

Karen Byrne

From: Laura Crowe <laurac@tpa.ie>
Sent: Monday 10 August 2026 21:20
To: Appeals2
Subject: ACP Ref. 324014-25 - Response to Submissions
Attachments: 324014-25 - Response to Submissions (Incl. Appendices).pdf

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Dear Sir/Madam,

Please find attached a Response to Submissions in respect of Application ACP Reg. Ref. 324014-25.

The Applicant, Milford Quarries Limited, was invited by An Coimisiún Pleanála by letter dated 13th July 2026 to respond to Submissions lodged in respect of this Application.

I trust the above and attached are in order. Please do not hesitate to contact me should you have any queries.

I would be grateful if you could provide written acknowledgement that this Response has been received.

Le gach dea-ghuif

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An Coimisiún Pleanála
64 Marlborough Street
Dublin 1
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10th August 2026
[Sent via email: appeals@pleanala.ie]

Dear Sir/Madam,

RE: FIRST PARTY RESPONSE TO SUBMISSIONS RECEIVED IN RESPECT OF APPLICATION REG. REF. ACP-324014-25, A S.177E APPLICATION FOR SUBSTITUTE CONSENT OF HISTORIC QUARRYING AT CLOGRENNANE, BILBOA, CO. CARLOW.

ACP REG. REF. 324014-25

1.0 INTRODUCTION

Tom Phillips + Associates¹ have been retained by Milford Quarries Limited² to respond to the letter issued by An Coimisiún Pleanála on 13th July 2026, inviting responses to Submissions lodged in respect of Application Reg. Ref. ACP-324014-25, a Section 177E Application for Substitute Consent of historic quarrying at Clogrennane, Bilboa, Co. Carlow.

The Applicant has been asked to respond to 3 no. specific Submissions, from the following bodies:

- Transport Infrastructure Ireland (dated 2nd June 2026);
- Laois County Council (dated 9th July 2026); and
- Health Service Executive (dated 29th June 2026 and received 1st July 2026).

We will respond to each of these Submissions in Section 2.0 below.

We highlight that this Application was lodged alongside a concurrent Application for further quarrying at the same site under Section 37L (Application Reg. Ref. ACP-324015-25). A similar invitation to respond to submissions was issued by An Coimisiún Pleanála in respect of the S.37L Application, which will be dealt with under separate cover.

¹ 80 Harcourt Street, Dublin 2, D02 F449.

² Kilcarrig, Bagenalstown, Co. Carlow, R21 AP52.



2.0 RESPONSE TO SUBMISSIONS

The following Section will provide our response to each of the 3 no. Submissions.

2.1 Transport Infrastructure Ireland

Transport Infrastructure Ireland (TII) made a submission to the subject Application on 2nd June 2026. In their submission, they state the following:

“Having regard to the extent of the operations presented in the EIAR and the location of the subject quarry operations accessing the local road network, the Authority has no specific comment to make in relation to the subject development in terms of impacts relating to the safe and efficient operation of the existing or planned national road network in the area.

The Authority has no other specific comments to make in relation to the proposed development and trusts that the foregoing proves of assistance to the Board in dealing with this matter.”

The Applicant welcomes this submission from TII, which confirms that they do not have any specific concerns in relation to the proposed development.

2.2 Laois County Council

Laois County Council made a submission to the subject Application on 9th July 2026. We note that the northern boundary of the subject site lies along the Carlow-Laois border but that the subject lands are entirely contained within the Carlow County Council administrative area.

The Roads Department notes that they have no objection to the development, subject to the introduction of specified Conditions to a Grant of Permission. The Applicant welcomes these Conditions.

The Planning Department provided the following commentary in their submission:

*“The Council recognises that the **aggregate and concrete products industry contribute to the development of the national, regional and Local economies** by the proper use and management of natural resources for **the benefit of the community and the creation of employment opportunities**. These products are required as **essential building materials in the social and economic development process** including the provision of housing and infrastructure. Laois County Council will seek to safeguard these valuable resources for future extraction. The National Guidelines on Quarries and Ancillary Activities for Planning Authorities (DOEHLG, 2004) is the guiding document against which applications for quarries and ancillary activities will be considered.*

***Aggregate extraction can only take place where suitable aggregate resources exist; they are a 'tied' resource.** It is considered, therefore, that planning policies should be carefully constructed to avoid adverse effects on aggregate resources and the related extractive industries and added value production that are essential for the built environment, infrastructure and future economic development. Like many forms of*



development, extractive industries have the potential to cause harm to the environment, heritage and the landscape if not appropriately designed and managed.

*However, **aggregates are a necessary resource and are of great importance to the economy and society. In addition, well managed and designed quarry sites minimise environmental effects.** There is also the potential for habitat creation through the restoration of quarry sites following the cessation of operations."* [Our Emphasis.]

The Applicant agrees with and welcomes this commentary from Laois County Council in respect of the importance of extractive industries for national, regional, and local economies, through employment creation and the production of materials necessary for construction. The Applicant is a significant employer in Co. Carlow, supplying significant local projects including MSD Carlow, SETU Carlow, and Glenveagh. They also supply major contractors such as Sisk, BAM, Elliots, Glenveagh, MMD, JJ Rhatigan and Company, alongside other large contractors throughout Ireland for infrastructure projects and both private and public-led residential developments. Further to this, the concurrent S37L Application seeks the continuation of an existing operation, with c. 20 years of reserves at 200,000 tonnes per annum, which will allow for greater job security for staff.

As outlined by Laois County Council, aggregate extraction can only take place at certain locations. We highlight that the subject site has previously been in use as a quarry and therefore the proposed development constitutes the further extraction of an existing quarry void.

We contend that the subject Application does not contradict any of the Policy Objectives, as quoted in the submission made by Laois County Council, and would welcome the inclusion of any relevant Conditions in this regard to a Grant of Permission, should it be forthcoming.

2.3 Health Service Executive

The Health Service Executive (HSE) made a Submission to the subject Application, dated 1st July 2026. This Submission will be responded to under each relevant heading, in the interest of clarity.

The Applicant welcomes this Submission from the HSE and acknowledges their role in the protection of human health in Ireland. We do note however that there appears to be some errors or inconsistencies in the Submission, including the following:

- Incorrectly identifying the subject quarry as a sand and gravel quarry;
- Incorrectly insinuating that the proposed S37L works would constitute an extension to the quarry area;
- Assumption that active quarry dewatering occurred;
- Assumption that the proposed development includes a soil and stone washing facility; and
- Reference to residual peat over the site, despite there being no peat mapped.

In respect of sand and gravel, the HSE Submission included the following text:

“During the operational stage, the potential impacts on air, noise, landscape and traffic would have included the following:

- *The generation of noise by the operation of machinery; Blasting,*
- *The generation of dust, particularly during period of dry weather, through the removal and storage of overburden and the extraction of **sand and gravel**;*
- *Ongoing changes to visual amenity as overburden is removed and stockpiled and **sand and gravel** is extracted and stockpiled;*
- *The generation of traffic by the export of **sand and gravel** from the site.” [Our Emphasis.]*

The subject Application relates to sandstone bedrock, not sand and gravel, therefore these comments relating to sand and gravel do not relate to the subject Application. We would ask the Commission to have regard to this when reviewing the Submission from the HSE.

2.3.1 Baseline Surveys and Monitoring during Operation

The Submission from the HSE makes repeated mention of the fact that there is a lack of baseline surveys and monitoring available for when the quarry was previously in operation.

“The rEIA relies on predictive methodology and no information regarding any EIA had been undertaken prior to/during operation.

If it is the case that i.e. there was no monitoring of dust, noise or surface and ground water during the quarrying activities, then the NEHS considers this a significant issue with regard to the protection of Public Health.

If the planning process had been complied with, then the results of the monitoring are relevant and pertinent to the rEIA. If there are monitoring results from the operational period of this quarry, then their omission in the rEIA is a significant omission for the validity of the process.

Authorised development is subject to public participation and mitigation based on stakeholder consultation. Potential nuisance aspects of development can be less significant if there is a fixed time span. Unauthorised development is not subject to this. Therefore, the environmental impacts are likely to be more significant, particularly around the public health areas of noise exposure and dust nuisance.

The Applicant acknowledges the HSE’s observations regarding the absence of historical baseline monitoring data for parameters such as noise, dust, groundwater and surface water during the operational period of the quarry. However, it is our opinion that these critiques are extremely onerous and do not comprehensively represent the nature of the Application at hand.

It is important to recognise the particular context of an Application for Substitute Consent.

A Substitute Consent Application is, by its very nature, retrospective. Unlike a conventional Planning Application accompanied by an EIAR, prepared prior to commencement of development, a remedial EIAR (rEIAR) assesses development that has already occurred. Consequently, it cannot reasonably be expected to contain the complete suite of baseline surveys, operational monitoring records, and environmental datasets, that would ordinarily have been undertaken should the owner at the time have known that EIA was required.

As set out in the documents submitted as part of the subject Application, the 'Exceptional Circumstances' set out in Section 2.0 of the 'Planning Report' outlines that the previous owner of the subject site was of the understanding that EIA was not required, having relied on the pre-63 origins and Section 261 to further develop the site and appear to have acted in good faith based on the initial registration. Accordingly, the comprehensive programme of baseline investigations and ongoing environmental monitoring that would typically accompany an EIA-led development is unlikely to have been commissioned during the operational life of the quarry. The absence of certain historical monitoring information is therefore an inherent consequence of the retrospective nature of the Substitute Consent process, rather than a deficiency in the remedial EIAR itself.

The purpose of a remedial EIAR is not to recreate environmental information that was never collected, but rather to provide the competent authority with the best available evidence upon which to undertake an Environmental Impact Assessment. Accordingly, the remedial EIAR has relied upon the best available information, including historical records, current site investigations, environmental monitoring undertaken following the cessation of commercial operations, published environmental datasets, technical modelling, and specialist professional assessment to identify, describe, and evaluate the likely significant effects of the historic development.

The absence of such historic information is not, of itself, indicative of a deficiency in the assessment, but an inherent consequence of the retrospective nature of the Substitute Consent process. The relevant question is therefore not whether every item of historic environmental information is available, but whether sufficient information exists to enable the competent authority to reach a reasoned conclusion on the likely significant environmental effects of the development. It is respectfully submitted that the documentation accompanying the Application satisfies that requirement.

Furthermore, where historical operational monitoring was unavailable, the relevant technical chapters adopted conservative assessment methodologies, applied recognised guidance and accepted predictive techniques, and have drawn upon current environmental conditions together with available historical information to ensure the assessment is robust and precautionary. These are recognised approaches where historic monitoring data is unavailable and provide an appropriate basis upon which the environmental effects of the historic development can be evaluated.

The retrospective nature of Substitute Consent has been recognised by the Court of Justice of the European Union ("CJEU"). In *Commission v Ireland* (Case C-215/06), the Court accepted that Member States may provide an exceptional procedure to regularise development undertaken without the benefit of a prior EIA, provided that such a procedure does not permit circumvention of the requirements of the EIA Directive.



This approach is reflected in the EIA Directive. Article 5(1) requires the Applicant to provide the information reasonably required for reaching a reasoned conclusion on the likely significant effects of the project, while Annex IV requires the EIAR to contain the information that may reasonably be required, having regard to current knowledge and methods of assessment. The Directive therefore recognises that environmental assessment is not dependent upon perfect or exhaustive information, but upon the provision of information that is proportionate, relevant and sufficient to support informed decision-making.

The same principles are reflected in the *EPA Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (2022)*. These Guidelines emphasise that an EIAR should be prepared using the best available scientific knowledge and methods of assessment, drawing upon available environmental information, existing datasets, current site investigations, historical records, technical assessments and reasoned expert judgement. They also recognise the importance of identifying limitations, assumptions and uncertainties in a transparent manner, enabling the competent authority to understand the basis upon which the assessment has been undertaken and the level of confidence that can reasonably be attached to its conclusions.

