An Bord Pleanála

Ballykelly Bison Quarries -

rEIAR Non-Technical Summary

40000205.R02.NTS
April 2025

Public

An Bord Pleanála

Ballykelly Bison Quarries - rEIAR

Type of document (version) Public

Project no. 40000205

Our Ref. No. 40000205.R02.NTS

Date: April 2025

WSP

Town Centre House
Dublin Road
Naas
Co Kildare

WSP.com

Quality control

Issue/revision	First issue	Revision 1	Revision 2
Remarks	Final Draft		
Date	25/04/2025		
Prepared by	Various		
Signature			
Checked by	Rhian Llewellyn		
Signature			
Authorised by	Ruth Treacy		
Signature			
Project number	40000205		
Report number	40000205.R02.NTS		
File reference	https://wsponline.sharepoint.com/sites/IE-40000205		

Contents

Tables

Figures

Appendices

No table of contents entries found.

1 Introduction, Scope and Methodology

WSP Ireland Consulting Ltd. (WSP) have been commissioned to undertake this remedial Environmental Impact Assessment Report (rEIAR) to accompany a substitute consent application for a disused sand and gravel quarry at Coolsickin – Quinsborough, Ballykelly, Monasterevin, Co. Kildare. This rEIAR is submitted on instruction of Bison Quarries Ltd, current owner of the lands on which a disused quarry is located and who is the applicant for this substitute consent application.

Bison Quarries Ltd (the Applicant) was not the owner or operator of the application site during the period of extraction.. The lands subject to this Substitute Consent application were acquired by the applicant, Bison Quarries Ltd, in 2022. The application site is situated ca. 9 km southwest of Kildare town and ca. 2.7 km north east of Monasterevin.

It is noted that this rEIAR has been prepared in tandem with an EIAR to accompany an application under Section 37L of the Planning and Development Act, 2000 as amended, for quarry restoration to agricultural lands by the same applicant.

The substitute consent planning application unit extends to approximately 7.87 ha. and reflects the historic operational site area including the extractable void area of 2.3 ha. The EIA project boundary envelopes an area of approximately 10.62 ha. that encloses previous quarry working areas and intended future development (the latter is addressed in the separate S.37L Application).

Figure 1-1 shows the regional location of the Site, whilst Figure 1-2 provides a depiction of the substitute consent application area and the EIA project boundary.

