced fields of what appeared to be good quality agricultural grassland and surrounding hedgerows as it extended southward from the original sand and gravel pit. This represents a permanent loss of that agricultural field pattern, albeit across a modest area of about 4 fields and an abundant form of modified land cover in this area.

In addition to the physical changes to land cover and landscape fabric of the area, the historic quarrying activity would have generated an intensity of heavy vehicle movement within and to and from the site that is greater than what would be generated by the prevailing rural land use. This would also have been in combination with the larger quarry to the northwest which shared a common local road network. The evolution of the existing quarry is likely to have resulted Moderate landscape effects, which are not considered to have been significant.

Visual impacts were assessed at 7 no. viewpoint locations throughout the 3km study area, representing a range of viewing angles, distances, and contexts. The existing quarry is not readily visible from any of them, and as such, historic visual effects are likely to have been Imperceptible.

The existing quarry has evolved from a modest sand and gravel pit for over a century, with brief intense phases of excavation and other long periods where it was unused. It has existed in a productive rural landscape where landscape patterns have varied slightly over the decades, but not the underlying character, which is one influenced by other quarries in the vicinity. Its main effect is a direct physical change of the landform and land use pattern within the extents of the existing quarry from agricultural grassland and hedgerows to a quarry pit.

The existing quarry is not readily visible from the surrounding area and this is likely to have been the case throughout its lifetime. Consequently, it has had only minor influence on the prevailing landscape character and the amenity of views within the surrounding area as evidenced by the represented viewpoints used as part of the visual impact assessment.

It is not considered that remedial mitigation is required as historic landscape and visual effects are deemed to be not significant.

16.0 INTERACTIONS AND CUMULATIVE IMPACTS

16.1 Introduction

This section of the rEIAR has been prepared by Tom Phillips + Associates and deals with the likely interactions that would have taken place at the time the quarry was active.

In addition to the requirement under the *Planning and Development Regulations 2001, as amended*, to describe the likely significant effects of the proposed development on aspects of the environment, it is also required to consider the interaction of those effects. As such, these are assessed below.

This section addresses the intra-project significant effects (i.e. those occurring between the environmental topics within the project). Inter-project effects (i.e. those which were likely to occur as a result of the likely impacts of the proposed development interacting with the impacts of other projects in the locality) have also been considered and it has been established that there are no other known planned/permitted projects that would have interacted to a significant degree the operational phase of the quarry.

Further detail relevant to the interaction of impacts may be found in the earlier chapters of the rEIAR.

16.2 Inter-Relationships/Interactions

It is noted that all aspects of the environments are likely to interact to some extent and to various degrees of complexity. The likely significant interactions between factors arising from the proposed development are set out below.



Table 16.1: Matrix of Interactions Between Environmental Factors											
	Archaeology, & Cultural Heritage	Population & Human Health	Biodiversity	Land, Soils & Geology	Hydrology	Air Quality	Climate	Noise & Vibration	Landscape & Visual	Traffic	Waste Mgmt
Archaeology & Cultural Heritage				x							
Population & Human Health					x	x	x	x	x	x	x
Biodiversity					x	x	x				
Land, Soils & Geology											x
Hydrology											x
Air Quality										x	
Climate											
Noise & Vibration										x	
Landscape & Visual											
Traffic											x
Waste Mgmt											

Table 16.1: Matrix of Interactions Between Environmental Factors

16.2.1 Interaction between Archaeology & Cultural Heritage and Land, Soils & Geology

The topsoil was removed in order to quarry the rock and was stored at identified locations throughout the quarry. In order to mitigate against such impacts, it is recommended that all ground disturbances, such as topsoil stripping, that are associated with the proposed development, be monitored by a suitably qualified archaeologist.

16.2.2 Interaction between Population & Human Health and Hydrology

The impact of the historic development on the hydrology and hydrogeology of the area and on the population and human health of the area is assessed in Chapters 5 and 8 of this EIAR.

In terms of the predicted impact on humans, potential health effects arise mainly through the potential for groundwater contamination and impacts on local wells. Hydrocarbons, in the form of fuels and oils, will be used on-site during aggregate extraction.

Over the history of the quarry, there have been no incidents or concerns raised by the local public regarding private wells.

In addition, Chapter 8 also outlines the baseline monitoring which has demonstrated that the previous activities have not had impacts on surface or groundwater in the area.

16.2.3 Interactions between Population & Human Health and Air Quality

The interaction between Population & Human Health and Air Quality are discussed in Chapters 5 and 9.

Air dispersion modelling of operational activities at the site was undertaken to assess the impact of the development with reference to EU ambient air quality standards which are based on the protection of human health.

The results of the dispersion modelling assessment show that dust deposition levels and annual mean concentrations of PM_{2.5} from the historic quarrying operations are below the relevant limit values.

In relation to future air quality impacts from the development site, if the subject application is not approved, no activities on site will occur and therefore, there will be no effects on air quality. Should quarrying activities with the same historical practices recommence on site following grant of a relevant planning permission, impacts to air quality similar to those identified herein would likely occur.