The HSE Submission does not identify any actual environmental impact arising from the historic development. Rather, it raises the possibility that impacts may have occurred in the past. We respectfully contend that a suspicion or possibility of historical impact is not, in itself, evidence that such an impact occurred. There is no evidence of any significant environmental effects as a result of the historic quarry operation, with no CCC Enforcement action or discourse from the EPA or Waterways Ireland. We therefore contend that all claims of adverse environmental impact from the HSE are purely speculative and not based on any factual evidence.

Further to the above, we highlight the case specific circumstances relating to the change of ownership and passage of time since the existing quarry was last commercially operational.

Notwithstanding the fact that the previous owners were not aware of their need for an EIAR whilst the quarry was in commercial operation, the ownership has since changed. Milford Quarries purchased the subject site in 2023, having had no connection to the site during the period it was operational. They therefore had no input into environmental monitoring during this period. Due to the change in ownership and the significant period of time which has passed since extraction largely ceased (c. 2014) have been issues with accessing historical environmental monitoring records. Milford Quarries has sought to gain access to all existing and available files, but where these files are not available or existing, best available information has been utilised in the preparation of this Application for Substitute Consent.

In this regard, we refer to Section 2.8 of the 'Planning Report' submitted as part of the subject Application, as follows:

"At the Pre-Planning meeting held on 29th August 2025, ACP had suggested that any available monitoring data related to the 2011 discharge licence granted to the site should be provided as part of the application. The Commission will note that since the Pre-Planning meeting, the applicants have made extensive enquiries with Carlow County Council in this regard and were unable to secure any monitoring results or other documentation related to the discharge licence. However, as the commission will



be aware, the need to carry out Appropriate Assessment before the issuing of such licences would have been standard practice at all Local Authorities by 2011. Therefore, despite the absence of supporting material related to the licence, the issuing of same would imply that the site was screened for AA by Carlow County Council."

In light of the foregoing, it is respectfully submitted that the HSE's observations do not demonstrate a deficiency in the remedial EIAR, but rather reflect the practical limitations that are inherent in any retrospective Environmental Assessment. Those limitations have been transparently acknowledged throughout the Application and addressed through the use of the best available information, current site investigations, recognised assessment methodologies, and reasoned professional judgement, consistent with the requirements of the EIA Directive and EPA Guidance. Furthermore, the change in ownership, the passage of time since commercial operations ceased, and the unavailability of certain historical records are matters beyond the control of the current Applicant and cannot reasonably be construed as shortcomings in the Application. In the absence of evidence demonstrating that the historic development has resulted in significant adverse environmental effects, it is respectfully submitted that the information accompanying the Application is sufficient to enable the competent authority to undertake a robust Environmental Impact Assessment and to reach a reasoned conclusion on the likely significant environmental effects of the historic development.

The approach adopted by An Coimisiún Pleanála in ABP-304207-19 (an Application lodged by the subject Applicant) is of particular regard. The Inspector for this Application expressly acknowledged the limitations associated with assessing historic quarrying, noting that:

"... the main difficulty which I note is the limited baseline information available from which to assess the likely impacts of the past development."

Despite these limitations and certain identified information gaps, the Inspector concluded:

"I am satisfied that the information provided in the rEIAR is sufficiently complete and up to date."

The Inspector was therefore satisfied that the available information, together with the supplementary material provided during the application, was sufficient to assess the environmental effects of the historic development. Substitute Consent was ultimately recommended and Granted by An Bord Pleanála.

This example demonstrates that the absence of a comprehensive historical baseline or complete suite of contemporaneous monitoring data does not, in itself, render a remedial EIAR inadequate, where the information available is sufficient to enable the environmental effects of the historic development to be assessed.

As detailed above, the Applicant has continuously explored all avenues to try gain access to historical monitoring records. In this regard I point to Appendix A of this Response, which reflects the Applicants attempts to gain all available records from the Environment Section in Carlow County Council.

Notwithstanding this, we note that historic data must have existed in the past, as this would have been required as part of the 261 process which was previously prepared for the site.



2.3.2 Population and Human Health

The HSE Submission states the following in respect of population and human health:

"However chapter 5 does not show exactly how near sensitive receptors are in relation to this development i.e. (500m etc.) There is a settlement statement in relation to census and new builds in the area however definitive locations of the closest sensitive receptors; and the possible effects on same were not explored in this chapter and require further analysis.

This data is only available in Nosie [Sic.]chapter which does define locations however it should be fully evaluated within the population health chapter as part of the rEIAR."

It is generally understood that the 'Population and Human Health' Chapter of an EIAR is not intended to be a standalone technical assessment in the same manner as disciplines such as Air Quality, Noise and Vibration, Traffic and Transport, Hydrology, Hydrogeology or Climate. Rather, it is an overarching assessment that draws together the findings of the relevant technical chapters to evaluate the potential implications of the project for population and human health.

Similarly, the 'Population and Human Health' Chapter does not ordinarily identify a separate set of sensitive receptors distinct from those assessed in the individual technical chapters. Rather, it relies upon the sensitive receptors identified by the relevant specialists in their respective Chapters. In this regard, we refer to the *EPA Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (2022)*, which does not require the 'Population and Human Health' Chapter to include a separate list of sensitive receptors. The Advice Notes envisage the EIAR as an integrated document, with each specialist chapter informing the overall assessment. This guidance advises that this Chapter should be read in conjunction with the other relevant chapters of the EIAR.

Accordingly, it is respectfully submitted that the Population and Human Health chapter has been prepared in a manner that is appropriate, proportionate and consistent with established EIA practice. When read in conjunction with the supporting technical chapters, it provides a comprehensive assessment of the potential effects on population and human health, drawing upon the relevant receptor assessments and specialist conclusions contained elsewhere in the EIAR. The chapter should therefore be considered as part of the rEIAR in its entirety, rather than in isolation, as it is through the collective findings of the specialist assessments that the likely significant effects on population and human health are appropriately identified and evaluated.

2.3.3 Noise

The HSE Submission states the following in respect of noise:

"The report has not given any information in relation to baseline noise data during operation. Therefore it is assumed that baseline noise data was not collected either before or during operations at the quarry. Baseline conditions at the closest residential receptors to the quarry have therefore been characterised using monitoring data collected after quarry operations ceased, during or before 2023.

It's not clear whether this is a 'Residual' noise impact, i.e. after noise mitigation is in place, or the background noise without the facility operating. The chapter does not clearly show the change in the noise environment by operation of the facility, even if the change is not then considered significant, which is the main purpose of rEIA. A comparison against an absolute noise level criteria is only part of the assessment as to the effects operation of the facility has had over the operating period with regards to noise."

Wave Dynamics have prepared a Response to the comments from the HSE in respect of noise, which is provided in Appendix B. The response includes the following:

*"The **baseline monitoring data presented in the rEIA accurately and transparently captures the background ambient noise environment** of the area without the facility in use. This approach **complies fully with standard acoustic assessment methodologies** for retrospective planning (Substitute Consent). It establishes a **robust, conservative baseline** that **represents the true receiving environment**, allowing for a precise calculation of the historical operational noise levels over the natural background conditions.*

*The submission asserts that the predictive methodology is unvalidated and fails to demonstrate health compliance. This conclusion is rejected based on standard regulatory practices. In the absence of historical logging, Chapter 11 utilised a noise model based on documented operational parameters in accordance with BS 5228, engineering layouts, and industry-standard runtime assumptions (e.g., 80% excavator on-time and 50% machinery on-time). To ensure a robust public health evaluation, day-time noise emissions were modelled at the nearest Noise Sensitive Locations (NSLs) using **conservative parameters designed on a worst-case basis**. The model assumed all pieces of heavy equipment operated simultaneously (which was unlikely) at the absolute closest point of the extraction boundary to each receptor. **Under these, worst-case conditions, the model demonstrates that the key receptors remained within allowable tolerances when operational controls are considered.***

*We are not aware of any previous complaints with the Environmental Protection Agency or Carlow County Council in respect of noise generated by the quarry. The **absence of any recorded, actionable, or ongoing environmental noise complaints** throughout the historic operational lifespan of the quarry serves as a verifiable baseline metric."*

Accordingly, while the absence of contemporaneous operational noise monitoring is acknowledged, the rEIA adopts a conservative and appropriate retrospective methodology, based on documented operational parameters and worst-case modelling assumptions. When considered alongside the baseline monitoring data and the absence of any recorded pattern of noise complaints during the quarry's operational period, the available evidence provides a reasonable and robust basis for concluding that historic quarry operations did not give rise to a significant noise nuisance or adverse impact on public health.

The Applicant would welcome the inclusion of a suitably worded Condition in respect of noise to any future Grant of Permission, should it be forthcoming.



In the interest of clarity, we highlight that it is understood there was no blasting on site previously.

Please refer to Appendix B for the full response from Wave Dynamics.

2.3.4 Air Quality and Dust

The HSE Submission states the following in respect of air:

"It is understood that no boundary dust monitoring was taken at the Project lands during quarry operation.

There is variability in the deposition rates recorded across the monitoring months and locations. Furthermore, all monitoring was completed after quarrying activities ceased. As such, the quarry's contribution of recorded deposited dust is not represented within the monitoring data."

The HSE further states the following:

"For the rEIA, the baseline environment is not therefore as per the original green field agricultural site but is the baseline environment after years of unauthorised activities.

The baseline air quality in 2000 is potentially different to that of the presented data from 2024. The baseline at the start of the unauthorised activities was the original air quality together with any contribution from the years of quarry activity, together with any cumulative activity from other quarries/industry within the area was not assessed prior to this development."

AWN Consulting have prepared a comprehensive response to the comments made by the HSE in respect of air quality and dust.

In respect of the predictive modelling used, AWN Consulting states the following:

*"Predictive air dispersion modelling of historic quarrying activities was undertaken within Chapter 9 – Air Quality of the rEIA. The **air dispersion modelling methodology employed** within Chapter 9 – Air Quality of the rEIA is the **appropriate** methodology and **follows guidance** from the Irish Environmental Protection Agency - Air Dispersion Modelling from Industrial Installations Guidance Note (AG4) (2020) and USEPA guidance. The modelling software requires data on the surrounding physical environment, site-specific emissions data and includes five years of meteorological data from Met Eireann to account for varying weather conditions. The modelling assessment predicted the dust deposition and PM₁₀/PM_{2.5} emissions from historical quarrying activities. The **results of the modelling assessment plus background concentrations** were **compared with the ambient air quality limit values** set out in the most recent EU ambient air quality directive 2024/2881, which are **more stringent** than historical standards, and therefore provide a **conservative assessment**.*



*The modelling assessment took a conservative approach to the operational quarrying activities and the potential dust emissions. **Modelling was based on maximum potential emission rates and used conservative background concentrations.*** [Our Emphasis.]

*“The dust deposition modelling results, reproduced in Table 1 below, demonstrate that **dust deposition from historical quarrying activities was low, reaching between 53% - 65% of the 350 mg/m²/day limit value across the five years modelled.** These results are **presented at the site boundary, where dust levels would have been highest.** Therefore as it has been demonstrated that **dust deposition at the site boundary was well within the required limit value,** dust deposition at **nearby sensitive receptors was also compliant with the 350 mg/m²/day limit value** as all receptors are further from the site than the boundary. The closest receptor to the works area is located within c.445m to the direct east of the site, opposite the site entrance. To further demonstrate this, Table 2 below shows the predicted dust deposition levels at the closest receptors to the site across the five years modelled, in all years, the **results at the receptor locations are lower than the predicted dust deposition at the site boundary.** This is also shown graphically in Figure 9.3 of Chapter 9 – Air Quality in the rEIAR, with the **highest deposition levels visible at the site boundary and decreasing with distance from the site.***

*It can therefore be concluded that **no dust nuisance from dust deposition occurred due to historic quarrying activities.** This is further substantiated by the **lack of any historical complaints for the site in relation to dust.*** [Our Emphasis.]