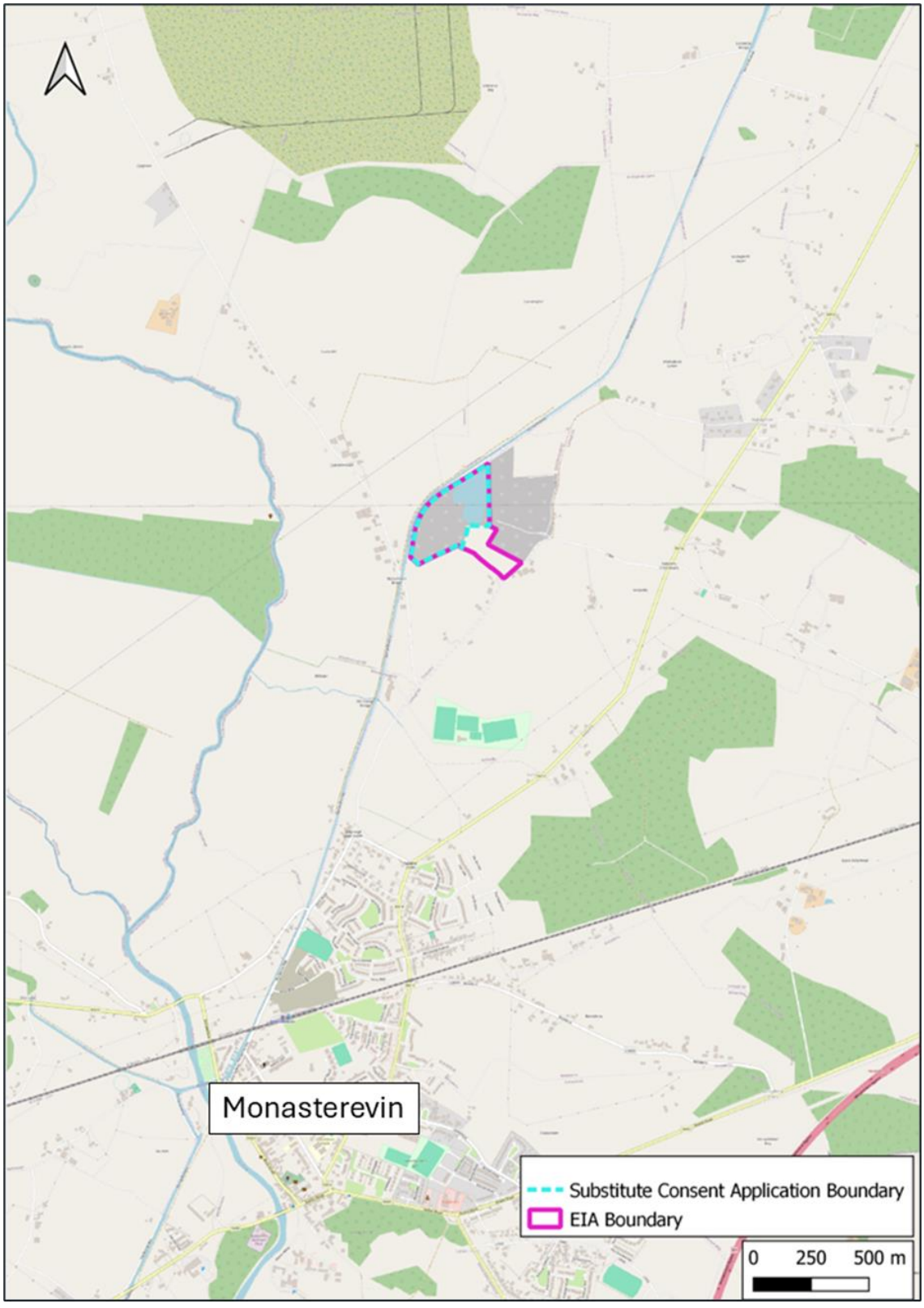

Figure 1-1 - Project Location

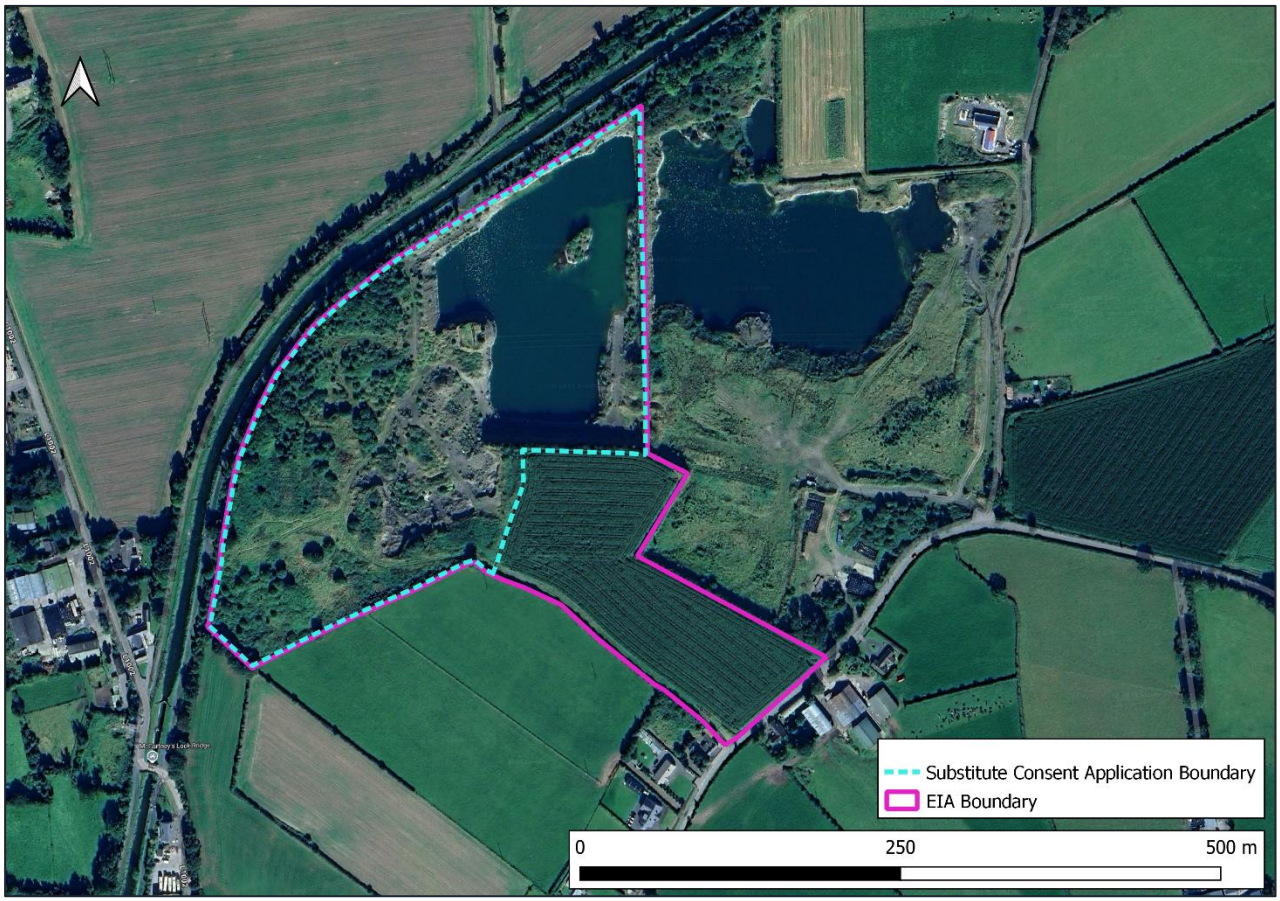

Figure 1-2 - Substitute Consent Application Boundary and EIA Boundary

1.1 Scope and Methodology

Environmental Impact Assessment (EIA) is a process used to predict the adverse, neutral and beneficial impacts of a proposed development. It provides a means of drawing together the findings from a systematic analysis of the likely significant environmental effects of a scheme to assist planning authorities, statutory consultees and other key stakeholders in their understanding of the impacts arising from a development.

Certain proposed developments, due to their type, and scale automatically attract the requirement for EIA by a competent authority as part of that authority's formal assessment of the development proposal when that proposal seeks permission, consent or licensing. A hierarchical suite of European and national legislation and guidance govern EIA and direct EIAR content.

Remedial EIA and rEIAR arise where retrospective consent for development that ought to have attracted the requirement for EIA has been undertaken. The consent for that type of development is substitute consent, itself the subject of dedicated legislative provision.

Legislation requires that an EIA be carried out for certain classes of project or development. The Development was screened against the Schedule 5 (Developments for the purposes of Part 10) threshold criteria for EIAs in the Planning and Development Regulations (2001, as amended), and was found to exceed the EIA threshold for an extractive industries development which proposes the '*Extraction of stone, gravel, sand or clay, where the area of extraction would be greater than 5 hectares'*.

Each technical environmental topic necessarily has separate legislative, policy and best practice requirements, however, the assessments have applied the same overall standard approach. These include:

- Confirming the relevant legislative and policy context;
- Determining the applicable study area for that discipline;
- Establishing the baseline conditions for that discipline;
- Identifying potential receptors and their importance;
- Identifying potential sources of impact (change) to the receptors due to the Development;
- Applying a risk-based assessment methodology to evaluate the level of significance of environment effects resulting from each of the identified impacts;
- Where applicable, propose measures to avoid, reduce or remedy undesirable potential impacts, as appropriate, and thereby reduce the level of significance of each potential effect; and
- Conducting a final assessment of residual environmental effects, factoring in the measures and compensation strategies.

The rEIAR was prepared by appropriately qualified and competent consultants as required by the EIA Directive (Directive 2011/92/EU, as amended by Directive 2014/52/EU). Further technical details concerning the scope and methodology of the rEIAR have been provided in Chapter 1 of the rEIAR.

