An Bord Pleanála

Inspector's Report

Development: Deepening of existing quarry to include the extraction of aggregates using conventional drilling and blasting techniques, landscaping / restoration within an area of 19.79 ha. Toonagh Quarry, Ennis, Co. Clare

Application Type:	Further Quarry Development under Section 37L
Related Substitute Consent file:	SU03.SU0048
Applicants:	Ryan Bros (Ennis) Ltd.
Observer(s):	None
Planning Authority:	Clare County Council
Inspector:	Sarah Moran
Date of Inspection:	12th October 2016

1.0 INTRODUCTION

1.1 The current application for further quarry development was received by the Board on the 17th December 2015 following the enactment of section 37L of the Planning and Development Act, 2000, as amended. This application is related to file ref. SU03.SU0048, an application for substitute consent lodged by the above named applicant on the 6th June 2013. The two cases are to be considered in conjunction by the Board, in accordance with the legislation. This report should be read in conjunction with my report on that case.

2.0 SITE LOCATION AND DESCRIPTION

2.1 The section 37L site is located at an existing limestone quarry near the settlement of Toonagh, circa 7 km northwest of Ennis in Co. Clare. The topography of this part of Co. Clare has been classified as a 'lake and drumlin' landscape with many turloughs and limestone outcrops. It is generally lowlying and marshy with areas of bog, woodland and scrub. The lands immediately around the quarry are primarily agricultural with a scattering of individual houses along main roads. There are also oak, ash and hazel woodlands to the immediate east and south of the site.

2.2 The overall quarry landholding is bisected by the R476 Ennis to Corofin regional road and has a total area of 64 ha according to the documentation on file. The majority of the lands are on the southern side of the road, this complex comprises a large excavated area, processing areas (crushing, screening and washing), a lime kiln and associated structures, a concrete batching plant, a concrete block plant, a weighbridge and associated office and a staff canteen / facilities building. There are also a site office, display area and car park to the immediate west of the site entrance. The quarry has been excavated in benches cut into a hillside and is clearly visible from the public road. The lands to the north of the R476 contain settlement ponds, wooded areas and undeveloped wetlands. The stated hours of operation of the quarry are 07.00 to 20.00 Monday to Friday and 07.00 to 16.00 on Saturdays. The quarry site was in operation when the site was inspected. According to the EIS, the operation currently directly employs c. 20 people.

2.3 The section 37L site has a stated total area of 19.79 ha and is located on the western side of the overall quarry site. The lands within the red line boundary have largely been excavated in benches to a depth of 22.5m AOD (above Ordinance Datum). There are two surface water sumps within the excavated areas. Extraction is carried out by way of blasting. The section 37L site is situated entirely to the south of the R476, unlike that of

SU0048, which included a small, triangular area on the northern side of the road, which has not been excavated and comprises grassland.

2.4 Both site notices indicated on the site layout were present at site inspection.

3.0 APPLICATION FOR FURTHER QUARRY DEVELOPMENT

3.1 The application for further quarry development received by the Board on the 17th December 2015 includes a completed application form, copies of statutory notices, an EIS and associated drawings.

3.2 The section 37L development involves a continuation of the established quarrying activity within the red line site boundary, deepening the existing quarry floor to a finished floor depth of -2m AOD. According to the EIS, suitable reserves of high quality limestone are available in this part of the site. The resultant material would be processed at the adjacent plant and used in the block batching plant and lime kiln within the overall quarry site but outside the boundary of the section 37L site boundary. In addition, water from the section 37L site would be treated in settlement lagoons beyond the site boundary, to the north of the R476. The development includes landscaping and post quarrying site restoration.

