

**Keegan Quarries Ltd.
Tromman Quarry, Rathmolyon**



**Remedial Environmental Impact
Assessment Report
Non-Technical Summary**

accompany a Substitute Consent Planning Application for the erection and operation of unauthorised structures and the continued extraction and use of ancillary buildings and structures post 5th August 2018 at Tromman Quarry

February 2024

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INTRODUCTION

A Remedial Environmental Impact Assessment Report (rEIAR) prepared to accompany an application for Substitute Consent (the Application) made under made under s.177E of the Planning and Development Act 2000 ('the Act') (as amended by the Planning and Development, Maritime and Valuation (Amendment) Act 2022).

The Application being submitted to An Bord Pleanála ('the Board') for substitute consent ('SC'), the Planning Authority in this instance, is for the totality of the operational site to include the existing quarrying operations in the Townland of Tromman, previously permitted under various time limited planning permissions.

The site is located in the Townland of Tromman some 2.2 kilometres northwest of Rathmolyon Village and some 6.4km south of the town of Trim.

The application seeks to regularise the construction of unauthorised structures in the concrete manufacturing area of the site, with the relevant commencement date of the construction being 2013. In addition, the application seeks to regularise the continued operation of the extraction activities and the use of the associated structures which are tied to an end date of 5th August 2018.

It is understood that the Board will only consider an application covering and can only grant substitute consent in terms of the extant operations on site and applied for at the time of submission, therefore precluding future development. As such, it is the applicant's intention to submit a planning application for the continuation of quarrying activities and associated development with an extension to the existing quarry, under a planning application made under Section 37L of the Act.

The totality of the operational site has a well-established planning history dating back to the original consent for a quarry and associated works in 1998. Full details of the site's planning history are provided in the accompanying rEIAR.

SPECIALIST CONTRIBUTORS

The coordination of the competent experts and the production of this rEIAR has been managed by Chris Tinsley BA (Hons), DipTP, MRTPI of Quarryplan Limited, who has a proven track record of delivering planning and environmental projects, development plan representations and planning appeals. All external consultants have been appointed and project managed by Quarryplan. The competent contributors to the rEIAR include:

Section	Heading	Specialist Contributor
1	Introduction	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
2	Scope of the Environmental Impact Assessment	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
3	Project Description	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
4	Planning Policy Framework	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
5	Geological Assessment	Mike Williams, Quarry Design MGeol(Hons), MSc, MCSM, CGeol, Eur.Geol, FGS, MIQ Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
6	Water Environment	Henry Lister, BCL Hydrogeologists Limited B.Sc. (Hons.) M.Sc.
7	Noise, Vibration and Blasting	Mervyn Keegan, AONA B.Sc., M.Sc.

8	Biodiversity	James O'Connor, Woodrow APEM Group, BSc MSc PhD
9	Landscape	Pete Mullin, Mullin Design Associates BA (Hons) CMLI
10	Air Quality and Dust	Mervyn Keegan, AONA B.Sc., M.Sc.
11	Traffic Impacts	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
12	Cultural Heritage	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
13	Waste Management	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI Mike Williams, Quarry Design MGeol(Hons), MSc, MCSM, CGeol, Eur.Geol, FGS, MIQ
14	Soil and Natural Resources	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
15	Socio-Economic Impacts	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
16	Climate Change, Accidents and Disasters	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
17	Human Health	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI
18	Intra and Inter Cumulative Impacts	Chris Tinsley, Quarryplan BA (Hons), DipTP, MRTPI

SITE LOCATION AND DECSRIPTION

The overall substitute planning application site extends to some 21.64ha in extent and is located completely within the Townland of Tromman, near Rathmolyon. The application boundary incorporates the totality of the Applicant's operations and provides for the combined approach to development control previously sought by the Board when considering historical applications.