1.2 The Need for the Development and Consideration of Alternatives

Identification and consideration of alternatives of design and scale for a quarry development, particularly for a continuation of extraction, are limited in scope. The extraction of aggregates is controlled by the availability and quality of the materials (both sand and gravel, and rock) which in turn controls the overall design plan for the quarry.

The sand, gravel and limestone rock at the subject location is of a proven good quality capable of being used for a range of materials in the construction industry. Therefore, the reserve material assumed to be present at the subject site and now extracted provided suitable aggregates for construction purposes.

In considering alternative sites, it is a basic principle that aggregates can only be worked where they naturally occur. The products are generally of low unit value and the most significant cost is transportation. As with all aggregate extraction development the nearer the supply of aggregate to the market, the more economically viable it is and given the

nature of aggregate deposits. In this case the Site had the benefit of being strategically located in close proximity to the M7 Motorway and town of Monasterevin. Aligned to this economic situation is the environmental and social preferability of locally sourced aggregates. Aggregates sourced close to their market are preferable to those sourced at more remote locations as this lessens road traffic and associated environmental impacts and economic costs. Socially, the local sourcing of construction aggregate strengthens the local economy through job provision and associated spending and exploits advantages and opportunities inherent in local supply chains.

Aggregates are an essential material for the construction industry and are used in all major development plans (housing, road surfacing, infrastructure etc.). As such, they are of major significance to the overall growth of their local areas and the country and an important economic resource despite fluctuations in levels of construction due to wider economic forces, or events such as the COVID-19 pandemic suspension of construction.

2 Project Description

This rEIAR is submitted to support an application for substitute consent in respect of all development carried out on the lands between 1 January 2000 (i.e. baseline conditions prior to extraction activities commencing onsite) and 31 December 2006 (i.e. existing conditions onsite at the latest date of cessation of quarrying operations on the application site).

The development background at the Site is described in detail within section 2.2.4 of Chapter 2 (Project Description) of the rEIAR submission, and details how the requirement to seek substitute consent was served.