16.2.4 Interactions between Population & Human Health and Climate

The interaction between Population & Human Health and Climate are discussed in Chapters 5 and 10.

The historic quarrying activities resulted in some GHG emissions which impacted climate. Based on the quantified GHG emissions and, using the assessment criteria from Section 10.2.3 and Table 10.5, the significance of the GHG emissions is considered moderate adverse.

16.2.5 Interactions between Population & Human Health and Noise & Vibration

The interaction between Population & Human Health and Noise & Vibration are discussed in Chapters 5 and 11.

Historically, within the site, operational phase activities included screening, loading material, excavating material, infilling material and the inward /outward transport of material on lorries. For the purpose of the assessment, the historical plant and equipment for the quarry has been assessed based on assumed plant and machinery from quarries of similar size and purpose, and reference taken from BS 5228-1.

The noise impact assessment for the quarry has been developed based on the attended noise survey, the approximate extraction area and predicted noise sources. As the site has potential to create noise impact at daytime, a worst-case scenario has been developed for the daytime period predicting the noise impact at the nearest noise sensitive locations.

The impact of residual noise, considering the emissions, phasing, and intensity of site activities, alongside the mitigation measures implemented and the context of the existing ambient environment, is assessed to be not significant on a local scale. Furthermore, it is regarded as imperceptible in the broader environment, particularly given the absence of submissions, complaints, or enforcement actions related to noise or vibration

16.2.6 Interactions between Population & Human Health and Landscape & Visual Impact

The interaction between Population & Human Health and Landscape & Visual Impact are discussed in Chapters 5 and 15.

As outlined in Chapter 15, the existing quarry is not readily visible from the surrounding area, and this is likely to have been the case throughout its lifetime. Consequently, it has had only minor influence on the prevailing landscape character and the amenity of views within the surrounding area, as evidenced by the represented viewpoints used as part of the visual impact assessment.

16.2.7 Interactions between Population & Human Health and Traffic

The interaction between Population & Human Health and Traffic is discussed in Chapters 5 and 13.

The development is expected to have generated a limited number of additional traffic movements on the local network. Based on the number of staff expected to work on site i.e. 3 no., a total of 6 no. staff trips are generated i.e. two LV trips per staff member.

Regarding HV movements, the historic site may have had an extraction output of 300-500,000 tonnes of material per annum. It is assumed for calculation purposes a figure of 400,000 tonnes per annum.

It is noted that a typical payload departing site would have been 25 tonnes. This equates to an average of 58 no. HVs arriving and 58 no. HVs departing the site each day (including ad hoc HV trips).

16.2.8 Interactions between Biodiversity and Hydrology

A comprehensive Assessment of Biodiversity and Hydrology is provided in Chapters 6 and 8 of this rEIAR, respectively.

The majority of the Substitute Consent site is located within the River Barrow surface water catchment and Hydrometric Area 14 of the Southeastern River Basin District. Part of the southwest of the Substitute Consent site is located within the River Nore surface water catchment and Hydrometric Area 15 of the Southeastern River Basin District. EPA mapping indicates a stream (identified as Raheendoran Stream) flowing through the site before ultimately discharging into the River Barrow. However, walkover surveys and drainage mapping indicate that the course of this stream has been altered by the historic quarrying activities and no watercourses cross the existing quarry void. Water gathers in the floor of the existing quarry and drains out from an existing pond in the north of the quarry. From here, the stream/quarry discharge flows to the southeast along the existing quarry access road. The drain is culverted under the access road and flows to the east where it joins the Mortarstown Stream to the east. This stream flows east and discharges into the Fushoge River just upstream of its confluence with the River Barrow.

There is no existing discharge from the quarry within the River Nore catchment. However, there is an unnamed stream c. 1.3km west of the site which connects to the Dinin River that ultimately discharges into the River Nore. It is possible that runoff from some areas in the west of the site may currently flow to the west towards the Dinin River.

It is considered that with the implementation of the mitigation measures outlined in the Biodiversity chapter that the development and operation of the quarry did not result in any likely, significant effects on groundwater and/or surface water. As a result, there was no significant potential to affect the conditions within the designated sites hydrologically linked to the Site: River Barrow & River Nore SCA and Cloghrick Wood pNHA. A NIS accompanies this planning application and with the application of the proposed environmental controls, mitigation and monitoring, it is objectively concluded that no significant effects arising from the development and operation of the quarry did occur in relation to the Natura 2000 sites (i.e. River Barrow & River Nore SCA or indeed any other Natura 2000 site in the wider hinterland).

16.2.9 Interactions between Land, Soils & Geology, Hydrology and Waste Management

during site walkover surveys and site investigations, no evidence of soil contamination was recorded at the development site. Whilst previous quarrying operations were completed at the development site, there is no evidence of contaminated tailings. The spoil heaps comprise of shale and have begun to revegetate. All quarrying operations at the development site were completed in accordance with tried and tested, best practice measures to prevent soil/subsoil and bedrock contamination. Similar mitigation measures have been implemented at numerous bedrock quarries and sand and gravel pits across the country.