Table 1. Dust Deposition at Boundary – Substitute Consent Operations Scenario

Modelled Year	Process Contribution (PC) (mg/m ² /day)	Background Concentration (mg/m ² /day)	Predicted Environmental Concentration (PEC) (mg/m ² /day)	Limit Value (mg/m ² /day)	PEC as a % of Limit Value
2020	174.1	39	213.1	350	61%
2021	189.0	39	228.0	350	65%
2022	145.2	39	184.2	350	53%
2023	176.9	39	215.9	350	62%
2024	176.3	39	215.3	350	62%

Source: Table 9-6, Chapter 9 Air Quality, rEIAR (December 2025).



Table 2. Dust Deposition at Modelled Sensitive Receptors – Substitute Consent Operations Scenario

Receptor	Coordinates (UTM Zone 29N)		Dust Deposition Predicted Environmental Concentration (PEC) (mg/m ² /day)				
	X Coord	Y Coord	2020	2021	2022	2023	2024
AQ1	634960	5852494	149.3	155.6	138.1	148.4	153.4
AQ2	635027	5852633	131.5	126.1	110.3	132.7	137.0
AQ3	635099	5852550	119.7	121.9	103.5	120.1	125.7
AQ4	635110	5852637	108.7	106.3	93.2	109.3	113.8
AQ5	635095	5852698	108.0	102.0	91.2	109.2	111.9
AQ6	635179	5852893	74.7	71.0	66.5	77.6	77.6
AQ7	634925	5852909	87.7	81.9	79.9	89.5	94.6
AQ8	634873	5852960	79.6	71.6	71.6	80.9	82.4
AQ9	634841	5853052	77.1	68.1	70.6	77.2	77.4
AQ10	635029	5852974	85.5	81.0	71.9	88.1	92.7
AQ11	635018	5853013	84.5	79.6	70.0	86.3	91.2
AQ12	634946	5853045	84.2	75.5	72.6	85.1	87.8
AQ13	634923	5853102	84.8	73.9	74.1	84.8	84.8
AQ14	634777	5853149	73.5	67.7	67.9	72.3	72.4
AQ15	634733	5853249	72.1	68.6	67.9	73.2	70.8
AQ16	634975	5853264	76.9	68.5	66.2	76.2	75.1
AQ17	634067	5852861	52.3	57.2	60.0	54.0	52.9
AQ18	634522	5853476	65.7	66.9	61.9	67.4	65.3
AQ19	634533	5853548	65.3	66.9	62.0	66.8	65.0
AQ20	633894	5852637	45.4	46.5	45.5	45.9	46.0
AQ21	633794	5852577	43.9	44.4	42.5	44.1	44.2
AQ22	633340	5852405	42.6	43.7	42.0	42.0	42.0
AQ23	634869	5852162	173.4	186.9	162.1	170.6	177.9
AQ24	634989	5852240	163.8	175.9	141.9	169.7	165.5
AQ25	634912	5851775	71.3	76.3	62.0	68.1	73.2

Note: PEC includes background deposition level of 39 mg/m²/day.

"While the TA Luft limit value for dust deposition of 350 mg/m²/day is an industry standard limit value applicable to the site boundary of quarries, there was **no historical requirement for quarrying activities to comply with limit values for PM₁₀ or PM_{2.5}**. However, these were **included** in the assessment to ensure a **conservative assessment**. Additionally, **emissions of PM₁₀ and PM_{2.5}** from the historical quarrying operations have been compared with the current ambient air quality standards which are more stringent than historical standards for these pollutants, again, applying a conservative approach to the assessment." [Our Emphasis.]

"The conservative modelling assessment has shown that **annual mean PM₁₀ and PM_{2.5} concentrations were within the ambient air quality limits** of 40 µg/m³ and 25 µg/m³ for PM₁₀ and PM_{2.5} respectively. The modelling results indicate that there may have been some exceedances of the daily PM₁₀ limit value of 50 µg/m³ due to historical quarrying activities at a small number (7 no. total) receptors assessed. However, this is based on a conservative modelled scenario and there was **no requirement for compliance with the PM₁₀ limit values at the quarry.**"

In respect of the baseline environment and monitoring data, AWN Consulting state the following:

*“There is reference to a lack of dust monitoring data at the project lands during the quarry operation in the HSE submission. There is also a **contradictory reference** to variability in the deposition rates recorded across the monitoring months and locations. The reference to deposition rates and variability in the data by the HSE is incorrect. Historical dust monitoring data from the period the quarry was operational is not available.*

*The baseline environment with regard to dust deposition within Chapter 9 – Air Quality of the rEIA was established by reference to a study undertaken by the UK ODPM (see Section 9.3.2 of Chapter 9 – Air Quality). As discussed in Section 9.3.2 of Chapter 9 – Air Quality, as the subject site is located in a predominantly rural area, a **background dust deposition level of 39 mg/m²/day was considered appropriate** for the region of the subject site at Clongrennan, Co. Carlow.*

Baseline concentrations of particulate matter (PM₁₀ and PM_{2.5}) were established with reference to long-term monitoring data from the Environmental Protection Agency (EPA) over the 2006 – 2024 period. This included a review of representative rural Zone D monitoring sites to establish baseline concentrations of PM₁₀ and PM_{2.5} in the region of the subject site.

*The use of publicly available monitoring data for establishing baseline concentrations of pollutants is considered **best practice** and is an appropriate methodology. The use of long-term monitoring datasets is preferred over short-term monitoring data as it provides information on long-term trends in air quality. Additionally, reference to monitoring studies is also deemed appropriate for establishing background concentrations when historical monitoring data is unavailable. The approach used in Chapter 9 – Air Quality to establish the baseline environment is deemed appropriate and sufficient for the purposes of the assessment.” [Our Emphasis.]*

The AWN Consulting response concludes as follows:

*“The modelling assessment has clearly demonstrated that dust deposition from the historic quarrying activities was well within the TA Luft 350 mg/m²/day limit value and would not have resulted in significant adverse air quality impacts at nearby receptors. While there were predicted to have been some potential exceedances of the daily PM₁₀ limit value of 50 µg/m³ at some nearby receptors as a result of historical quarrying operations (maximum 7 no. receptors) there was no requirement for compliance with the PM₁₀ limit values at the quarry. It should be noted that the modelling assessment has taken a **conservative approach and potentially over-estimated impacts** to air quality and there is **no evidence by way of complaints or environmental data that exceedances did occur** as a result of historic quarrying activities. However, the assessment has been based on the standard best practice approach and assessed the **maximum potential impact** that may have occurred. While these exceedances may have been potentially significant in terms of air quality, the assessment for future quarrying operations has shown that with the implementation of **mitigation measures** dust emissions can be significantly reduced and any future*



quarrying will result in lesser emissions than the historical works. The Applicant is committed to implementing best practice mitigation measures as well as additional site specific measures to ensure dust emissions from any future quarrying activities are minimised. This is evidenced in the response on the 37L application. There are no significant impacts to air quality predicted from future operations with appropriate mitigation in place.” [Our Emphasis.]

In conclusion, notwithstanding the absence of contemporaneous dust monitoring, the rEIAR provides a robust and conservative assessment using recognised air dispersion modelling and long-term background data. The modelling indicates that historic dust deposition remained within the TA Luft limit of 350 mg/m²/day, with no supporting evidence of significant dust impacts.

We highlight that the air quality assessment was prepared on the basis of a worst-case scenario, as is standard practice. The model utilised as part of this Assessment assumed all plant was running concurrently at the closest boundary point. This is an extreme scenario and is unlikely to reflect the actual likely impact.

The 177E Substitute Consent application (ACP Reg. Ref. 324014-25) is accompanied by a 37L application (ACP Reg. Ref. 324015-25) for future quarrying. The 37L EIAR assesses the potential impacts of the future works on air quality and human health and demonstrates that emissions will comply with the applicable dust deposition, PM₁₀ and PM_{2.5} limits. Importantly, the modelling predicts that future quarrying will result in lesser air quality impacts than the historical activities, with reductions in emissions of up to 89%, due to the proposed mitigation measures. Accordingly, the future quarrying activities are not predicted to result in a significant impact on local air quality.

We reiterate the fact that there was no historical requirement for quarrying activity to comply with PM₁₀ or PM_{2.5}.

Please refer to the response prepared by AWN in respect of air quality and dust in Appendix C.

2.3.5 Hydrology and Hydrogeology

The HSE Submission raises a number of concerns relating to hydrology and hydrogeology.

Hydro-Environmental Services (HES) have reviewed the submission made by the HSE in respect of hydrology and hydrogeology and have prepared a full response to all queries and concerns raised, which is provided in full in Appendix D of this Response.

From the outset, we highlight the following comments from HES:

“Other comments appear to arise from a misunderstanding of the nature of the historic quarry operation, including the incorrect description of the site as a “gravel extraction facility”, an assumption that active quarry dewatering occurred, an assumption that the proposed development includes a soil and stone washing facility, and a reference to “residual peat over much of the site” at the site where no peat has been mapped.” [Our Emphasis.]



The HSE Submission included the following text of note:

"The groundwater quality should have been monitored whilst the quarry was in operation in the boreholes at the site to determine if there is a deterioration in quality as a result of construction related activities, if so and depending on the nature of the results then additional measures to protect groundwater quality will be implemented.

There is no details showing a full monitoring system historically while this quarry was in operation. The effectiveness of the additional mitigation should have been verified through a sampling programme."

HES states the following in respect of the concerns raised by the HSE in respect of hydrology and hydrogeology:

*"A remedial assessment cannot recreate monitoring records that were not generated or retained by a previous operator. **By its nature, an rEIAR must reconstruct past environmental conditions and effects from the best information now available. The absence of contemporaneous monitoring does not invalidate a remedial assessment.** It requires the assessment to use appropriate alternative evidence, including historic mapping, aerial photography, geological and hydrogeological investigations, current monitoring, downstream environmental records, regulatory records, site observations and conservative professional assumptions." [Our Emphasis.]*

"The applicant acknowledges the HSE's role in protecting public health and accepts that appropriate surface water, groundwater, spill-response, well-monitoring and restoration controls should be included in the management of future activities.

However, the HSE submission materially understates the extent of the information submitted and, in several respects, is factually incorrect.

*The submitted Hydrology and Hydrogeology assessment was based on a **comprehensive body of site-specific investigations, monitoring and independent environmental data.** In particular, the assessment:*

- *acknowledged and transparently documented the limitations associated with the absence of some historic operational records;*
- *completed extensive geological, hydrological and hydrogeological site investigations;*
- *included site-specific groundwater-level monitoring, groundwater-quality monitoring and surface water quality monitoring;*
- *characterised the site's hydrogeological conceptual model using borehole, geological and monitoring data;*
- *demonstrates that:*
 - *The historic Development did not include active quarry dewatering, and as such there was no historic dewatering pumps or pumping rates to report.*



- the Development is a bedrock quarry, not a gravel extraction facility.
- No soil and stone washing facility involving imported wash material formed part of the historic Development.
- Alteration of the Raheendoran Stream was expressly acknowledged and assessed in the rEIAR.
- assessed local groundwater supplies and potential receptors;
- assessed historic and existing drainage pathways, discharge locations and flow characteristics;
- evaluated potential impacts on groundwater, surface water, flood risk and Water Framework Directive objectives;
- considered cumulative effects and identified appropriate mitigation measures;
- included dedicated Flood Risk Assessment and Water Framework Directive Compliance Assessment reports; and
- concluded, based on the available evidence, that the historic Development has not resulted in significant adverse geological, hydrological or hydrogeological effects.