The application site is wholly located in the townland of Coolsicken or Quinsborough, which is situated ca. 2.7km north of Monasterevin and ca. 9 km southwest of Kildare Town, The Site comprises a quarry void area which has been used for sand and gravel and limestone rock extraction between the years 2000-2006.

The Site is accessed off the L7049 which runs south-west to east. The L7049 joins the R414 to the northeast and the R424 in the southwest. The R414 is a regional road linking Monasterevin and Rathangan and the R424 ,also a regional road, linking Monasterevin to Portarlington.

The application site is located within the rEIAR unit (i.e. lands within the EIA Boundary) which extends to 10.62 ha. The EIA Boundary is extended to the south within the rEIAR to include an agricultural field to the south of the application site (owned by the applicant) to provide continuity with the EIAR prepared for the 37L application that addresses proposed future development. The quarry void area consists largely of a quarry pond that currently extends to ca. 2.3 ha lying northeast of the application site and is groundwater fed.

The extraction direction of lands is likely to have begun on the eastern boundary from the access point from the adjoining pit. Extraction appears to have continued in the west and north with most extraction occurring in the north and some expansion to the southwestern edge of the site, giving rise to an application area of ca.7.87 ha, which includes topsoil storage areas and buffer zones. There is an observed current average working depth of ca. 55 mAOD from topographical survey of carried out in 2024. The volume and type of plant and vehicles onsite has been estimated on the basis of comparison with similar development or similar scale from the early to mid-2000s. 1 No. excavator, 1 No. loader; 2 No. haulers (18T), 1 No. mobile crusher, 1 No. mobile screen. Planning documents available from KCC do not indicate if blasting was carried out on the site. Given the nature of the bedrock at the application site it is considered likely that blasting was carried out periodically (1-2 times a month) to produce blast rock for further processing on the site.

3 Population and Human Health

Section Purpose

Section 3 of the rEIAR provides an assessment of potential effects of the continued operation of the Site on the surrounding human environment. This assessment included consideration of both potential effects from the Site and cumulative effects of other extractive or sizable industries in the surrounds of the Site.

Setting and Existing Conditions

The application site located in the townland of Coolsickin or Quinsborough in Co. Kildare. The study area for this assessment has been determined as the EIA site boundary and a 500 m area around this. The study area is located within the Quinsborough Electoral District. Potential effects on the surrounding human environment, within the study area, has been assessed under the following headings:

- Populations;
- Economic patterns (activity and employment);
- Amenity;
- Land-use; and
- Human health and Health and safety.

A total of 25 no. residential dwellings were found to be within 500 m of the EIA boundary. The number of residences is based on a field survey, a review of the aerial photography and Department of the Environment, Climate and Communications Eircode mapping.

Potential Effects During the Assessment Period

The extraction activities at the Site have been assessed to have not caused any significant adverse effects to the human environment surrounding the Site during the assessment period of 1 January 2000 to 31 December 2006.

4 Ecology and Biodiversity

Section Purpose

Section 4 of the rEIAR provides an assessment of potential effects of the quarry operation at the Site on ecology and biodiversity, during the study period of 01 January 2000 to 31 December 2006.

Setting and Existing Conditions

The Project has been assessed for its potential to have resulted in significant impacts to Important Ecological Features (IEFs) over the Assessment Period. Baseline conditions were determined based on desk data gathered during the Assessment Period and comparison with environmental and ecological field data collected recently (2024). Environmental emissions monitoring data was reviewed to identify the effect pathways and tolerance was often used to assess significance.

Potential Effects During the Assessment Period

Following review of Chapter 6 (Water), Chapter 7 (Air Quality) and Chapter 9 (Noise and Vibrations) dust deposition was identified as the main effect pathway for habitat degradation. Habitat loss as well as disturbance / mortality (due to noise and vibrations) were also recognised as an important effect pathway and impacted most receptors. Surface run off was not considered as an impact pathway to receptors located outside of the Application Site including the River Barrow and River Nore SAC as well as the Grand Canal pNHA.

The impact assessment concluded that one significant (moderate) effect arose due to habitat degradation from dust deposition impacting species within the Grand Canal pNHA. The effects were characterised as indirect, negative, short term and likely in nature. Aerial imagery has shown that approximately 7.8 ha of arable land and an additional 105 m of hedgerow was lost due to activities relating to the Project over the Assessment Period. The effects of this habitat loss resulted in minor effects on hedgerows, amphibians, bats, badgers, breeding and wintering birds and pine marten. Habitat degradation due to dust deposition had a minor effect on the River Barrow and River Nore SAC, amphibians, bats, badgers, breeding birds, fish and aquatic invertebrates. Finally, disturbance / mortality was considered to have been a minor effect on amphibians, badgers, breeding birds, pine marten and reptiles. All other effects were of negligible magnitude and not considered within the assessment.