4.0 PLANNING AND REGULATORY HISTORY

4.1 Planning History

4.1.1 Note: See my report on SU03.SU0048 for further details on the planning history of the overall quarry site.

4.1.2 The original quarry predates 1963. Clare County Council granted permission for an office, workshop and stores at the site in 1965 under reg. ref. **8/116**. Outline permission was granted for quarry works including crushing, screening and washing plant, workshop, stores, offices, weighbridge and septic tank in 1971 under reg. ref. **8/4095**. In 1972, approval was granted for construction of a quarry plant, workshop, offices, stores and weighbridge under reg. ref. **8/4796**. In 1974, permission was granted for a block making plant at the site, reg. ref. **8/8552**, located south of the main vehicular entrance. Permission was granted in 1979 to erect offices and a related septic tank at the site under reg. reg. **8/14552**, located south west of the site entrance. Permission was granted to construct a weigh office and new weighbridge under **91/591**, located to the immediate south of the site entrance.

4.1.3 Permission was granted for an additional concrete batching plant under reg. ref. **03/1201**. This development was never carried out and the

permission expired. Permission was granted for a concrete batching plant and associated settlement lagoons under reg. ref. **10/949**, all located on a 1.23 ha site at the southern end of the quarry.

4.1.4 Permission was granted for a new canteen (with demolition of existing canteen) under **03/300**, to drain to the existing septic tank. This structure is located south east of the site entrance.

4.1.5 Under **04/615**, Clare County Council granted permission to Clogrennane Lime Ltd for a limekiln, fuel oil store and ancillary facilities on a 2.766 ha site at the southern end of the overall quarry landholding, to the immediate west of the permitted concrete batching plant. The Board upheld this decision under **PL03.208121** and granted permission on 25th May 2005. The development was to be operated and managed in accordance with an Integrated Pollution Prevention and Control (IPPC) license, issued by the EPA. The facility is now operational and supplies lime to the ESB power station at Moneypoint. Clare County Council granted permission for a solid fuel storage and handling facility for the lime kiln under reg. ref. **05/2074**. Permission was granted for a revised design of lime kiln and associated stack under reg. ref. **06/1789**. Permission was granted for an enclosed lime storage shed and associated works under reg. ref. **12/528**.

4.2 Section 261 Quarry Registration

4.2.1 In 2003, Clare County Council commenced an enforcement file on foot of a complaint about unauthorised quarrying at the site, ref. **UD03-305**, however it did not take any enforcement action due to the commencement of the section 261 process. In 2004 Ryan Bros. Ltd applied to the planning authority to register a 64.03 ha limestone quarry at this location, stating that the quarry had commenced operation before 1st October 1964, ref. **QY6**. The extracted area was stated as 38.544 ha. The planning authority registered the quarry subject to conditions. The applicant appealed the following conditions, ref. **03.QC.2001**:

- Condition no. 2 relating to maximum noise levels.
- Condition no. 4 relating to blasting impacts.
- Condition no. 23 relating to development contributions.

The Board decision issued on 7th June 2007 amended conditions nos. 2 and 4 and removed condition no. 23

4.3 Section 261A Determination and Decision

4.3.1 The PA section 261A process related to the following:

Quarry with 64 ha site, excavated area of 38.5 ha, with blasting, crushing, concrete batching plant, block making, stone washing. Extract volumes of 600,000 tonnes.

4.3.2 The PA estimated the total quarry area at 64 ha, of which approx. 35 ha had been subject to extraction (including the processing area and lime plant). There was c. 16 ha of undeveloped land remaining within the quarry. There were also approx. 10 ha of lands on the northern side of the R476, where the settlement lagoons were located, which formed an integral part of the overall quarry operation. The PA carried out Appropriate Assessment screening and concluded that AA was required. It determined on 1st July 2013 that sections 261A(2)(a)(i) and (ii) applied to the subject site for the following reasons:

- *The physical expansion of the quarry into new lands after both the Environmental Impact Assessment Directive and the Habitats Directive came into effect.*
- *Failure to assess the potential cumulative impacts of this expansion with the other activities on the site in accordance with the requirements of the EIA Directive.*
- *Failure to assess the potential cumulative impacts of post 1997 developments in the context of the Habitats Directive.*

The PA decided that section 261A(3)(a) applied for the following reasons:

- *The operations on site commenced prior to 1st October 1964*
- *The grant of permission under Part IV of the Local Government (Planning and Development) Act 1963 (as amended) – Ref. P8/4095 and P8/4796*
- *The requirements in relation to section 261 of the Planning and Development Act 2000 (as amended) were fulfilled in relation to this quarry.*

The notice stated that the determination and decision did not apply to the developments permitted under applications P04/615, P05/2074 and P06/1789. The applicant was directed to apply to the Board for substitute consent under section 177E of the Act.