Sequential historical imagery from Google Earth has been used within the rEIAR to illustrate the chronology of the construction of the unauthorised

structures within the established footprint of the concrete manufacturing area of the Tromman Quarry site. It is considered that this verifies the introduction of each element and the final images illustrating the progression of the quarry faces post the 5 August 2018.

The main manufacturing elements within the northern part of the site include:

- Concrete Batching Plant
- Limestone Powder Plant
- Pre-Cast Concrete Production Facilities
- Concrete block manufacturing yard

Full details of the processes involved with these manufacturing facilities are provided with the rEiAR.

Quarrying has occurred on the site in accordance with environmentally assessed development control protocols since the first approval in December 1998. Full details of the quarrying operations are provided within the rEiAR.

SCOPE OF REMEDIAL ENVIRONMENTAL IMPACT ASSESSMENT

Each section of the rEiAR considers the following:

- baseline study;
- identifying potential impacts that have occurred, are occurring and are reasonably expected to occur;
- predicting and evaluating the magnitude and significance of those impacts;
- proposing mitigation measures, where necessary; and
- any residual impacts subsequent to the mitigation measures proposed.

It is considered that the environmental impacts associated with the manufacturing buildings and structures from 2013 in combination with quarrying activities which have taken place post 5th August 2018 until present day provides for the assessment of impacts that **have occurred**.

An assessment of the environmental impacts currently being experienced at present at the Site allows for the assessment of impacts **that are occurring**.

It is considered that 2 scenarios are likely to occur in the future. The first is that mineral extraction will cease, all associated buildings and structures will be removed, and the quarry will be restored. The second scenario is that quarrying operations and associated manufacturing will continue at the site, as proposed via the linked application proposed to be made to the Board under Section 37L of the Act.

The final stage of the assessment will cover the remedial impacts that can **reasonably be expected to occur**, considering each of the 2 scenarios above.

ALTERNATIVES

The remedial nature of the REIAR and the parameters of the SC process removes the potential to consider either design or locational alternatives, as you can only consider development that has already occurred.

The extended pre-cast factory and associated ancillary development design, is as is constructed, whereas the extraction element post 5th August 2018 has adhered to the previously approved and environmentally assessed development, to ensure that the only alteration is the breach of the extraction deadline that was introduced by the development control system.

PLANNING POLICY FRAMEWORK

The full-length planning policy assessment for the development is included in the rEIAR. The rEIAR considers the development in the context of the following contemporary planning policy sources:

- Meath County Development Plan (2021-2027);
- Sustainable Development- A Strategy for Ireland (1997);
- National Planning Framework (2018); and
- Regional Spatial and Economic Strategy (2019).

The level of compliance with the policies and objectives outlined in these documents indicates the suitability of the development from a planning and sustainable development perspective.

The planning policy section of the REIAR details how the development has allowed for the significant economic and social benefits generated by the site in terms of employment, investment and prosperity to be sustained without posing an unacceptable impact upon the environment. The development has complemented the role of local towns, supporting Trim as an urban strengthening opportunity.

The products manufactured at the site and aggregates produced have supported economic growth across the Dublin and mid-east region. The development has been demonstrated to accord with the relevant local and national planning policy provisions. The development has maximised the potential of the finite natural resource found at the site without posing an unacceptable impact upon the environment and as such, the development is considered to accord with the three dimensions of sustainable development and therefore is in accordance with the proper planning and sustainable development of the area.

GEOLOGICAL ASSESSMENT

The geological review section and the production of the quarry designs has been prepared by Mike Williams BSc, MSc, FGS, MIQ, C. Geol, EurGeol, of Quarrydesign Ltd. Given that the geology environment does not change in the intervening period, it is not considered necessary to re-explore the previous geological conclusions. Instead, the section has been reviewed by Chris Tinsley MRTPI of Quarryplan and updated where necessary in order to allow for a contemporary assessment.

The area around Keegan's Tromman Quarry has been mapped by the Geological Survey of Ireland at a scale of 1:100,000. The mapping indicates that the site is split across two formations the Lucan and Waulsortian Limestone formations with the quarry activities having operated almost exclusively within the more recent Lucan Formation, which were deposited during the Carboniferous period.