Due to the retrospective nature of this assessment, there is no opportunity for remedial mitigation, compensation or enhancement. There is one significant (moderate) residual effect. However, it is important to note that the effect is recognised as short-term in nature. Cumulative effects were assessed as not significant. Although habitat loss was not a significant effect, compensation measures for hedgerow loss have been proposed in the

form of new hedging and bolstering of hedgerows currently present within the Application Site.

5 Land, Soils and Geology

Section Purpose

Section 5 of the rEIAR provides an assessment of potential effects of the quarry operation at the Site on the surrounding land, soils and geology, during the study period of 01 January 2000 to 31 December 2006. This assessment included consideration of both potential effects from the Site and cumulative effects of other extractive or sizable industries in the surrounds of the Site.

Setting and Existing Conditions

The site is located on lands at Coolsickin or Quinsborough, Co. Kildare. Regionally, the nearest town is Monasterevin which is approximately 2.5 km to the south of the site. The site comprises lands which has historically been used for quarrying activities.

The main land use change identified during the study period was the change of use from agricultural land to the creation of the quarry void. The land use for lands around the development has remained largely unchanged during the assessment period and are mainly in agricultural use.

Soils onsite at the beginning of the assessment period were mapped by GSI to be lake alluviums. The subsoils underlying the Site are composed of gravels derived from Limestones and till derived from Limestones. Information from boreholes logs produced during the installation of groundwater monitoring wells indicate that the sands and gravels of the drift thicken to the west of the Site, with the thickness ranging from ca. 6 m to the east of the Site, to ca. 11.5 m to the northwest of the Site.

The bedrock underlying the site is of the Allenwood Formation, which is described as consisting of pale-grey generally massive shelf limestones and their dolomitised equivalents.

There are no designated County Geological Sites located within the study area.

There have been no landslides recorded within 1 km of the site and there are also no karst features recorded in this area. The Radon Map for Ireland (EPA, 2023) indicates that the Site and study area are located in an area where 1 in 5 homes are estimated to have high radon levels.

It is noted that the risk of instability of soils and/or bedrock which would result in a partial collapse of material can occur in any quarry environment.

Potential Effects During the Assessment Period and Mitigation

Three main sensitive receptors were identified in the impact assessment of the site: mineral or aggregate reserves, land (soil/sub-soils) at and immediately adjacent to the Development and human health (workers during operation). These are classified as of low, medium and high sensitivity respectively.

The main potential impacts and associated effects considered where as follows:

- Activities or events that might have impacted land quality or human health (e.g. leaks and spills from machinery or stored substances, or discharges);
- Change of land use/land take (i.e. loss of agricultural lands);
- Loss of superficial deposits and bedrock; and
- Destabilisation and/or subsidence of unconsolidated soils, sub-soils or rock faces.

The assessment concludes that the site has not given rise to significant adverse effects on the land, soil or geology at or surrounding the site during the assessment period of 01 January 2000 to 31 December 2006.

6 Water

Section Purpose

Section 6 of the rEIAR provides an assessment of potential effects on the water environment from the previous operation of the Site, during the study period (01 January 2000 to 31 December 2006).

Baseline and Subsequent Conditions

Prior to the review period, the elevation of the ground in the vicinity of the present-day quarry void (and lake) was between 70 and 79 mAOD, with a gentle slope to the northwest. The present-day topography includes the quarry void, which is understood to be ca. 15 m deep (below natural ground surface). In terms of surrounding topography, the Site is located approximately 6.6 km west of Red Hill, which reaches 194 m elevation. The land therefore rises to the east and drops to the northwest, towards the Figile River and its tributary.

The earliest publicly available aerial imagery following the cessation of extraction activities, shows that the quarry void had filled with water. It is most likely that this is groundwater from the bedrock limestone aquifer beneath the Site. This groundwater is likely to have been encountered over the study period during the extraction of limestone rock and would likely have required to be dewatered to some degree. However, there is no information on the rate of dewatering, the pump specification or the location of discharge at the Site. Making assumptions as to dewatering rates/volumes and potential locations of discharge have not been made in this report due to too many unknown variables.

The underlying geology of the Site is presented in Chapter 5 of this rEIAR.

Rainfall data recorded at the NAAS (Osberstown) meteorological station (number 8423), which is located ca. 25 km east of the Site was assessed for the period January 2000 to December 2006 (Met Eireann, 2025). The yearly totals indicate that the 2000 rainfall total of 942 mm was significantly higher than totals over 2001 to 2006 and long-term historical average (1985 to 2006) of 824 mm per annum (mm/a).

The Site is located in the WFD (Water Framework Directive) Bagenalstown Upper Groundwater body (which is generally described as regionally important).