*The absence of some contemporaneous environmental records from the previous operational period was expressly acknowledged. Such data limitations are inherent in many substitute consent applications. **The correct approach is not to infer that significant effects occurred simply because every desirable historic dataset is unavailable. Rather, the assessment must use the best available evidence, transparent assumptions and conservative professional judgement.***

*The submitted rEIAR adopted that approach and assembled a comprehensive, multi-source evidence base. While absolute certainty regarding every aspect of the historic operation is neither possible nor required, the **available evidence does not indicate significant contamination of surface water or groundwater, significant dewatering of local groundwater supplies, deterioration of WFD status or significant downstream hydrological effects attributable to the historic Development.*** [Our Emphasis.]

In respect of the Water Framework Directive, HES has responded as follows:

“No deterioration in waterbody status attributable to the quarry was identified.

*It is not scientifically possible, in the absence of complete historic monitoring, to demonstrate that no short-duration local fluctuation ever occurred. However, that is not the appropriate WFD test. The **available evidence indicates that the Development did not cause deterioration** in the status of a surface waterbody or groundwater body and **did not compromise the achievement of the applicable objectives.**”*

We note that despite the previous owner/operator not having been able to provide a full suite of their own records of monitoring in respect of the waterways and the WFD, the EPA would still have been carrying out their own monitoring and we are not aware of any adverse impacts in this regard.



The following extract from HES confirms the same:

“For the historic period, the assessment appropriately examined EPA biological Q-ratings. The WFD Assessment (rEIAR Appendix 8-4) records no deterioration attributable to the Development in the relevant downstream waterbodies. The Barrow_170 and Barrow_180 waterbodies remained at Moderate status through the relevant WFD cycles, while the underlying Shanragh Groundwater Body remained at Good status.”

In conclusion, while the HSE has identified the absence of some historical monitoring records, the rEIAR addresses this limitation through a comprehensive body of site-specific investigations, monitoring and independent environmental data. The available evidence does not indicate significant adverse effects on groundwater, surface water, local water supplies or downstream hydrology arising from the historic development.

Importantly, the assessment found no deterioration in the status of the relevant waterbodies attributable to the quarry, with the Barrow_170 and Barrow_180 waterbodies remaining at Moderate status and the Shanragh Groundwater Body remaining at Good status. Accordingly, the absence of a complete historic monitoring record does not provide a basis to conclude that significant hydrological or hydrogeological impacts occurred.

Please refer to Appendix D of this Submission for full details of the HES response to the concerns raised by the HSE in respect of hydrology and hydrogeology.

2.3.6 Restoration of the Quarry

The HSE provides the following commentary in respect of the proposed future restoration of the quarry:

“Potential for future health gain from the restoration of the proposed development should be included in the EIAR.

There is not in great detail on the restoration process or full detailed plans. The map provided is not comprehensive. The Environmental Management Plan should lay out how the retained habitats will be protected during extraction; how continued management is undertaken post restoration and how the results are monitored to allow management revisions as necessary. This monitoring should be undertaken for the first 5 years after restoration.

The National Environmental Health Service recommends that the submission of a full Site Restoration Plan, which includes a timeframe for undertaking restoration works, is included as a condition of planning permission, if granted.”

A ‘Restoration Plan’ was prepared by Macro Works and submitted as part of the subject Application, which provided a visual plan for the restoration, alongside detailed annotations for the proposed remediation of each area of the site and a planting plan. The Applicant would welcome the inclusion of a suitably worded Condition in respect of site restoration to any future Grant of Permission for the subject Application, should it be forthcoming.

The HSE Submission also recommends that fencing be erected around any proposed water-filled voids, formed as part of the restoration of the quarry. Whilst it is not proposed that the subject site would be publicly accessible following restoration, the Applicant would welcome the inclusion of a suitably worded Condition to any future Grant of Permission in this regard, should An Coimisiún Pleanála consider it necessary.

2.3.7 Cumulative Impacts

The HSE states the following in respect of Cumulative Assessment:

"The National Environmental Health Service notes the assessment of cumulative impacts throughout the EIAR and is not satisfied that the projects listed in the rEIAR were assessed for the potential to give rise to cumulative impacts."

This extract above is the full extent of the commentary provided by the HSE in respect of Cumulative Assessment. The HSE provides no specific details of why they have come to the conclusion that they are *"not satisfied that the projects listed in the rEIAR were assessed for the potential to give rise to cumulative impacts"*. They have not identified any specific deficits in the Cumulative Assessment.

A comprehensive Cumulative Impact Assessment was conducted as part of the subject Application, with input from each of the competent experts for the relevant chapters. We highlight the commentary from HES in this regard:

"The HSE does not identify which particular project, pathway, receptor or cumulative mechanism it considers omitted. Its statement is therefore unsupported and should not displace the project-specific cumulative assessments already submitted."

We second this assertion that the HSE claims with regard to the Cumulative Assessment are unsupported.

2.3.8 Health Gain / Current Recreational Use / Traffic

The HSE provides the following commentary in respect of health gain and traffic:

"It is noted that the rural area is being used for cycling, pedestrians and awareness should be raised with HGV drivers on these small roads to take due care. It is also noted that these roads are quite and used by walkers/ runners living in the area. Measures should be taken to reduce the volumes of through-traffic, speeds of traffic especially HGVs, and especially in the vicinity the quarry and housing."

"The Introduction of traffic calming measures / enforce low traffic speeds for access and exit from the quarry making it safer for cyclists and other road users."

We note that the subject S177E Application relates to Substitute Consent of historic quarrying on site. The site is not currently in operation and therefore we consider the above recommendation to introduce traffic calming measures to be inappropriate for the Application in question. We note the same recommendations were provided as part of the



HSE Submission to the concurrent S37L Application, which will be responded to under separate cover.

Irrespective of this, we note that any previous impacts from traffic were temporary and are no longer existing.

2.3.9 3rd Party Claims

The Submission states the following in respect of the 3rd Party Submission for the subject Application:

"The rEIAR has not demonstrated that Quarrying activities were within the predicted limits to protect health with regard to dust or noise or protection of ground and surface water and therefore has not demonstrated that the unauthorised development operated within the health protection standards. The rEIAR relies on predictive methodology that has not been validated through monitoring whilst the quarry was operational.

The conclusion that Air, noise and water emissions did not cause a nuisance at sensitive receptors is not supported by any evidence and is contradicted by a 3rd Party submission on the planning file."

Specific comments relating to air, noise, dust, and water have been dealt with under their respective headings above.

In respect of the claims that the information provided as part of the subject Application is contradicted by a 3rd Party Submission, we highlight that there was only one 3rd Party Observer for the subject Application. Having reviewed this 3rd Party Submission, we have not located any specific claims that this quarry produced noise, air, or water emissions which caused nuisance to any sensitive receptor. Therefore, it is unclear which specific information contained within the Observation the HSE considers to contradict the findings of the rEIAR.

In this regard, we further highlight that this 3rd Party Observer does not appear to live within close proximity to the subject site, and their property would therefore not be considered a sensitive receptor.

Irrespective of the above, as previously highlighted to ACP, it is the assertion of Milford Quarries Limited that this sole 3rd Party Observer is frivolous and vexatious, with a demonstrated history of attempting to frustrate the operation of their business. In this regard, we refer to the previous Submission made by the Applicant on 8th June 2026, as well as similar assertions made under Applications Reg. Ref. 324015-25 and Reg. Ref. 500902-26. We would request that ACP be mindful of this assertion when reviewing the HSE's claims.

2.3.10 Closing Comments

The Applicant welcomes this Submission from the HSE, noting the key role they play in the protection of human health in Ireland, though we note there are a number of inconsistencies within their Submission, which we have responded to as appropriate.

We note that the HSE has not explicitly recommended a Refusal for this Application, but instead recommended a number of Conditions which should be included, should a Grant of Permission be forthcoming. The Applicant welcomes the inclusion of these Conditions, as appropriate, such as the following:

- Introduction of fencing around water bodies (as part of the restoration plan);
- Provision of updated restoration plan with additional details;
- Noise limits;
- Ongoing monitoring; and
- Implementation of a complaints procedure.

We also highlight that the HSE has similarly suggested Conditions for the concurrent S37L Application which relates to the subject site. This suggests a willingness of the HSE to consider the next phase of development, the Permission for additional extraction.

3.0 CONCLUSION

This document seeks to respond to the Submissions made by Transport Infrastructure Ireland, Laois County Council, and the Health Service Executive in respect of Application ACP Reg. Ref. 324014-25.

As demonstrated above, neither Transport Infrastructure Ireland nor Laois County Council have raised any objection in principle to the proposed development. While the Health Service Executive has raised a number of observations, it is respectfully submitted that these observations largely arise from a misunderstanding of the nature and requirements of a Substitute Consent Application and do not identify any evidence of significant adverse environmental effects arising from the historic quarrying activities.

This Response, together with the detailed technical input provided by the relevant specialist consultants, demonstrates that the rEIAR has been prepared using the best available information, current site investigations, recognised assessment methodologies and professional judgement, consistent with the requirements of the EIA Directive and EPA Guidance. The limitations associated with unavailable historic records have been transparently acknowledged throughout the application documentation and do not undermine the robustness of the environmental assessment undertaken.

It is therefore respectfully submitted that the information before An Coimisiún Pleanála is sufficient to enable it to undertake a comprehensive Environmental Impact Assessment, to reach a reasoned conclusion on the likely significant environmental effects of the historic development, and to determine the application for Substitute Consent.

Having regard to the documentation submitted, the responses set out above, and the absence of evidence demonstrating significant adverse environmental effects arising from the historic quarrying activities, the Applicant respectfully requests that An Coimisiún Pleanála grant Substitute Consent for the development. We would also implore the Commission to make the decisions for the S177E and S37L Applications in tandem, due to the interlinked nature of these two Applications.



We trust the above is in order and would appreciate written confirmation of receipt of this response.

Laura Crowe

Laura Crowe
Senior Planner
Tom Phillips + Associates

Appendix A – Correspondence with Carlow County Council
Appendix B – Response from Wave Dynamics
Appendix C – Response from AWN Consulting
Appendix D – Response from Hydro-Environmental Services



Appendix A Correspondence with Carlow County Council

From: Fergus Mulhure <fmulhure@carlowcc.ie>
Sent: Thursday, 06 August 2020 10:17:34
To: robert@redrockquarry.ie <robert@redrockquarry.ie>
Cc: Liam Carroll <lcarroll@carlowcc.ie>
Subject: Redrock Quarry site

Hi Robert ,

With regard to your query relating to historic environmental monitoring results for the Redrock Quarry site (Section 261 Register QY 14) at Clogrennane, Bilboa Co. Carlow , I can confirm that the Environment section of Carlow Co Council does not hold any such monitoring results on file for that site .

Kind Regards ,

Fergus Mulhure

Fergus Mulhure
Executive Scientist
Environment Section
Carlow Co Council
40 Oulam Street
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02351 31235

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Appendix B

Response from Wave Dynamics

Date: 10/08/2026

Reference: WDA240919LT_C_01

Job Number: WDA240919

Project: Application for Substitute Consent (Ref: S177E) & Concurrent S37L Application Redrock Quarry.

Location: Clogrennane, Bilboa, Co. Carlow

Title: Technical Response to HSE National Environmental Health Service Submission Application for Substitute Consent (Ref: S177E) & Concurrent S37L Application

Re: Application for Substitute Consent (Ref: S177E) & Concurrent S37L Application Redrock Quarry.