4.4 Current Substitute Consent Application SU03.SU0048

4.4.1 Ryan Bros. (Ennis) Ltd. made an application to the Board for Substitute Consent pursuant to section 261A(3) of the Act in relation to the overall quarry site. The application was accompanied by a remedial Environmental Impact Statement (rEIS) and a remedial Natura Impact

Statement (rNIS), a legal submission relating to development contributions and a proposed site restoration plan. The substitute consent application site has a stated total area of 20.56 ha and is located on the western side of the overall quarry site. The lands within the red line boundary had been developed and excavated as per the site description in section 2.0 above. in benches to a depth of 22.5m AOD. Most of the application site is situated to the south of the R476, however the site includes a small, triangular area on the northern side of the road, which has not been excavated.

5.0 PLANNING POLICY CONTEXT

5.1 National Policy Guidance

5.1.1 The following national policy documents are considered relevant:

- *Quarries and Ancillary Activities Guidelines for Planning Authorities* DoECLG 2004.
- *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* DoECLG 2013.
- *Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities* DoEHLG 2009 and 2010
- *Section 261A of the Planning and Development Act 2000 and Related Provisions Guidelines for Planning Authorities* DoECLG January 2012 and *Supplementary Guidelines* July 2012.

5.2 Clare County Development Plan 2011-2017

5.2.1 The following sections of the County Development Plan are considered particularly relevant to this case.

- Section 6.3.10 relating to natural resources and related objective 6.11.
- Section 8.3.1 and related objectives 8.1, 8.2 and 8.3 relating to the protection of ground and surface waters. The County Clare groundwater protection scheme identifies that the majority of Clare's groundwaters are classified as 'extreme vulnerability'.
- Development plan objectives 9.1, relating to the Water Framework Directive and 9.2, relating to the protection of water resources.
- Development plan objectives 9.9 relating to noise pollution, 9.10 relating to air pollution and 9.11 relating to light pollution.
- Section 13.3.11 relating to extractive industry and related objective 13.10.
- Chapter 17 of the plan relating to natural heritage, in particular section 17.3.3 and objective 17.3 relating to Natura 2000 sites. Objective 17.4 sets out the requirement for AA under the Habitats Directive and section 17.3.5 relates to EIA.

5.2.2 Section 16.3 of the plan sets out the landscape character assessment (LCA) of the county. The site is located in an area defined as a "working landscape", in particular "The Western Corridor – Ennis to Limerick Working Landscape".

5.3 Ennis and Environs Development Plan 2008-2014 (as amended)

5.3.1 The site is within the boundary of this plan, but outside the settlement boundaries of Ennis and Toonagh, in an area zoned as 'open countryside'. The following policies are considered particularly relevant to this case:

- Settlement policy SS2 relating to development within the settlement boundary of Toonagh and SS3 relating to development in the open countryside.
- Policy AG5 relating to quarrying.
- Policy EN1 relating to proposed developments and protection of areas of nature conservation. Policy EN3 relating to the protection of river corridors. Section 9.3.2 relating to Natura sites and section 9.3.3 relating to priority natural habitats or species. Policy EN8 relating to landscape conservation.
- Policy W2 relating to the protection of water resources.
- Appendix 10 of the plan comprises the Landscape Characterisation Assessment (LCA).

5.3.2 It is noted that in September 2013, Ennis Town Council and Clare County Council decided pursuant to the provisions of section 11A(2) of the Act not to continue to review the Ennis and Environs Development Plan 2008 - 2014 and not to prepare a Draft Ennis and Environs Development Plan 2014 - 2020. The Electoral, Local Government and Planning and Development Act 2013 provides in this case that the existing Ennis and Environs Development Plan 2008 - 2014 (as varied) will continue to remain in force to the extent provided for by that plan.