There are no surface water bodies as designated by the EPA in the application lands. The closest surface water feature to the Site under baseline conditions was the Grand Canal, which runs adjacent to the northwest boundary and is designated as a pNHA. Any run-off event from the Site would have likely been absorbed by a dense hedgerow / treeline and a strip of grassland which separates the Site from the Grand Canal, or infiltrate to ground through the superficial sands and gravels, prior to reaching the Canal in any significant quantity. It is noted that the Grand Canal construction consists is a fully lined sealed water transport unit and in this location is largely constructed above ground level due to the shallow depth to underlying rock

and direct discharge from the Site to the Grand Canal is highly unlikely.

Bedrock underlying the Site (the Allenwood Formation) is classified as a regionally important aquifer, which is described as “significant source of groundwater”.

Potential Effects During the Assessment Period

The main potential impacts and associated effects that are considered and assessed in the following sections relate to:

- Activities or events that might have caused by hydrocarbon leaks from fuel storage tanks or the unmanaged spillage of fuels or lubricants from Site plant or vehicles;
- Loss of superficial deposits and bedrock, resulting in changed Site topography; and
- Dewatering of seepage water from the quarry void and any associated collection of discharge water.

The assessment concludes that the Project has not given rise to significant adverse effects on the water environment during the study period. In all cases the residual adverse effect is Not Significant and not greater than *Slight*.

7 Air Quality

Section Purpose

This rEIAR chapter has assessed the potential impacts of the operation of the Project between 01 January 2000 to 31 December 2006on dust soiling and local air quality. These have been assessed in the context of relevant national and local air quality legislation, policy and guidance.

Baseline and Subsequent Conditions

Baseline air quality conditions have been determined from a combination of boundary dust monitoring data collected at the proposed development monitoring data gathered on a monthly basis from 24 May 2024 to 23 August 2024 together with EPA monitoring data for nitrogen dioxide (NO2) and particulate matter (PM10 and PM2.5). Concentrations of all pollutants recorded by the EPA were below the relevant standards. From the monitoring data recorded on site during 2024, there were two instances (at different monitoring locations) when the monitored dust concentration was more than 350mg/m^2/day and seven samples remained within the limit. The exceedances and high dust concentrations during the first two months of monitoring are believed to be due to local agricultural activities in the surrounding fields at the time of monitoring.

Wind speed and direction data indicative of the prevailing conditions within the study area have been obtained from the Met Éireann station at Casement Aerodrome, Baldonnell, County Dublin, approximately 45 km northeast of the Proposed Development; these have been used to inform the mineral dust assessment.

Potential Effects During the Assessment Period

The possible sources of emissions to air were identified as mineral dust (including PM_{10}) associated with the extraction and handling of quarried material, and emissions of NO_X, PM_{10} and $PM_{2.5}$ from plant and NRMM.

The assessment has shown that operational phase mineral dust emissions from the Project Lands, under normal operational conditions, are likely to result in a negligible impact on sensitive human receptors and slight adverse effect on ecological receptors within 400m based on the embedded mitigation. In particular, the vegetation between the quarry and the canal are anticipated to have reduced the potential impacts at the adjacent Grand Canal pNHA, further assessment on the sensitivity of this receptor is provided in Chapter 4, Ecological Assessment.

Emissions from plant and Non-road Mobile Machinery used on Project Lands have also assessed. The impact on receptors within 200m is likely to be imperceptible (negligible) and have no significant effect.

8 Climate

Section Purpose

This assessment considers the potential impacts and effects of the development on the surrounding climate over the assessment period from 01 January 2000 to 31 December 2006. This assessment included consideration of both potential effects from the site and cumulative effects of other extractive or sizable industries in the surrounds of the site.

Setting and Existing Conditions

The site is on lands at Coolsickin or Quinsborough, Co. Kildare. The current climate at the site is temperate maritime. The closest Met Éireann station is located at Carlow Oakpark approximately 36 km to the south of the site.

Potential Effects During the Assessment Period

The main receptors that could be affected by changing climate due to activities undertaken at the Site through the review period were identified and potential effects were assessed in line with the approach identified in European Commissions (2016) ‘Climate Change and Major Projects’ assessment guidance.

The assessment concludes that the combination of the Site’s climate ‘Sensitivity’ and ‘Exposures’ have shown, overall, that the Site is at a Low risk from climate hazards, which is considered to be ‘Not Significant’.

9 Noise and Vibration

Section Purpose

Section 9 of the rEIAR has considered historical noise and vibration impacts associated with the quarry. The assessment has comprised characterisation of the baseline noise and vibration environment, adoption of appropriate evaluation criteria, prediction of noise levels at identified NSRs, evaluation against adopted criteria and specification of appropriate mitigation.

Setting and Existing Conditions

Noise monitoring data from 2024 is adopted as a proxy for baseline conditions prior to the project commencement at the application site.

Vibration monitoring at nearby sensitive receptors was not conducted during blast events and monitoring data is required in order to assess potential vibration impacts. No evidence of complaints due to historical blasting at the quarry has been identified; vibration from quarry activities and blasting is, therefore, not considered further within this assessment.