Subject: Chapter 11 – Noise & Vibration

To Whom It May Concern,

Wave Dynamics have been engaged by Tom Phillips & Associates to provide formal technical acoustic input regarding the remedial Environmental Impact Assessment Report (rEIAR) for a Substitute Consent application under Section 177E, and the concurrent Section 37L application, at Redrock Quarry. The development consists of an existing sandstone quarry located in the townland of Clogrennane, Bilboa, Co. Carlow, comprising an historical extraction area of approximately 8.66 hectares and associated processing plant. This formal technical response directly addresses the submission made by the National Environmental Health Service (NEHS) of the Health Service Executive (HSE). Specifically, this response details the technical position regarding the absence of real-time baseline operational noise monitoring data during the historical Section 177E period, regarding public health risks, and validates the robust predictive methodologies used within Chapter 11 to assess historical acoustic impacts.

The HSE submission notes that the rEIAR relies on predictive methodology and lacks concurrent operational noise data. As the quarry had already ceased all extraction and processing operations at the time the rEIAR was commissioned and prepared, it was not possible to capture live, real-time noise logs of historical mechanical extraction or mobile crushing and screening activities. The baseline monitoring data presented in the rEIAR accurately and transparently captures the background ambient noise environment of the area without the facility in use. This approach complies fully with standard acoustic assessment methodologies for retrospective planning (Substitute Consent). It establishes a robust, conservative baseline that represents the true receiving environment, allowing for a precise calculation of the historical operational noise levels over the natural background conditions.

The submission asserts that the predictive methodology is unvalidated and fails to demonstrate health compliance. This conclusion is rejected based on standard regulatory practices. In the absence of historical logging, Chapter 11 utilised a noise model based on documented operational parameters in accordance with BS 5228, engineering layouts, and industry-standard runtime assumptions (e.g., 80% excavator on-time and 50% machinery on-time). To ensure a robust public health evaluation, day-time noise emissions were modelled at the nearest Noise Sensitive Locations (NSLs) using conservative parameters designed on a worst-case basis. The model assumed all pieces of heavy equipment operated simultaneously (which was unlikely) at the absolute closest point of the extraction boundary to each receptor. Under these, worst-case conditions, the model demonstrates that the key receptors remained within allowable tolerances when operational controls are considered.

We are not aware of any previous complaints with the Environmental Protection Agency or Carlow County Council in respect of noise generated by the quarry. The absence of any recorded, actionable, or ongoing environmental noise complaints throughout the historic operational lifespan of the quarry serves as a verifiable baseline metric.

Conclusion

As there is no measurement data available for the development during its operational period, best practice is to undertake a detailed predictive noise assessment using recognised industry-standard methodologies and conservative input assumptions. This approach is consistent with the requirements of EPA Guidance Note for Quarries and Ancillary Activities, ISO 9613-2, and established planning and environmental impact assessment practice where direct measurement data is unavailable. The predictive assessment presented within the rEIAR was based on documented operational information, plant inventories, site layout plans, receptor locations, and worst-case operating scenarios specifically designed to ensure that potential impacts were not underestimated. As such, the assessment in the absence of noise measurement data provides a robust and scientifically defensible evaluation of the historical acoustic environment and represents the most appropriate methodology available for consideration within a retrospective Substitute Consent application.

Should you have any queries or require any further information please do not hesitate to contact us directly.

Regards,



Shannon Doherty

Senior Consultant

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Appendix C

Response from AWN Consulting

10 August 2026

257501.0506AL01_rev1

RE: Redrock Quarry 177E SC Submission Response – Air Quality

To whom it may concern,

This letter includes a response to the air quality items raised by the National Environmental Health Service (HSE) in their submission regarding the 177E planning application for substitute consent for historic quarrying activities at a site in Clogrennane, Bilboa, Co. Carlow, planning application reference number ACP-324014-25.

INTRODUCTION

AWN Consulting Ltd., a Trinity Consultants Company, prepared Chapter 9 – Air Quality of the rEIAR for the substitute consent application. Chapter 9 – Air Quality set out the relevant assessment criteria and methodology; included a description of the baseline environment; and assessed the potential impacts to air quality from the historic quarrying activities. As stated in Chapter 9 – Air Quality of the rEIAR, the primary impacts to air quality have occurred due to operational activities such as extraction of materials; screening, crushing, and processing of materials; and movement of vehicles on site which had the potential to release dust and particulate matter (PM₁₀ and PM_{2.5}) emissions. Engine emissions from vehicles accessing the site had the potential to impact air quality through the release of nitrogen dioxide (NO₂) and particulate matter (as PM₁₀ and PM_{2.5}) emissions.

The baseline environment was prepared with reference to published air quality data from the Environmental Protection Agency (EPA) and Met Éireann. For the purposes of the air quality assessment, while the activities assessed have occurred over the past decades, until quarrying ceased in 2014, impacts were assessed against the most recently published air quality guidance and policies which are more stringent than historical policies from previous years. Therefore if it can be determined that, based on the most recent standards, no significant effects occurred as a result of the development then it is unlikely that significant impacts occurred based on historical standards.

SUBMISSION RESPONSE

The submission from the HSE includes a specific section with regards to air and air quality related matters.

Dust Impacts from Quarrying Activities

In relation to air quality, the primary concern within the HSE submission is that quarrying activities had an adverse effect on air quality and subsequently human health in the area.

Predictive air dispersion modelling of historic quarrying activities was undertaken within Chapter 9 – Air Quality of the rEIAR. The air dispersion modelling methodology employed within Chapter 9 – Air Quality of the rEIAR is the appropriate methodology and follows guidance from the Irish Environmental Protection Agency - *Air Dispersion Modelling from Industrial Installations Guidance Note (AG4)* (2020) and USEPA

guidance. The modelling software requires data on the surrounding physical environment, site-specific emissions data and includes five years of meteorological data from Met Eireann to account for varying weather conditions. The modelling assessment predicted the dust deposition and PM₁₀/PM_{2.5} emissions from historical quarrying activities. The results of the modelling assessment plus background concentrations were compared with the ambient air quality limit values set out in the most recent EU ambient air quality directive 2024/2881, which are more stringent than historical standards, and therefore provide a conservative assessment.

The modelling assessment took a conservative approach to the operational quarrying activities and the potential dust emissions. Modelling was based on maximum potential emission rates and used conservative background concentrations.

Modelling of dust deposition from historical operational quarrying activities is presented in Section 9.4.3.1.1 of Chapter 9 – Air Quality and Table 9-6 presents the modelled dust deposition results at the site boundary of the quarry. Dust deposition emissions have been compared with the TA Luft limit value of 350 mg/m²/day (as an annual average). This limit value is standard practice for assessing dust emissions from quarrying activities and is recommended by the EPA in *Environmental Management Guidelines - Environmental Management in the Extractive Industry (Non-Scheduled Minerals)*.

The dust deposition modelling results, reproduced in Table 1 below, demonstrate that dust deposition from historical quarrying activities was low, reaching between 53% - 65% of the 350 mg/m²/day limit value across the five years modelled. These results are presented at the site boundary, where dust levels would have been highest. Therefore as it has been demonstrated that dust deposition at the site boundary was well within the required limit value, dust deposition at nearby sensitive receptors was also compliant with the 350 mg/m²/day limit value as all receptors are further from the site than the boundary. The closest receptor to the works area is located within c.445m to the direct east of the site, opposite the site entrance. To further demonstrate this, Table 2 below shows the predicted dust deposition levels at the closest receptors to the site across the five years modelled, in all years, the results at the receptor locations are lower than the predicted dust deposition at the site boundary. This is also shown graphically in Figure 9.3 of Chapter 9 – Air Quality in the rEIAR, with the highest deposition levels visible at the site boundary and decreasing with distance from the site.

It can therefore be concluded that no dust nuisance from dust deposition occurred due to historic quarrying activities. This is further substantiated by the lack of any historical complaints for the site in relation to dust.

As per the above, Chapter 9 – Air Quality of the rEIAR has clearly demonstrated that quarrying activities were within the predicted limits to protect health with regard to dust deposition and the HSE's statement that this was not undertaken is incorrect.

Table 1. Dust Deposition at Boundary – Substitute Consent Operations Scenario

Modelled Year	Process Contribution (PC) (mg/m ² /day)	Background Concentration (mg/m ² /day)	Predicted Environmental Concentration (PEC) (mg/m ² /day)	Limit Value (mg/m ² /day)	PEC as a % of Limit Value
2020	174.1	39	213.1	350	61%
2021	189.0	39	228.0	350	65%
2022	145.2	39	184.2	350	53%
2023	176.9	39	215.9	350	62%
2024	176.3	39	215.3	350	62%

Source: Table 9-6, Chapter 9 Air Quality, rEIAR (December 2025).

Table 2. Dust Deposition at Modelled Sensitive Receptors – Substitute Consent Operations Scenario

Receptor	Coordinates (UTM Zone 29N)		Dust Deposition Predicted Environmental Concentration (PEC) (mg/m ² /day)				
	X Coord	Y Coord	2020	2021	2022	2023	2024
AQ1	634960	5852494	149.3	155.6	138.1	148.4	153.4
AQ2	635027	5852633	131.5	126.1	110.3	132.7	137.0
AQ3	635099	5852550	119.7	121.9	103.5	120.1	125.7
AQ4	635110	5852637	108.7	106.3	93.2	109.3	113.8
AQ5	635095	5852698	108.0	102.0	91.2	109.2	111.9
AQ6	635179	5852893	74.7	71.0	66.5	77.6	77.6
AQ7	634925	5852909	87.7	81.9	79.9	89.5	94.6
AQ8	634873	5852960	79.6	71.6	71.6	80.9	82.4
AQ9	634841	5853052	77.1	68.1	70.6	77.2	77.4
AQ10	635029	5852974	85.5	81.0	71.9	88.1	92.7
AQ11	635018	5853013	84.5	79.6	70.0	86.3	91.2
AQ12	634946	5853045	84.2	75.5	72.6	85.1	87.8
AQ13	634923	5853102	84.8	73.9	74.1	84.8	84.8
AQ14	634777	5853149	73.5	67.7	67.9	72.3	72.4
AQ15	634733	5853249	72.1	68.6	67.9	73.2	70.8
AQ16	634975	5853264	76.9	68.5	66.2	76.2	75.1
AQ17	634067	5852861	52.3	57.2	60.0	54.0	52.9
AQ18	634522	5853476	65.7	66.9	61.9	67.4	65.3
AQ19	634533	5853548	65.3	66.9	62.0	66.8	65.0
AQ20	633894	5852637	45.4	46.5	45.5	45.9	46.0
AQ21	633794	5852577	43.9	44.4	42.5	44.1	44.2
AQ22	633340	5852405	42.6	43.7	42.0	42.0	42.0
AQ23	634869	5852162	173.4	186.9	162.1	170.6	177.9
AQ24	634989	5852240	163.8	175.9	141.9	169.7	165.5
AQ25	634912	5851775	71.3	76.3	62.0	68.1	73.2

Note: PEC includes background deposition level of 39 mg/m²/day.

In relation to PM₁₀ and PM_{2.5} emissions, these were also included in the modelling assessment presented in Chapter 9 – Air Quality of the rEIAR. While the TA Luft limit value for dust deposition of 350 mg/m²/day is an industry standard limit value applicable to the site boundary of quarries, there was no historical requirement for quarrying activities to comply with limit values for PM₁₀ or PM_{2.5}. However, these were included in the assessment to ensure a conservative assessment. Additionally, emissions of PM₁₀ and PM_{2.5} from the historical quarrying operations have been compared with the current ambient air quality standards which are more stringent than historical standards for these pollutants, again, applying a conservative approach to the assessment.