6.0 PRESCRIBED BODIES

6.1 The application was circulated by the Board to prescribed bodies. The responses received can be summarised as follows:

6.2 Geological Survey of Ireland:

6.2.1 The GSI has no additional comment to make in relation to the EIS submitted with the application.

6.3 HSE Environmental Health Service

6.3.1 The main points may be summarised as follows:

- The HSE carried out a site visit on 3rd February 2016.
- The proposed development is a natural continuation of existing quarrying activities.
- The local water supply is the Toonagh / Dysert Group Water Scheme, EPA reference no. 0300PR12012. Population served, as per 2013 EPA report, is 1229 persons. The source of this supply is Ballycullinan Lake, which is approximately 2 km from the proposed development. The protection of this public water supply is paramount. All mitigation measures recommended in the EIS should be implemented in full.
- There have been no noise complaints to Clare EHS / HSE in respect of the existing quarrying activities at the site. Noise limits for nearest sensitive receptors are recommended. A routine noise sampling programme, with access to results and records should be agreed between the developer and the PA during the operational and restoration stages of the quarry.
- Vibration and air pressure limits for blasting are recommended. These should be monitored and recorded during blasting. Adequate notice should be provided to local residents, school, equestrian centre and the Archaeological Centre at Dysert O'Dea Castle, retail customers and other sensitive receptors in advance of blasting schedules.
- The submission recommends dust monitoring at site boundaries, with dust deposition not to exceed the limit of 350 mg/m^2/day, when averaged over a 30 day period.

7.0 PLANNING AUTHORITY'S REPORT

7.1 The PA submission of 8th March 2016 comprises reports by the Assistant Scientist, Environment Section and the Environmental Assessment Officer of Clare County Council.

7.2 The main points of the Environment Section report (undated) may be summarised as follows.

- The Environment Section carried out a site visit at the quarry on 4th March 2016.
- The settlement lagoon at the northern part of the site is currently used to manage water prior to discharge. According to the EIS, it is operating to a high standard and is capable of holding a large volume.
- Clare County Council issued a Section 4 Discharge Licence for Toonagh Quarry on December 21st 2011, ref. WP156. The licence was issued under the Water Pollution Act 1977-2007 that permits and regulates treated discharge from the site to waters. The licence permits

the discharge of trade and sewage effluent generated at the Toonagh Quarry site, including process waters, surface and ground water. Discharge from the lagoon is to groundwater.

- The licence was issued on the basis of information submitted by the licencee regarding volumes of water to be managed. Any change in these figures would require a statutory review of the licence to consider any increases in water volumes discharged, above those prescribed as a 'limit of discharge' within the terms and conditions of the licence. A significant increase in volume and flow rate to the lagoon could alter the lagoon's capacity to settle out solids effectively over the required retention time and therefore cause reduction in final effluent quality, thereby potentially causing impacts and non-compliance with the licence.
- The current volume of flow to the settlement lagoon is based on the existing quarrying activity within the entire stated site area of 64 ha. The proposed development would result in additional volumes of water requiring management that would essentially be groundwater from dewatering when operating below the water table.
- Bedrock assessment by means of geophysics survey shows limited permeability in the rock mass under the section 37L development. Relatively few faults are identified and there is a relatively low volume of faults present. A pumping test carried out at the sump excavation in June 2015 to investigate a karst cavity in the area indicates low groundwater infiltration rate. A groundwater borehole pump test indicated limited inflows to the well recharge and the well ran dry on several occasions. This suggests that the resulting additional volumes of groundwater requiring management are likely to be very limited.
- The EIS does not provide a quantified value for the expected increase in volumes of water to be managed as a result of the proposed development. It does not directly state whether the lagoon can manage the volumes of water to be produced at the site.
- On the basis of the information provided in the EIS, it appears that the volumes of additional water to be managed are likely to be limited and that the settlement lagoon has sufficient capacity to manage these limited additions effectively. Flow data on the inputs to the lagoon from the quarry indicate that the volumes being received to date are below the licenced volume prescribed on the Section 4 Discharge Licence.
- The section 37L development would not negatively affect the settlement lagoon in terms of its holding capacity or its ability to settle out sediment. If the development is permitted, any change in volumes flowing to the lagoon would appear in flow data and any performance issues would be highlighted through quality data, which would require a response under the terms and conditions of the licence.
- To date, according to Clare County Council Environment Section records for the Section 4 Discharge Licence, water quality results of

the Toonagh Quarry discharge from the settlement lagoon shows good compliance with licence limits for prescribed parameters indicating that the lagoon is functioning well and is also reflective of good management of the lagoon itself.