Based on field observations, the active quarry, including the proposed extension area, is considered to be underlain by the Waulsortian Limestones and not the Lucan Formation as published.

The rEIAR concludes that at Tromman Quarry, the impact of previous quarrying, quarrying that is occurring and the potential future activities that can reasonably be expected to occur have had an insignificant impact on the geological environment of the Waulsortian Limestone Formation as a whole. Furthermore, consideration of the quarry excavations post the 5th of August have been limited in extent and are subject to bi-annual Geotechnical Assessments as required by the Safety, Health and Welfare at Work (Quarries) Regulations 2008 to monitor geotechnical aspects of the quarry and ensure compliance with the regulations and continued best practice.

WATER ENVIRONMENT

An assessment was undertaken to establish the potential impacts upon the water environment, both hydrogeological and hydrological, of the development, with a baseline start date of post 2013.

The assessment was undertaken by BCL Hydrogeologists Limited and managed by Henry Lister who holds a Bachelor of Science Honours Degree [Geology] conferred by Plymouth University, 1992; and a Master of Science Degree [Groundwater Engineering] conferred by the University of Newcastle upon Tyne, 1994.

The water environment impact assessment includes examination of the lowering of groundwater levels, potential impact upon surface water features, risk of derogation of water supplies and water quality.

The assessment has used data collation and interpretation (meteorological, geological, hydrological and hydrogeological); Conceptualisation of hydrogeological systems; impact prediction and modelling.

The rEIAR describes how Surface type and gradient is unchanged by erection of the unauthorised structures. Therefore, these new structures do not impact upon the principal factors influencing rainfall runoff; and the drainage characteristics of the yard in July 2013 are consistent with what would “have occurred” previously.

All ingress waters (groundwater and rainfall runoff) at the Applicant's landholding are discharged into a ditch upon the northern margin of the concrete products yard. This ditch gently descends to the northwest to its confluence with the Rathmolyon Stream, which is 200 m downstream from the quarry discharge point.

Water samples have been collected from the discharge point on a regular basis and submitted for laboratory analysis in order to demonstrate compliance with the limits specified in the discharge consent (Trade Effluent Discharge Licence Ref. 04/2). As shown in the Discharge Effluent Quality Reports, there has been broad compliance with prescribed standards over the assessment period. This suggests that drainage arrangements and settlement infrastructure at the Site over the assessment period have been adequate.

The radius of influence of dewatering drawdown at present day is calculated to be around 255 m (taking the Applicant's quarry in isolation). This is doubled to 510 m to allow for the cumulative impact of Tromman and Kilsaran Quarries. As above, the magnitude of impact on the Hydrogeology Attribute is 'Small Adverse', therefore the significance of impact is within acceptable range, being rated as 'Slight'.

The operation of mobile and fixed plant presents a risk that pollutants may enter groundwater as a result of hydrocarbon spillage or leakage on Site. No accidents/ spillages are reported to have occurred; and the quarry has operated in accordance with handling procedures.

Subject to the continuation of the control measures specified in this report (e.g. ongoing monitoring of water quality and levels, provision and maintenance of the settlement system, continued adherence to fuel handling protocols etc), it is considered that no adverse impacts have occurred or are occurring.

NOISE, VIBRATION AND BLASTING

A Noise Impact Assessment report has been prepared by Mervyn Keegan. Mervyn Keegan is a Director of the environmental consultancy, AONA Environmental Consulting Ltd. The Noise & Vibration Impact Assessment has considered the totality of the operational site to include both permitted and unauthorised structures and the existing quarrying operations previously permitted and extended to the 5th August 2018.

A site noise survey has been undertaken with source specific noise level readings taken in close proximity to the main noise sources on the existing Tromman Quarry site. This allowed for the generation of accurate sound power levels for all main existing noise sources on the site.