Predicted concentrations of PM₁₀ and PM_{2.5} are presented in Section 9.4.3.1.2 and Section 9.4.3.1.3 of Chapter 9 – Air Quality. The conservative modelling assessment has shown that annual mean PM₁₀ and PM_{2.5} concentrations were within the ambient air quality limits of 40 µg/m³ and 25 µg/m³ for PM₁₀ and PM_{2.5} respectively. The modelling results indicate that there may have been some exceedances of the daily PM₁₀ limit value of 50 µg/m³ due to historical quarrying activities at a small number (7 no. total) receptors assessed. However, this is based on a conservative modelled scenario and there was no requirement for compliance with the PM₁₀ limit values at the quarry.

Future Quarrying Activities

The 177E planning application (reference ACP-324014-25) has been accompanied by a 37L planning application for future quarrying activities and extraction at the quarry site (planning reference ACP-324015-25). The 37L application was accompanied by and EIAR which included an assessment of the future quarrying activities and the subsequent impact on air quality and human health in Chapter 9.

Should planning permission for future quarrying be granted, the air quality assessment undertaken has demonstrated that emissions from any future site will be in compliance with the TA Luft limit value of 350 mg/m²/day for dust deposition and within the ambient air quality limits for PM₁₀ and PM_{2.5}. As evidenced by the comparison in Table 3 below, the future quarrying activities will result in lesser impacts to air quality than the historical activities. The future works have also been modelled applying a conservative approach, similar to the historical activities.

Table 3 provides a comparison of the historical quarrying and the future quarrying activities and the percentage reduction in emissions. The future quarrying operations will apply a number of mitigation measures, as listed in Section 9.6 of the 37L EIAR, which aid in reducing emissions from future activities. There is predicted to be up to an 89% reduction in emissions in the future scenario as per Table 3. Therefore, any future quarrying activities will be actively mitigated and will not result in a significant impact to air quality within the area as demonstrated by the modelling.

Table 3. Comparison of Historic Quarrying Air Quality Impacts versus Future Proposed Operations

Metric	Historic operations — 177E (rEIAR, Substitute Consent Operations Scenario)	Proposed operations — 37L (EIAR, Proposed Operations Scenario)	Reduction in process contribution
Dust deposition at land ownership boundary (annual mean)	PC 189.0 mg/m ² /day PEC 228.0 — 65% of limit	PC 70.7 mg/m ² /day PEC 109.7 — 31% of limit	63%
PM10 annual mean at worst-case receptor	PC 26.96 µg/m ³ PEC 37.96 — 95% of limit	PC 3.18 µg/m ³ PEC 11.18 — 28% of limit	88%
PM10 24-hour mean (90.4th %ile), Method B	PC 79.16 µg/m ³ PEC 90.16 — 180% of limit	PC 9.55 µg/m ³ PEC 17.55 — 35% of limit	88%
PM2.5 annual mean at worst-case receptor	PC 10.71 µg/m ³ PEC 18.71 — 75% of limit	PC 1.14 µg/m ³ PEC 6.14 — 25% of limit	89%
Receptors exceeding the 24-hour PM10 limit	Up to 7 of 25 (2024); 5 of 25 in 2021	None, in any of the five modelled years	—

PC = process contribution (site alone). PEC = predicted environmental concentration (site plus background). Limit values: dust deposition 350 mg/m²/day (TA Luft); PM10 annual 40 µg/m³; PM10 24-hour 50 µg/m³ as a 90.4th percentile; PM2.5 annual 25 µg/m³.

Baseline Environment & Monitoring Data

The HSE state that the site and the surrounding area fall into air monitoring category Zone D, which is in line with the findings of Chapter 9 – Air Quality of the rEIAR.

There is reference to a lack of dust monitoring data at the project lands during the quarry operation in the HSE submission. There is also a contradictory reference to variability in the deposition rates recorded across the monitoring months and locations. The reference to deposition rates and variability in the data by the HSE is incorrect. Historical dust monitoring data from the period the quarry was operational is not available.

The baseline environment with regard to dust deposition within Chapter 9 – Air Quality of the rEIAR was established by reference to a study undertaken by the UK ODPM (see Section 9.3.2 of Chapter 9 – Air Quality). As discussed in Section 9.3.2 of Chapter 9 – Air Quality, as the subject site is located in a predominantly rural area, a background dust deposition level of 39 mg/m²/day was considered appropriate for the region of the subject site at Clongrennan, Co. Carlow.

Baseline concentrations of particulate matter (PM₁₀ and PM_{2.5}) were established with reference to long-term monitoring data from the Environmental Protection Agency (EPA) over the 2006 – 2024 period. This included a review of representative rural Zone D monitoring sites to establish baseline concentrations of PM₁₀ and PM_{2.5} in the region of the subject site.

The use of publicly available monitoring data for establishing baseline concentrations of pollutants is considered best practice and is an appropriate methodology. The use of long-term monitoring datasets is preferred over short-term monitoring data as it provides information on long-term trends in air quality. Additionally, reference to monitoring studies is also deemed appropriate for establishing background concentrations when historical monitoring data is unavailable. The approach used in Chapter 9 – Air Quality to establish the baseline environment is deemed appropriate and sufficient for the purposes of the assessment.

The HSE submission goes on to state that both wind direction and wind speed have an effect on the atmospheric dispersion of particles. Both wind speed and wind direction are accounted for in the meteorological data used in the air quality impact assessment. The operational phase air quality assessment involved detailed air dispersion modelling of the historic quarrying activities over five years of previous meteorological data in order to establish the impact to air quality and the surrounding environment.

The HSE submission considers the baseline environment to not be as per the original green field agricultural site, but instead consider the baseline environment to be after years of historic quarrying activities. The operational phase assessment undertaken in Section 9.4.3.1 of Chapter 9 – Air Quality of the rEIAR included modelling of emissions of dust deposition and PM₁₀ and PM_{2.5} from the quarrying activities and added these to the estimated background pollutant concentrations. The total site pollutant contribution plus background concentrations was then compared with the relevant ambient air quality limit value in order to assess the full impact to air quality. The baseline environment is established in the absence of the development to avoid a double counting of emissions. The quarrying activities are captured separately within the modelling.

Conclusion

The methodology employed in establishing the baseline conditions and demonstrating the operational phase impact of the historic quarrying activities as set out in Chapter 9 – Air Quality of the rEIAR are appropriate and adequate for the purposes of the air quality assessment.

The modelling assessment has clearly demonstrated that dust deposition from the historic quarrying activities was well within the TA Luft 350 mg/m²/day limit value and would not have resulted in significant

adverse air quality impacts at nearby receptors. While there were predicted to have been some potential exceedances of the daily PM₁₀ limit value of 50 µg/m³ at some nearby receptors as a result of historical quarrying operations (maximum 7 no. receptors) there was no requirement for compliance with the PM₁₀ limit values at the quarry. It should be noted that the modelling assessment has taken a conservative approach and potentially over-estimated impacts to air quality and there is no evidence by way of complaints or environmental data that exceedances did occur as a result of historic quarrying activities. However, the assessment has been based on the standard best practice approach and assessed the maximum potential impact that may have occurred. While these exceedances may have been potentially significant in terms of air quality, the assessment for future quarrying operations has shown that with the implementation of mitigation measures dust emissions can be significantly reduced and any future quarrying will result in lesser emissions than the historical works. The Applicant is committed to implementing best practice mitigation measures as well as additional site specific measures to ensure dust emissions from any future quarrying activities are minimised. This is evidenced in the response on the 37L application. There are no significant impacts to air quality predicted from future operations with appropriate mitigation in place.

Sincerely,



AWN CONSULTING LTD

Ciara Nolan

Associate (Air Quality)



Appendix D

Response from Hydro-Environmental Services

Date: 24th July 2026
Our Ref: P1687-0_0051**An Coimisiún Pleanála**
64 Marlborough Street,
Dublin 1,
D01 V902.

To whom it may concern,

Re: Response to Hydrology and Hydrogeology related observations made by the HSE in relation to the Substitute Consent Application at Red Rock Quarry at Clogrennane, Bilboa, Co. Carlow.**ACP Ref: 324014-25 (Substitute Consent)**

Hydro-Environmental Services (HES) were requested by Tom Phillips and Associates (TPA), to respond to observations made by the HSE in relation to the Substitute Consent Application (177E) at Red Rock Quarry, Clogrennane, Bilboa, Co. Carlow.

The letter response addresses the observations made by the HSE relating to geology, hydrology and hydrogeology. Responses to other observations not relating to geology/hydrology-hydrogeology are provided separately.

1 STATEMENT OF EXPERIENCE – QUARRY WATER MANAGEMENT

Hydro-Environmental Services has extensive experience in quarry drainage, hydrology and hydrogeology, having worked on more than 100 quarry projects in Ireland and Northern Ireland over the past 20 years. This experience includes EIAR and rEIAR assessment, flood risk assessment, quarry drainage design, groundwater assessment, water-quality monitoring and construction-stage environmental management.

This response has been prepared by Michael Gill and Conor McGettigan, who also prepared the submitted Hydrology and Hydrogeology Chapter. Their qualifications and experience are set out in Section 8.1.2 of the submitted EIAR/rEIAR.

2 RESPONSE TO HSE HYDRO RELATED OBSERVATIONS

2.1 Overview

The HSE submission has been reviewed against the information contained in the submitted remedial Environmental Impact Assessment Report, particularly:

- Chapter 7: Land, Soils and Geology;
- Chapter 8: Hydrology and Hydrogeology;
- Appendix 8-1: Surface Water Quality Laboratory Reports;
- Appendix 8-2: Flood Risk Assessment;
- Appendix 8-3: Groundwater Quality Laboratory Reports; and
- Appendix 8-4: Water Framework Directive Compliance Assessment.

Other comments appear to arise from a misunderstanding of the nature of the historic quarry operation, including the incorrect description of the site as a "gravel extraction facility", an assumption that active quarry dewatering occurred, an assumption that the proposed development includes a soil and stone washing facility, and a reference to "residual peat over much of the site" at the site where no peat has been mapped.

It is also important to distinguish between:

- the historic development assessed retrospectively in the rEIAR;
- the current inactive condition of the quarry;
- the proposed restoration of the historic quarry; and
- the separate Section 37L application for future quarry development.

A remedial assessment cannot recreate monitoring records that were not generated or retained by a previous operator. By its nature, an rEIAR must reconstruct past environmental conditions and effects from the best information now available. The absence of contemporaneous monitoring does not invalidate a remedial assessment. It requires the assessment to use appropriate alternative evidence, including historic mapping, aerial photography, geological and hydrogeological investigations, current monitoring, downstream environmental records, regulatory records, site observations and conservative professional assumptions.

That is the approach adopted in the submitted rEIAR.

The following are responses to specific issues raised by the HSE.

2.2 Historical monitoring and reliance on assumptions

The HSE states that:

- groundwater should have been monitored while the quarry was operational;
- there are no details of a complete historical monitoring system;
- mitigation should have been verified through historical sampling;
- the rEIAR relies on predictive methodology that was not validated while the quarry was operating; and
- the absence of historic surface water and groundwater monitoring is a significant omission.

HES Response:

The rEIAR expressly identifies the absence of historic Annual Environmental Reports and historic site-specific water-quality data as a limitation (refer to Section 8.2.4). Chapter 8 states that a discharge licence was granted by Carlow County Council in November 2011 and that the licence contained monitoring conditions, but consultation with the local authority established that no Annual Environmental Reports were available on its file. This limitation was therefore not concealed or overlooked.