According to the EPA online mapping database (www.epa.ie), there are no licenced waste facilities or dump sites within the proposed development site or in the surrounding lands. The closest mapped waste facility is located in the townland of Cappanboe (Site Code: W0158), located ~7.5km to the north-northeast of the development site.

Furthermore, there are no Industrial Emissions (IE) licences/Integrated Pollution Control (IPC) Licence facilities in the immediate area of the development site. The closest mapped IEL licence is located ~1km southeast of the development site. This IEL site is operated by Clogrennane Lime Limited (Carlow) (P0400-03).

16.2.10 Interactions between Air Quality and Traffic

The interaction between Air Quality and Traffic are discussed in Chapters 9 and 13.

As outlined in Chapter 9, the development did not result in a greater than 1000 AADT change or greater than 200 HGV AADT change. Thus, a detailed assessment of operational phase traffic emissions has been scoped out and there is no potential for significant impacts to air quality from operational phase traffic emissions

16.2.11 Interactions between Noise & Vibration and Traffic & Transportation

The interaction between noise and vibration and traffic arises through the generation of construction and operational traffic. Overall predictions are that there has been no significant noise impact generated during either the construction (site preparation) or operational phase of Development, in the context of existing traffic flows. Details of these interactions are discussed in the Noise Chapter.

16.2.12 Interactions between Material Assets and Land, Soils, Geology, & Hydrogeology

There were soil, stones, clay excavated to facilitate the construction of the development and as part of normal quarrying practices. It is currently envisaged that excavated material was sold as a product, and where excavated material is not of product standard, it was able to be retained and reused onsite for landscaping and fill. If any of the remaining material is deemed unsuitable for reuse it would need to be removed off site. This material would be taken for appropriate off-site reuse, recovery, recycling and/or disposal.

Correct classification and segregation of the excavated material is required to ensure that any potentially contaminated materials are identified and handled in a way that did not impact negatively on workers, or the water and soil environments, both on and off site. Where material has to be taken off site, it was taken for reuse or recover, where practical, with disposal a last resort.

Adherence to the mitigation measures in Chapter 7 (Land, Soils, and Geology), Chapter 8 (Hydrology & Hydrogeology) and the requirements of the TWMP did ensure the associated effect is long-term, imperceptible and neutral.

16.2.13 Interactions between Material Assets (Waste) and Population & Human Health

The potential impacts on human beings in relation to the generation of waste during the construction and operational phases are that the incorrect management of waste could result in a nuisance to the public, attract vermin and cause a visual impact. There is no evidence on site of the poor waste management practices, and there are no records of any complaints in this regard.

16.3 Cumulative Impacts

A review of the Carlow County Council planning system database was carried out and, no significant permitted or planned projects have been identified.

The majority of permitted developments in the area during the lifetime of the quarry were residential or agricultural in nature.

Given the nature of the development proposed, no significant impacts are envisaged arising from cumulative impacts with other projects.

16.4 'Do Nothing' Scenario

If the development did not proceed, there would be no cumulative impacts arising.

16.5 Mitigation and Monitoring

It is not proposed that any mitigation or monitoring was undertaken specifically in relation to cumulative impacts.

17.0 MITIGATION AND MONITORING

This Chapter provides a consolidated list of all of the environmental commitments/ mitigation measures that have been recommended by the various specialists throughout the Chapters of this EIAR.

The mitigation and monitoring measures have been recommended on the basis that they are considered necessary to protect the environment during both the construction and operational phases of the proposed project. All mitigation measures are provided in Chapter 17 of Volume 2 of this rEIAR.

18.0 DIFFICULTIES ENCOUNTERED

Difficulties encountered are noted within 2 no. of the rEIAR chapters. These difficulties are outlined below.

Land, Soils, and Geology

A complete timeline of the quarrying activities at the development site is not available. Similarly, a record of extraction volumes is not available. The timeline and volumes have been estimated based on the available data, predominantly historic aerial imagery.

Material Assets - Waste

In assessing effects which have occurred, by its nature, this rEIAR is assessing those effects many years after the project construction. As a result, there may be both undocumented instances of minor effects which are not captured by this rEIAR in addition to gaps in the historical data available. These limitations have been taken into account during this assessment process.

Notwithstanding the above, no significant difficulties, in terms of technical deficiencies, were encountered in compiling the specified information contained in the EIAR.

The assessment provided for the development has had regard to the documentation compiled and submitted as part of previous applications at the site and the Planning Authority Reports which formed part of the analysis for those applications.

References to published sources of information are acknowledged in the text. A list of all consultations involved in the compilation of information for this Assessment Report is provided in Chapter 1. It has also had regard to recent and planned developments in the area.

The full impact analysis was carried out by experienced consultants, and the best available methods were employed to forecast environmental effects.