Potential Effects During the Assessment Period

Operational noise from the quarry has been predicted for historic quarry operations. All modelled scenarios followed a highly conservative approach to determine the likely 'worst-case' noise levels at NSRs. Despite this approach the predicted historical noise levels during the operation of the Project are well within the daytime levels recommended by the EPA Environmental Management Guidelines – Environmental Management in Extractive Industry. Predicted noise levels from quarry operations for all modelled scenarios have been found to be 'not significant'.

No significant noise or vibration impacts have been identified throughout the assessment period of the quarry.

10 Cultural Heritage

Section Purpose

Section 10 of the rEIAR provides an assessment of potential effects of the Site on archaeology and cultural heritage. This assessment included consideration of potential effects on the cultural, archaeological and architectural heritage resource, which may have occurred, are occurring or can reasonably be expected to occur because of quarrying carried out by the applicant.

Setting and Existing Conditions

This remedial environmental impact assessment report has identified that there are no designated heritage assets within the Site. There are however 10 designated heritage assets within a 1km study area around the Site, including four Recorded Monuments (HA1, HA2, HA9 and HA10), and six architectural assets on the National Inventory of Architectural Heritage (NIAH) (HA3, HA4, HA5, HA6, HA7, HA8). There is also a non-designated heritage asset (HA11) that borders the northern edge of the Site.

Quarrying activity was undertaken on the Site between 2001-2006, resulting in a Site condition that is disturbed. Owing to the extent of extractive nature of quarrying there is no potential for sub-surface archaeological remains.

Potential Effects During the Assessment Period

The quarrying activity on the Site has been found to have resulted in No Changes to HA1, HA2, HA9 and HA10 as these assets are at a considerable distance from the Site and are also separated from the Site by The Barrow Way. Quarrying activity has also resulted in No Changes to architectural heritage assets HA3, HA4, HA5, HA6, HA7 and HA8 as the nature of the quarry void remaining is largely encased by steep embankments and has ensured that the settings of these assets remain unchanged. The Barrow Way's setting has also remained unchanged due to the encased profile of the quarry.

There have been no impacts identified on archaeological, architectural or cultural heritage and no mitigation is required.

11 Landscape and Visual

Section Purpose

Section 11 of the rEIAR provides an assessment of potential effects of the previous operation of the Site on Landscape and Visual Impact.

This retrospective LVIA evaluates the landscape and visual effects that have occurred between the 01 January 2000 to 31 December 2006. The assessment required an evaluation of landscape and visual conditions during the substitute consent period, utilising OSI maps and other available online materials to analyse the site and its surrounding landscape context.

Potential Effects During the Assessment Period

In terms of landscape effects, no significant changes to the broader landscape character within the wider study area were identified, with material effects limited to the site and its immediate surroundings. The impact on landform and landscape fabric from extraction activities was deemed to be modest in extent, but a distinct change in landform and land use for the site and its immediate surrounds.

The key changes within the quarry included the transition from agricultural land to a quarry pit and the deepening of the quarry floor. Stockpiling activities would have also been present within designated stockpile areas. Overall, the significance of these effects is considered Substantial-moderate, but this is not deemed to be significant in EIA terms.

For visual effects, seven viewpoints were assessed to compare the baseline quarry condition at the substitute consent period to current conditions. Generally minor changes in internal quarry faces and spoil stockpiling would have been discernible from most viewpoints, these would not have result in substantial changes to the overall visual context across the substitute consent period. At three of the locations, the quarry would not have been visible at all. The greatest visual effect is deemed to have occurred at VP1 which is location at a break in the otherwise consistent canal-side vegetation screening. At this brief break the clear and close view of the quarry and associated activity would have generated Moderate / Negative visual effects, but these are not considered to have been significant in EIA terms. At all other locations the visual effects were deemed to be Slight or Imperceptible (Not Significant).

12 Traffic and Transport

Section Purpose

Section 12 of the rEIAR provides an assessment of potential effects of the historical operation of the Site on Traffic and Transport during the assessment period from 01 January 2000 to 31 December 2006.

Setting and Existing Conditions

The Site is on lands at Coolsickin or Quinsborough and Ballykelly, Co. Kildare. Access to the Site is via the R414 Regional Road, and the L7049 local road. Regionally, the nearest towns are Monasterevin, which is located approximately 3.5 km to the south of the Site and Kildare Town, which is located approximately 9 km to the east of the Site.

Potential Effects During the Assessment Period

Link capacity analysis was carried out on the L7049/site access junction and the L7049/R414/L7012 junction, which shows that the traffic generated across the period of assessment offers no detrimental impact on the operating capacity of either junction.

An assessment of the required visibility splays indicate that all provisions are within standard and offer no adverse safety arrangements during quarry operations. Effects are considered to be *Imperceptible*.