A computer aided Noise Prediction Model has been produced to verify the noise readings taken on the existing Tromman Quarry site and confirms that the model is representative of the current on-site operations and provides an accurate verifiable prediction at all noise sensitive receptors in the vicinity of the existing Tromman Quarry site. Thus, the noise prediction model provides an appropriate level of confidence when assessing specific noise impact from the Tromman Quarry site.

The quarterly noise monitoring surveys that have been undertaken since 2013 by Byrne Environmental at the Tromman Quarry site typically report that '*Quarry noise is faintly audible*' or '*Quarry noise not audible*'. The periodic noise monitoring surveys that have been undertaken since November 2014 at Kilsaran Quarry directly adjacent to the Tromman Quarry site indicate the cumulative noise from the operation of the two adjacent quarries is not having a significant noise impact at the nearest residential properties to the sites. Therefore, the existing operations at the Tromman Quarry site, as predicted in Noise Impact Assessments accompanying previously submitted

Environmental Impact Statements, is not having a significant noise impact at the nearest residential properties to the site.

The addition of the unauthorised structures in the period post 2013 have not noticeably altered the monitored noise levels at the surrounding noise monitoring locations and predicted noise levels due to the cumulative noise from the operation of the quarry void and the associated manufacturing operations in the northern area of the Tromman Quarry site indicate that the current operations have not and are not having a significant noise impact at the nearest residential properties.

The impacts that have occurred, are occurring and can reasonably expected to occur have been assessed and do not give rise to any significant environmental impact, given that ongoing monitoring has confirmed operations consistently have cumulatively operated below the guideline figure provided for in the DoEHLG 2004 recommended levels.

With reference to the existing vibration target levels as provided for in the DoEHLG Guidance, the site has operated in compliance with specified limits, and in all likelihood will continue to do so.

BIODIVERSITY

Woodrow APEM Group (Woodrow) was appointed to compile the remedial Ecological Impact Assessment (rEclA). A standalone Remedial Natura Impact Statement (rNIS) is also provided as part of the planning application package.

The methodology for the assessment included Identifying and evaluating ecological features within the zone of influence and assessing the significant,

residual and cumulative impacts upon them. The assessment was supplemented by field surveys.

Based on the collation of above information, it is considered that activities associated with the pre-cast concrete manufacturing facility and extractive operations at Tromman Quarry have had a low overall impact on the Important Ecological Features identified within the site and its environs. Any potential water quality impacts pertaining to quarry operations have been largely mitigated through existing control measures outlined in the company's EMS. This includes upgrades to the current drainage infrastructure on site as well as regular monitoring of the discharge effluent leaving the site.

There has been no additional loss of sensitive habitat post the period of consent (05 August 2018), with the only exception being the removal of a disused garage and small area of hedgerow in the south-east corner of the site. Regardless, these were assessed as part of surveys performed in 2019 and considered to have low ecological value. Moreover, none of the habitats on site are particularly rare or of significant ecological importance on a national or European scale.

Given the existing habitats, and the permitted post-operational remedial landscaping and planting works, it is considered that the development shall result in a short to medium term ecological impact throughout operation, which will be negated by the continued implementation of best practice mitigation measures across the site. As a result, the development is not considered to have had, be having or reasonably likely to have any significant impact beyond the local level.

A rNIS has been compiled. This includes the information required to undertake an appropriate assessment with respect to Article 6 of the Habitats Directive in respect to those impacts which are considered to have occurred and

those that are considered likely to occur due to the operations that have been undertaken on the site (and the restoration phase). This takes account of mitigation measures and environmental controls already undertaken at the site.

The rNIS identifies the River Boyne and River Blackwater SAC and SPA as being within the Zone of Influence for the Development. The rNIS concludes that:

“Taking into account the best available scientific knowledge, applying the precautionary principle, and considering the conservation objectives of the relevant European Sites, it is concluded that the three quarry proposals, whether on their own or in conjunction with other plans or projects, do not pose or have not posed an adverse impact on the integrity of any European Site”.