The HSE criticism does not take adequate account of the purpose and nature of a remedial environmental assessment. The assessment relates to activities carried out principally by a previous operator, with large-scale extraction having ceased in approximately 2014. It is not possible retrospectively to generate contemporaneous monitoring data for that historic period.

The relevant question is therefore whether the rEIAR used the best information reasonably available to reconstruct the baseline, identify the likely effects and determine whether significant adverse effects occurred. It did so through a substantial body of evidence (refer to Section 8.2.2), including:

- multiple site walkover surveys;
- geophysical investigation;
- five boreholes drilled to depths of up to 40 m;
- approximately 1.5 km of exposed quarry faces examined and logged;
- 15 months of continuous groundwater-level monitoring;
- monthly manual groundwater-level monitoring;
- groundwater-quality sampling;
- four rounds of surface water quality, field hydrochemistry and flow monitoring;

- historic maps and aerial photography;
- the historic discharge licence;
- EPA biological Q-rating data;
- groundwater-body and surface-water-body status data; and
- a separate WFD Compliance Assessment and Flood Risk Assessment.

The HSE's suggestion that the rEIAR is based merely on unsupported predictive methodology is therefore incorrect. Predictions and professional reconstruction are inevitably required in a substitute consent assessment, but the conclusions are also supported by measured current conditions, direct site investigation and independent environmental datasets.

The absence of contemporaneous monitoring cannot, of itself, be treated as evidence that a significant adverse effect occurred. Nor would it be reasonable to require an applicant for substitute consent to produce records that were never generated or are no longer available from a previous operator. The appropriate task is to assess the historic Development using the best available evidence, to identify limitations transparently, and to apply reasonable and conservative professional judgement. That is the methodology adopted in the submitted rEIAR.

2.3 Groundwater-quality monitoring

The HSE states that groundwater quality should have been monitored in the site boreholes and suggests that no groundwater sampling programme was presented.

HES Response:

This is factually incorrect insofar as it relates to the information submitted with the application.

Chapter 8 records that groundwater sampling was completed at two onsite monitoring locations. The associated accredited laboratory certificates were included in Appendix 8-3.

It is important to also point out that the monitoring wells that exist at the site currently were not in place during the operational phase of the quarry.

The groundwater laboratory suite included, among other parameters:

- ammonia;
- BOD and COD;
- chloride;
- nitrate, nitrite and total nitrogen;
- dissolved metals;
- sulphate;
- suspended and dissolved solids; and
- total petroleum hydrocarbons.

The groundwater quality results were interpreted collectively in Section 8.3.4.7 of the rEIAR. While some parameters were elevated at MW2, the results were assessed in the context of borehole construction, hydrogeological conditions, groundwater flow, the absence of significant groundwater inflow to the quarry and the wider analytical suite. The dataset did not indicate a contaminant plume or a significant quarry-related groundwater-quality effect.

The results were not presented as a historical operational dataset. They were appropriately used to characterise current groundwater conditions and to identify whether evidence of residual groundwater contamination was present.

The HSE is correct that current sampling cannot reproduce conditions during the historic operational period. However, that limitation is inherent to the remedial assessment and was already acknowledged. It does not follow that the submitted groundwater-quality assessment is absent or inadequate.

2.4 Groundwater-level monitoring and alleged dewatering effects

The HSE states that there is no information concerning:

- the dewatering rate;
- pump specifications;
- the location of the discharge; and
- groundwater redistribution arising from quarry dewatering.

HES Response

This observation is based on an incorrect assumption that the historic quarry was actively dewatered by pumping.

The submitted rEIAR expressly states that:

- the Development did not include active dewatering;
- there is no significant groundwater inflow into the quarry;
- groundwater strikes encountered during drilling were minor and generally described as seepages;
- the underlying bedrock is of low permeability;
- groundwater flowpaths are short;
- the quarry is situated on a topographic high at the edge of the Castlecomer Plateau;
- water collecting in the quarry void is predominantly rainfall and local surface water runoff rather than pumped groundwater; and
- water drains from the site via gravity outfall.

Consequently, no historic "dewatering rate" or pump specification existed to be reported in the manner assumed by the HSE.

The rEIAR also contains a substantial groundwater-level dataset:

- five onsite boreholes;
- monthly manual monitoring from January to November 2025; and
- continuous groundwater-level monitoring over approximately 15 months from August 2024 to November 2025.

The hydrogeological assessment concluded that the quarry had no potential to cause significant effects on local groundwater levels. That conclusion was based on:

- extraction elevation;
- measured groundwater levels;
- drilling observations;
- quarry-face observations;
- low bedrock permeability;
- absence of significant inflow; and
- absence of active pumping.

The request for pump details is therefore not applicable to the historic development assessed in the rEIAR.

2.5 Surface water discharge locations and flow rates

The HSE states that there is no information on the location of discharge or the rate of water removal from the quarry.

HES Response

The submitted information describes and maps the complete drainage pathways at the site.

Section 8.3.3 of the rEIAR identifies:

- a northern flooded area and associated outfall;
- flooded areas and settlement features in the central and southern quarry;
- a southeastern outfall;
- a larger downgradient settlement pond;
- the combination of the northern and southern discharges;
- approximately 630 m of downstream flow;
- discharge to the Mortarstown Stream;
- onward flow to the Fushoge River; and
- the Fushoge River's confluence with the River Barrow.

The site drainage arrangement is also described in the Flood Risk Assessment (rEIAR Appendix 8-2) and shown on the associated drainage and hydrology figures.

Flow monitoring was completed at the existing discharge. The Flood Risk Assessment reports that observed discharge rates were small and were typically less than approximately 2 L/s. It further explains that these flows predominantly comprise rainfall and local runoff and that water is attenuated within flooded quarry-floor areas and settlement ponds before leaving the site. Similar conditions are considered likely to have occurred during the operation of the quarry, but likely at smaller flow rates as the development footprint expanded to the final (current) footprint.

Accordingly, the HSE statement that no discharge-location or flow information was supplied is incorrect.

2.6 Surface water quality and the alleged absence of monitoring

The HSE states that there was no monitoring of surface water and that the conclusion that water emissions did not cause an effect is unsupported.

HES Response

No historic Annual Environmental Reports were located, and this is acknowledged. However, the statement that there is no surface water monitoring information is incorrect.

The submitted assessment includes:

- four rounds of surface water sampling;
- field hydrochemistry;
- flow monitoring;
- accredited laboratory analysis;
- EPA biological Q-rating information;
- WFD waterbody-status information; and
- assessment of downstream watercourses and protected areas.

Appendix 8-1 includes laboratory results for the site discharges. Reported results generally showed:

- BOD at or below approximately 1 mg/L in the quarry samples;
- suspended solids generally below 5 mg/L, with one result of 6 mg/L;

- ammonia below 0.02 mg/L;
- low oxidised nitrogen concentrations; and
- generally low phosphorus concentrations, aside from isolated results discussed in the submitted assessment.

These data demonstrate that the existing quarry drainage system is providing effective settlement and attenuation under current conditions.

For the historic period, the assessment appropriately examined EPA biological Q-ratings. The WFD Assessment (rEIAR Appendix 8-4) records no deterioration attributable to the Development in the relevant downstream waterbodies. The Barrow_170 and Barrow_180 waterbodies remained at Moderate status through the relevant WFD cycles, while the underlying Shanragh Groundwater Body remained at Good status.

The WFD Assessment concluded that the historic and current phases:

- did not cause deterioration in surface waterbody or groundwater-body status;
- did not jeopardise achievement of Good status;
- did not compromise chemical or quantitative objectives; and
- were consistent with the objectives of the WFD.

The absence of historic site-specific sampling means that absolute statements about every day of the historical operation cannot be made. However, the independent downstream environmental record does not indicate a deterioration in water quality attributable to the quarry.

The HSE does not identify any contrary water-quality result, waterbody-status deterioration or verified pollution incident.

No record of enforcement action relating specifically to water pollution from the Development Site has been identified in the information available to HES.

2.7 Alteration of the Raheendoran Stream

The HSE notes that approximately 120 m of the headwaters of the Raheendoran Stream were removed and that water was redirected towards the Mortarstown Stream.

HES Response

This matter was already expressly identified, described, mapped and assessed in Chapter 8.

The rEIAR acknowledges that the historic quarrying altered the drainage regime and removed part of the upper reach of the Raheendoran Stream. It does not seek to minimise this physical alteration. Indeed, Chapter 8 characterises the loss of the stream reach and alteration of its hydromorphology as a significant historic effect.

However, the hydraulic significance of the alteration must be considered in context:

- the removed reach was a short headwater section;
- the pre-quarry upstream catchment was small;
- water was not removed from the wider Barrow catchment;
- flows were redirected to the Mortarstown Stream, which is within the same Barrow_170 surface waterbody;
- discharge volumes were small;
- water was attenuated and treated before discharge; and
- there is no evidence of downstream flood-risk or waterbody-status deterioration arising from the redirection.

The proposed restoration includes the redirection of water from the existing settlement pond back towards the Raheendoran Stream, thereby partially reinstating the former catchment and producing a positive effect on the local drainage regime.

The HSE is therefore correct that a historic hydrological alteration occurred, but incorrect insofar as it implies that this alteration was omitted or not carefully assessed.

2.8 Settlement ponds and “sealed lagoons”

The HSE states that settlement lagoons should:

- have been formed from clayey subsoil;
- operate as sealed lagoons;
- prevent water loss through the base; and
- prevent silt fines from entering groundwater.

It also states that insufficient information is provided on their construction and management.

HES Response

The HSE recommendation appears to be generic and is not fully suited to the site-specific hydrogeological conditions.

The historic system did not depend on fully lined or sealed engineered lagoons. It comprised:

- extensive flooded areas on the quarry floor;
- settlement ponds within the quarry;
- a larger downgradient settlement pond; and
- passive attenuation and settlement before discharge.

The submitted assessment explains that the underlying bedrock is of low permeability and that surface water naturally ponds on the quarry floor rather than rapidly infiltrating to groundwater. The existence of persistent flooded areas itself supports this conclusion.

The system's function was to attenuate runoff and allow suspended solids to settle. The rEIAR and WFD Assessment (rEIAR Appendix 8-4) describe this system and conclude that the available evidence indicates that quarry drainage was attenuated within flooded quarry-floor areas and settlement features prior to discharge.

The HSE recommendation that all lagoons should be sealed to prevent “loss of water” is also somewhat inconsistent with its separate concerns regarding dewatering and groundwater redistribution. At this site, groundwater ingress is negligible and the water-management system primarily handles rainfall and runoff. The environmental objective is controlled attenuation and treatment, not necessarily complete hydraulic isolation of every flooded quarry-floor area.

It is accepted that detailed historic construction drawings for settlement features installed by the previous operator are not available. However, their present locations, function and performance are documented through site inspection, mapping, flow monitoring and current water-quality results.

2.9 Water wells and drinking water supplies

The HSE recommends that all drinking water wells within 150 m of the “gravel extraction facility” should be:

- identified;
- sampled before works;
- sampled biannually during extraction; and
- sampled following cessation.

HES Response

The HSE recommendation is prospective in nature. It may inform the monitoring arrangements for future authorised extraction, but it cannot retrospectively establish that the historic Development caused an impact on a drinking-water supply.

The HSE repeatedly describes the development as a "gravel extraction facility". This is incorrect. The historic development was a bedrock quarry extracting sandstone, shale and siltstone, not a sand and gravel pit. Chapter 7 includes detailed geological mapping, geophysical investigation and borehole information confirming the bedrock quarry setting.

The rEIAR identified groundwater resources in Section 8.3.4.10 (i.e. the Ballinabranna Group Water Scheme and local domestic groundwater wells). The rEIAR assessed local groundwater supplies at Sections 8.6.1.8 and 8.6.1.9, including the Ballinabranna Group Water Scheme and local domestic groundwater wells.