13 Material Assets

Section Purpose

Section 13 of the rEIAR provides an assessment of potential effects of the quarry operation on material assets in the vicinity of the site during the assessment period of 01 January 2000 to 31 December 2006. This assessment included consideration of both potential effects from the development and cumulative effects of other extractive or sizable industries in the surrounds of the development.

Material assets are physical resources in the environment, which may be of human or natural origin. The objective of the assessment is to ensure that these assets have been used in a sustainable manner with respect to operations at the development.

Setting and Existing Conditions

Material Assets in the vicinity of the Site comprise of built services and infrastructure, such as:

- Electricity network utilities - the site is traversed by the grid via an overground high voltage line. Overground medium voltage lines supported by poles are located in a southeast to northwest orientation in the western area of the site;
- Gas infrastructure (not in the area);
- Telecommunications network – service maps indicate a transmission line is present within the EIA boundary in the northern section of the application site. However, this infrastructure was not observed to be present within the application site during a walkover carried out on 8 March 2024;
- Local water supplies and foul water network (assumed not on site); and
- Surface water drainage infrastructure - there are no existing public surface water networks within the site.

Potential Effects During the Assessment Period

The activities at the Site have not resulted in any significant adverse effects to the material assets within or surrounding the application site during the assessment period of 1 January 2000 to 31 December 2006.

14 Major Accidents and Disasters

Section Purpose

Section 14 of the rEIAR provides an assessment of potential effects of the historical operation of the Site on Major Accidents and Disasters. This assessment included consideration of both potential effects from the Site and cumulative effects of other extractive or sizable industries in the surrounds of the Site.

The consideration of major accidents and disasters seeks to assess the relevant accidents and disasters which a development is vulnerable to, and the relevant accidents and disasters that a development could give rise to. These unforeseen and unplanned events are to be assessed on the risk of their occurrence, however in view of the retrospective nature of this rEIAR the scope of this section is limited to a rudimentary review of previous operations at the Site.

Setting and Existing Conditions

Due to Ireland's geographic location, it is less vulnerable to natural disasters such as earthquakes and tsunamis than other regions across the globe.

With regards to natural disasters, severe weather events such as flooding pose the greatest threat to Ireland.

The occurrence of a major geotechnical hazard, fire, explosion or fuel spillage resulting from operations at the quarry development, relating to the control of major-accident hazards involving dangerous substances, has the potential to give rise to a major accident or disaster, immediate or delayed. There have been no known events such as these recorded at the development during the assessment period.

Potential Effects During the Assessment Period

Potential risks of major accidents and / or disasters which are inherent to quarrying operations include:

- Geotechnical hazard i.e. collapse of a quarry wall;
- Accident during blasting;
- Fire during operation;
- Accident involving physical hazards such as heavy plant or falls from height;
- Spillage of chemicals or fuels to the ground;
- External major accident affecting the quarry; and
- Flooding.

During the assessment period of 1 January 2000 to 31 December 2006, activities at the site have not resulted in accidents or disasters which are deemed to be 'Major', therefore there has been an imperceptible effect (including no effect) of the site activities on the surrounding environment in regard to major accidents and disasters and not significant overall.

15 Interactions and Inter-Relationships

This assessment summarises the primary interactions and inter-relationships and provides a matrix to coherently display the interactions of these disciplines. The overall objective of this assessment is to identify whether additional remedial mitigation is required that would not otherwise have been identified in the individual study areas for these interacting or cumulative effects.

Interactions of rEIA study topic areas are typically displayed visually in a matrix table which identifies potential interactions which are likely to occur between the various disciplines. This table, from Chapter 15 of the rEIAR, has been reproduced in Table 15-1. A '✓' in a box identifies the potential interacting disciplines where a relationship exists.

Table 15-1 - Substitute Consent Environmental Interactions, (X = No Interaction; ✓ = Potential Interaction).

Interaction	Pop. & Human H.	Ecology and Biodiver.	Land, Soils & Geology	Water	Air Quality	Climate	Noise and Vibration	Cultural Heritage	Landscape & Visual	Traffic & Transport	Material Assets	Major Acc. & Dis.
Pop. & Human H.		X	X	✓	✓	X	✓	X	✓	✓	✓	✓
Ecology and Biodiver.			✓	✓	✓	X	✓	X	✓	X	X	X
Land, Soils & Geology				✓	X	X	X	✓	X	X	X	X
Water					X	X	X	X	X	X	X	X
Air Quality						X	X	✓	X	X	X	X
Climate							X	X	X	X	X	X
Noise and Vibration								X	X	X	X	X
Cultural Heritage									✓	X	X	X
Landscape & Visual										X	X	X
Traffic & Transport											X	X
Material Assets												X
Major Acc. & Dis.												

Town Centre House
Dublin Road
Naas
Co Kildare

wsp.com