LANDSCAPE AND VISUAL

This Remedial Landscape and Visual Impact Assessment has been prepared by Mullin Design Associates, Chartered Landscape Architects. This study has been drafted and overseen by Pete Mullin, BA (Hons) CMLI, Chartered Landscape Architect and principal of Mullin Design Associates.

The landscape and visual assessment incorporates both desk and field studies and has been compiled and interpreted by an experienced landscape professional. A matrix is used to combine landscape sensitivity with predicted magnitude of change, so that a predicted impact / effect is reached.

The Assessment concludes that the overall landscape impact/effects which have occurred are collectively considered Minor. The overall landscape

impact/effect which are occurring are collectively considered Minor. In a scenario where permission is granted for future development, landscape impacts would be Negligible (Neutral). Where SC to be refused a landscape impact of Minor (Neutral) would result.

In terms of visual impact, overall the visual impacts/significance which have occurred and are occurring are collectively considered Negligible to Minor. In a scenario where permission is granted for future development, visual impacts would be Negligible (Neutral). Where SC to be refused a visual impact of Minor (Neutral) would result.

AIR QUALITY

An Air Quality Impact Assessment report has been prepared by Mervyn Keegan. Mervyn Keegan is a Director of the environmental consultancy, AONA Environmental Consulting Ltd.

The Air Quality Impact Assessment has considered all the stages of development as outlined in the Introduction section above. Cumulatively, the Assessment has included the remainder of the structures and operational activities.

Tromman Quarry has been undertaking continuous dust deposition monitoring in accordance with the requirements of previous planning consents.

Dust deposition monitoring locations in proximity to the Tromman Quarry have been installed in consideration of requirements relating to location of the gauges relative to buildings and other obstructions, height above ground and sample collection and analysis procedures. Dust deposition monitoring is

continuously undertaken using Bergerhoff glass deposition gauges at four Meath County Council approved monitoring locations.

The results of the quarterly dust deposition surveys, assess the dust deposition impact from the northern area of the Tromman Quarry site, including the cumulative impact from the adjoining Kilsaran Quarry. Dust deposition results have been in broad compliance with standards throughout the assessment period.

It is reasonable to suggest that there would be no change anticipated from the continuation of the associated manufacturing operations on the site, i.e. existing dust deposition rates will remain the same.

The impacts that have occurred, are occurring and can reasonably expected to occur have been assessed and do not give rise to any significant environmental impact, given that ongoing monitoring has confirmed operations consistently have cumulatively operated below the guideline figure provided for in the Department of Environment Heritage and Local Government – Quarries and Ancillary Activities (Guidelines for Planning Authorities) DoEHLG 2004 recommended levels.

Any residual dust deposition impacts resulting from the future de-commissioning and restoration of the quarry will be short lived and all potential dust impacts from the Tromman Quarry site are considered to be reversible i.e. the risk of impact will cease on completion of quarrying and restoration of the site. This outcome has been previously assessed and remains valid within the extant restoration concept.

TRAFFIC

A full traffic impact assessment has been carried out by Roughan & O'Donovan Consulting Engineers (RDCE) as recently as November 2009. The consecutive assessments covering a number of applications at the site have analysed the prevailing traffic movements in the context of the existing road infrastructure, with junction analysis, vehicle number counts and haul route analysis.

However, in this particular instance it is considered appropriate to consider the impact upon vehicle movements that occurred or are occurring from the introduction of the unauthorised structures to the north of the site and the resulting change in the makeup of product types sold and the cumulative effects of this shift since 2013.

Sales figures have been provided by Keegan Quarries Limited in consecutive Environmental Impact Statements from the year 2000 up until the most recent application in December 2016 and repeatedly the activity levels with an upper limit of 250,000tpa of aggregates have been assessed as a worst-case scenario. It follows that any vehicle movement activity at levels less than those associated with 250,000tpa are causing less of an impact and no form of intensification / additional impact can be forthcoming.