The underlying aquifer is a Poor Bedrock Aquifer with low permeability and short groundwater flowpaths. The quarry did not involve active dewatering and did not cause a significant drawdown effect. This substantially limits the zone within which any effect on a private well could realistically occur.

Also, Section 8.5.2.9 of the submitted EIAR (the 37L application for the proposed Development) included an assessment of the potential effects of the Proposed Development on local private groundwater well supplies. Every private dwelling in the local area was conservatively assumed to be supplied by a private groundwater well. The closest dwellings to the site were identified along local roads as follows: ~184m to the northeast of the existing quarry void, ~250m to the southeast, ~400m to the southwest and ~320m to the northwest of the proposed quarry extension area. All of these closest dwellings are beyond the 150 m recommendation made by the HSE.

For the future Section 37L development, a proportionate groundwater and private-well monitoring programme will be included as part of the operational Environmental Management Plan. However, it is important to point out that this prospective recommendation does not demonstrate that a significant historic effect occurred.

2.10 Groundwater contamination from fuels, oils and wastewater

The HSE recommends:

- no servicing within the quarry void;
- bunded fuel storage;
- spill kits;
- controlled wastewater management; and
- implementation of an Environmental Management System.

HES Response

These are reasonable standard operational controls for future quarrying, and they are generally consistent with the mitigation approach described in the submitted chapters.

However, the HSE presents these recommendations as though the pollution pathways were not assessed. Chapter 8 specifically assesses:

- hydrocarbons and hydraulic oils;
- accidental spills and leakages;
- wastewater;
- soil and subsoil removal;
- groundwater vulnerability; and
- surface water pathways.

The current groundwater sampling included petroleum hydrocarbons, which were not detected in MW1 above the applicable laboratory reporting limits.

Chapter 7 also records that no contaminated soil was identified and that there is no record of a significant historic spill or leakage at the site.

The HSE does not present any evidence of:

- contaminated soil;
- a hydrocarbon plume;
- contaminated groundwater;
- a documented pollution incident; or
- contaminated surface water attributable to the quarry.

These recommendations may appropriately be incorporated into future management measures, but they do not undermine the remedial conclusions.

2.11 Alleged soil and stone washing facility and leachate

The HSE states: "There is potential for leachate from the soil and stone washing and processing facility which is proposed on the site..."

and recommends strict controls on all imported wash material.

HES Response

This appears to arise from a misunderstanding of the development described in the submitted documentation.

The historic development assessed in the rEIAR involved:

- extraction of bedrock;
- mechanical rock breaking;
- crushing and processing using mobile plant;
- soil and overburden stripping;
- spoil storage; and
- surface water management.

The submitted description does not identify a soil and stone washing facility involving the importation of wash material. No such component forms part of the historic development assessed in the rEIAR.

Accordingly:

- no basis has been identified for the HSE's reference to imported wash material;
- the alleged leachate source is not part of the assessed historic development; and
- this concern does not appear to be applicable to the historic Development assessed in the rEIAR.

2.12 Restoration and alleged lack of detail

The HSE states that the restoration process is not described in sufficient detail:

- the restoration map is not comprehensive;
- large water bodies could create a drowning hazard;
- a full Site Restoration Plan should be submitted; and
- consideration should be given to filling the quarry void and restoring it to agriculture or public amenity.

HES Response

The submitted documentation already provides for the principal measure recommended by the HSE: infilling and restoration of the quarry void.

The restoration proposals include:

- placement of a thin layer of crushed rock over the quarry floor;
- placement of suitable spoil material from existing onsite storage areas;
- restoration to agricultural grassland and scrubland;
- natural revegetation;
- reinstatement of field boundaries using hedgerows and stone walls;
- planting of soil-storage areas with native woodland species;
- construction of a diversion channel;
- redirection of water towards the Raheendoran Stream; and
- provision of a wildlife pond for attenuation.

The Flood Risk Assessment (rEIAR Appendix 8-2) specifically assesses the restoration and concludes that:

- the proposed restoration is water-compatible;
- infill will improve infiltration and reduce runoff rates;
- the existing settlement pond and proposed wildlife pond will provide attenuation;
- downstream flood risk will not increase; and
- the restoration will improve the local hydrological regime.

The HSE's recommendation that the quarry void be filled and restored to agricultural use therefore substantially duplicates the submitted restoration proposal.

Boundary safety, fencing and prevention of unauthorised access are matters that can be addressed through the final detailed restoration and management plan. They do not indicate a deficiency in the hydrological or hydrogeological assessment.

2.13 Water-filled quarry void and drowning risk

The HSE refers to case law concerning water-filled quarry voids and recommends permanent perimeter barriers.

HES Response

The concern relates primarily to public safety rather than hydrology or hydrogeology.

The submitted restoration does not propose that the full quarry void remain as a large, permanently open water body. It proposes restoration by infilling, together with a controlled wildlife pond and surface water-management features. All drainage will continue to be via gravity outfall, so water depths will never be significant.

The site is privately owned and is not presented as being open to the public. Appropriate fencing and access control can be maintained during the current and restoration phases.

The HSE's concern can therefore be addressed through normal restoration, continued gravity drainage, boundary-control and site-management provisions. It does not alter the conclusions concerning water quality, groundwater levels or downstream hydrology.

2.14 Surface water and groundwater mitigation

The HSE recommends that all surface water and groundwater mitigation measures be implemented and monitored through an Environmental Management Plan.

HES Response

This recommendation is broadly accepted for future works and is consistent with the submitted approach.

The rEIAR describes:

- attenuation in flooded quarry-floor areas;
- settlement ponds;
- controlled discharge;
- prevention of untreated discharge;
- management of spoil and overburden;
- staged soil stripping;
- hydrocarbon controls;
- restoration-phase controls; and
- water-quality and groundwater monitoring.

The WFD Assessment (rEIAR Appendix 8-4) concludes that these measures are sufficient to meet WFD objectives and prevent deterioration.

The recommendation is therefore not evidence of a deficiency; it largely restates measures already proposed or assessed.

2.15 Cumulative effects

The HSE states that it is not satisfied that the projects listed in the rEIAR were assessed for cumulative effects.

HES Response

This statement is incorrect in relation to the land, soils, geology and water assessments.

Chapter 7 contains a cumulative assessment of:

- surrounding agricultural land;
- other mineral extraction sites and quarries;
- local land-take; and
- the absence of significant wider geological effects.

It concludes that effects on land, soils and geology were localised and contained within the Development Site and that no significant cumulative effects occurred.

Chapter 8 separately assesses hydrological and hydrogeological cumulative effects. It considers:

- agriculture;
- forestry;
- other local quarries;
- surface water quantity;
- surface water quality;
- groundwater quality; and
- groundwater levels.

It concludes that there were no significant cumulative hydrological or hydrogeological effects because:

- discharge was treated and attenuated;
- no significant residual downstream water effect was identified;
- groundwater flowpaths are short;
- the bedrock is of low permeability; and
- the Development had no significant effect on groundwater levels or groundwater quality.

The WFD Assessment (rEIAR Appendix 8-4) also includes a dedicated cumulative-effects section and reaches the same conclusion.

The HSE does not identify which particular project, pathway, receptor or cumulative mechanism it considers omitted. Its statement is therefore unsupported and should not displace the project-specific cumulative assessments already submitted.

2.16 WFD compliance and waterbody deterioration

The HSE suggests that the rEIAR has not demonstrated that surface water and groundwater were protected during the historic operation.

HES Response

A dedicated WFD Compliance Assessment was submitted.

That assessment:

- identifies relevant surface waterbodies and the underlying groundwater body;
- identifies protected areas;
- defines the zone of influence;
- screens waterbodies;
- examines water quality and quantity;
- examines groundwater quality and quantity;
- considers mitigation;
- considers cumulative effects; and
- assesses whether deterioration or jeopardising of WFD objectives occurred.

The relevant WFD status record shows:

- Barrow_170: Moderate throughout the assessed cycles;
- Barrow_180: Moderate throughout the assessed cycles; and
- Shanragh Groundwater Body: Good throughout the assessed cycles.

No deterioration in waterbody status attributable to the quarry was identified.

It is not scientifically possible, in the absence of complete historic monitoring, to demonstrate that no short-duration local fluctuation ever occurred. However, that is not the appropriate WFD test. The available evidence indicates that the Development did not cause deterioration in the status of a surface waterbody or groundwater body and did not compromise the achievement of the applicable objectives.

2.17 HSE reliance on a third-party submission

The HSE states that the conclusion that emissions did not cause a nuisance is contradicted by a third-party submission.

HES Response

A third-party allegation is not monitoring evidence and does not, by itself, establish:

- contamination;
- causation;
- the source of an alleged effect;
- an exceedance of a water-quality standard;
- deterioration of a waterbody;
- impact on a well; or
- a significant environmental effect.

The rEIAR conclusions are based on technical evidence, including current water-quality monitoring, hydrogeological investigation, downstream biological monitoring, WFD status information, site drainage mapping and flow monitoring.

The HSE does not identify:

- the precise water-related allegation;
- the date of the alleged occurrence;
- the monitoring result said to support it;
- the receptor affected;
- the causal pathway; or
- how the allegation contradicts the submitted laboratory and environmental data.

The third-party submission can be considered as part of the overall planning assessment, but it should not be treated as equivalent to verified environmental evidence.

3 RESPONSE SUMMARY

The applicant acknowledges the HSE's role in protecting public health and accepts that appropriate surface water, groundwater, spill-response, well-monitoring and restoration controls should be included in the management of future activities.

However, the HSE submission materially understates the extent of the information submitted and, in several respects, is factually incorrect.

The submitted Hydrology and Hydrogeology assessment was based on a comprehensive body of site-specific investigations, monitoring and independent environmental data. In particular, the assessment:

- acknowledged and transparently documented the limitations associated with the absence of some historic operational records;
- completed extensive geological, hydrological and hydrogeological site investigations;
- included site-specific groundwater-level monitoring, groundwater-quality monitoring and surface water quality monitoring;
- characterised the site's hydrogeological conceptual model using borehole, geological and monitoring data;
- demonstrates that:
 - The historic Development did not include active quarry dewatering, and as such there was no historic dewatering pumps or pumping rates to report.
 - the Development is a bedrock quarry, not a gravel extraction facility.
 - No soil and stone washing facility involving imported wash material formed part of the historic Development.
 - Alteration of the Raheendoran Stream was expressly acknowledged and assessed in the rEIAR.
- assessed local groundwater supplies and potential receptors;
- assessed historic and existing drainage pathways, discharge locations and flow characteristics;
- evaluated potential impacts on groundwater, surface water, flood risk and Water Framework Directive objectives;
- considered cumulative effects and identified appropriate mitigation measures;
- included dedicated Flood Risk Assessment and Water Framework Directive Compliance Assessment reports; and

- concluded, based on the available evidence, that the historic Development has not resulted in significant adverse geological, hydrological or hydrogeological effects.

The absence of some contemporaneous environmental records from the previous operational period was expressly acknowledged. Such data limitations are inherent in many substitute consent applications. The correct approach is not to infer that significant effects occurred simply because every desirable historic dataset is unavailable. Rather, the assessment must use the best available evidence, transparent assumptions and conservative professional judgement.

The submitted rEiAR adopted that approach and assembled a comprehensive, multi-source evidence base. While absolute certainty regarding every aspect of the historic operation is neither possible nor required, the available evidence does not indicate significant contamination of surface water or groundwater, significant dewatering of local groundwater supplies, deterioration of WFD status or significant downstream hydrological effects attributable to the historic Development.

4 CLOSURE

We trust the above response meets your requirements. Please contact the undersigned if you have any questions regarding the above.

Yours sincerely,



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