Development of the range of products being sold from the quarry, linked directly to the structures in the manufacturing part of the site has resulted in vehicles with larger payloads being able to be utilised. This has meant that whilst output has increased (c.84% of that previously approved), the numbers of vehicle movements associated with activities at the site remains at c.67% of the number originally assessed in 2004 and deemed acceptable.

Whilst it is acknowledged that there are deliveries associated with the manufacturing activities in the northern part of the Site, this forms a very small percentage of the overall vehicle movements for the Site and therefore the impacts associated with the transfer of aggregate production in to value added products, rather than direct dry aggregate sales, along with a change in the HGV fleet has avoided any intensification in vehicle movements associated with the Site, than those previously assessed and considered acceptable.

As a result, the impacts which have occurred, are occurring, and are considered reasonably likely to occur are considered acceptable and have not, are not and would not result in any significant effects upon environment in terms of traffic.

CULTURAL HERITAGE

An archaeological evaluation of the application site was most recently prepared by Arch- Tech Limited for the 2009 Environmental Impact Statement, covering the southern half of the quarry development.

Archaeology, like geology in this instance does not alter in the timeframe considered, as provided for within this rEIAR and accordingly there it is considered unnecessary to revisit and update the previously accepted report. As outlined under the Material Assets Chapter

All soils had been removed within the northern manufacturing area and the extraction at the relevant dates in 2013 and 2018 for the two types of development and in combination activity, resulting in there being no opportunity for impact on Cultural Heritage Assets during the timeframe to be considered.

It is concluded that there was no potential for there to have been any impacts upon cultural heritage during the timeframe to be considered, as there was no removal of in-situ virgin material during this period.

WASTE MANAGEMENT

Given that the SC is considering two distinct operational types and periods it is considered that there are two distinct waste streams, the first covering the waste arising from the manufacturing stream and secondly those relating to the extraction activities that principally revolve around plant and machinery wastes associated with routine maintenance and repairs and potential accidental fuel and oil spillages and the extractive waste that is an inevitable consequence of quarrying that is covered by the Extractive Waste Regulations.

The implementation of an Environmental Management System in 2009 containing waste management measures and the compliance with the Extractive Waste Regulations 2009 has ensured that the unauthorised development has not resulted in a significant impact in any of the three stages of development required to be considered.

Therefore, the impacts that have occurred, are occurring and can reasonably expected to occur have been assessed and do not give rise to any significant environmental effects.

SOILS AND NATURAL RESOURCES

A requirement exists that due regard to the likely significant direct and indirect consequences that a development would have on the environment which might result from the use of natural resources.

In this instance there has been no impact on either soil or subsoil during the periods of consideration; 2013-present in the precast manufacturing facility towards the northern extent of the site; and 2018 to present in the quarry void. There has not been any soil material movements in the wider quarry since the 5th August 2018 and therefore this element will be considered no further as it is not applicable in this instance.

The impact on the geological resource that has occurred since August 2018 is permanent but minimal in the extent to which the volume affects the Waulsortian Formation as whole.

There is no further soil stripping for the development proposed the impact upon the soils is considered to be complete and as the land has been permanently removed from agriculture, it is a permanent loss.

There is no further impact on Soil resources proposed as part of this development and the main body of the site is proposed to revert to a water body with treatment utilising some soils and overburden at the margins.

SOCIO-ECONOMIC IMPACTS

The existing operations (stone, powders and fill; Precast and concrete block manufacture) at Tromman provide direct employment for some 140 staff and a further 40 full-time sub-contractors with a direct wage bill and associated contractors wage bill of c.€12 million.

With the progressive development of structures at the site and the associated product expansion outlined, the diversification in the products manufactured at the site has mirrored this expansion. Turnover has increased from c.€13 million in 2013 to c.€38 million in 2022 and employment levels have grown from 90 direct employees in 2013 to the current level of 140 direct employees

along with the associated wage increase from c.€2.5 million in 2013 to a total of c.€12 million in 2022.

This is a tangible positive economic impact in this rural location in Meath which assists in diminishing the daily commute towards Dublin.

The quantifiable socio-economic contribution of the Tromman operation is known and the importance at a local, regional and on a national level through the export business is established. The loss of this resource would have significant ramifications upon the business and would result in the wholesale contraction of the business and the associated employment. The socio-economic impacts of such action are considered to be significantly adverse.

The alternative is the continuation of the business model as currently experienced, with the anticipated continued growth of the value-added element of the business and the associated prosperity.

CLIMATE CHANGE, ACCIDENTS AND DISASTERS

The only potential for direct and indirect climate change impacts from the development over the assessment period is considered to have been via the emissions resultant from the burning of hydrocarbons as fuel both on site and in the transportation of materials to and from the quarry.

To date, there have been limited technological advances with respect to emissions in the delivery method/ transportation of aggregates, with improvements focusing on enhanced performance and rating of the diesel engines in the HGV's.

The mineral can only be worked where it is found and the application site is one which is well placed to serve a number of market areas throughout the

Midland and Graeter Dublin Regions of Ireland and which has been demonstrated via this REIAR, not have resulted in any significant effects upon the environment in terms of impacts that have occurred.

Given the nature of the processes on-site and the experience of the applicant in extraction, transporting and handling minerals and in operating quarry plant and machinery, the potential for accidents and disasters relating to the processes are considered to be limited.

Extreme weather events such as the 1 in 100 year storm event have been modelled within the H&HIA (held at Appendix 6.1). The assessment demonstrates that during such an events, surface waters can be wholly managed within the site, with no risk to neighbouring land.

Given the temperate climate of the island of Ireland, it is considered that even with the increasing volatility of the weather events that are predicted in the future, it is not anticipated that these events would have the potential to give rise to a natural disaster at the site.

HUMAN HEALTH

The consideration of human health is a prerequisite of the relevant guidance and legislation governing target levels with respect to:

- Water Quality Standards (Section 6 of the rEIAR);
- Noise Emissions (Section 7 of the rEIAR); and
- Air Quality (Section 10 of the rEIAR).

Each of the above sections of the rEIAR explicitly references the appropriate guidance when establishing whether the development is acceptable in

human health terms and indeed in the case of noise and air quality, considers wider guidance from the World Health Organisation.

All of these sections identify relevant guidance and legislation which has been implemented to protect human health and demonstrates how monitoring results from the quarry demonstrate how these practices and working methods have achieved compliance over the assessment period and therefore have been appropriate and adequate for protecting human health.

INTRA AND INTER-CUMULATIVE IMPACTS

Intra cumulative impacts can occur where a single receptor is affected by more than one source of effect arising from different aspects of the project. This has been assessed at relevant sections of the rEIAR. For example at Section 7, the NIA considers the worst case scenario assuming that haul road movements, excavator and mobile plant would all be operating concurrently.

The potential cumulative effects have been identified in the individual environmental assessments contained within the rEIAR, where applicable and, given that the recorded levels of impact accord and compliance with the limits as prescribed in the various guidance and legislation, it is concluded that no one of the potential receptors are subjected to all of the effects of the development at once. As such, the development is not considered to have or be having, any unacceptable intra cumulative impacts.

In order for there to be inter cumulative impacts, it is a practical necessity for there to be an overlap (accumulation) of impacts with other developments / projects creating similar effects.

There is a rock hard quarry operated by Kilsaran located directly adjacent to the Application Site to the west. The impacts arising from this quarry are considered to have been adequately encompassed and accounted for within the assessment of baseline conditions and impact assessment sections of the various technical assessments which form part of the rEiAR.

No significant cumulative impacts have been identified in any of the assessments and therefore it is considered that the development in combination with the existing quarry to the west of the Site and other development projects in the surrounding area, has not, is not and is not reasonably expected to result in any significant cumulative effects upon the environment.