- The EIA mitigation measures include the removal of silt/clay and peat within the overburden at source, therefore preventing the formation of sediment laden surface water to be dealt with later in the system. The proposed development is not likely to be an additional source of sediment above that which the quarry currently manages and for which there are already effective mitigation and controls in place.
- The site visit on March 4th 2016 has shown adequate and well controlled fuel management on-site including refueling practices away from the quarry floor.
- The Environment Section has no significant concerns or issues with the section 37L development. If approved, all measures and mitigations proposed in the EIS should be applied.
- The PA recommends a condition stating that in the event that fglow data indicates significant additional volumes of water generated at the site during the section 37L development, resulting in a higher discharge volume than that permitted in the section 4 Discharge Licence, Toonagh Quarries Ltd. is legally obliged to seek a review of their licence from Clare County Council.

7.3 The main points of the Environmental Assessment Officer report may be summarised as follows:

- The development is not within any European site and does not require any resources from same, thereby ruling out any direct habitat loss or species impact.
- Based on the information provided in the EIS and NIS, it is evident that groundwater fed habitats in surrounding European sites will not be affected by the ongoing operations within the active quarry area or by the proposed development.
- The primary concern in relation to surface water and trade effluent discharge associated with the existing and proposed development is the concentration of suspended solids entering the adjacent surface waters and in particular where it ultimately ends up in the Lower River Shannon SAC. Given the results of the Hydro Environmental Services (July 2015) Settlement Pond and Trial Pumping Test, the Ecology survey undertaken by Tobin Consulting Engineers (July and August 2015) and the routine surface water quality monitoring conducted at Toonagh Quarry in compliance with their discharge licence, it is clear that in particular the suspended solids levels are consistent with the European Communities Environmental Objective (Surface Waters) Regulations.

- With regard to the available information on suspended solids levels from the sample analysis, which are significantly less than the recommended annual limit, no adverse effects on water quality or on Salmonid or Lamprey species will arise.
- Subject to the continued implementation of mitigation measures, there will be no significant adverse effects on the European Sites within the zone of influence of the site or on the integrity of the sites in view of their conservation objectives.

8.0 APPLICANT'S RESPONSE TO PLANNING AUTHORITY SUBMISSION

8.1 The main points made may be summarised as follows:

- The applicant confirms that all mitigation measures proposed in the EIS and NIS would be strictly enforced.
- The applicant would welcome the inclusion of a condition requiring the applicant to seek a review of the discharge licence from Clare County Council, should the volumes of water generated at the site increase above that authorised for discharge under the existing licence.
- The hydrological assessment including the 2015 pumping test and the 2015 geophysical assessment carried out as part of the subject EIA concluded that the proposed development would result in only a very limited additional volumes of groundwater for treatment and discharge from the site (< 100 m^3 per day). It is unlikely that the section 37L development would result in an increased volume of water discharging from the site to above the levels presently licenced under WP156.
- The existing surface water management system, including the surface water settlement lagoons, will manage the additional volumes of water generated by the proposed development, both in terms of the holding capacity and its operational function to settle out sediment. The current system is substantially oversized for the existing discharge volume from the quarry and achieves a very low level of suspended solids in the discharge water quality, typically less than 5 mg/l. The discharge would continue to operate within the discharge limits of WP156.
- It is recognised that future quarrying below the water table would leave the groundwater environment in an even more vulnerable position. The applicant reiterates an intention to continue the strict fuel management / refueling practices and mitigation measures that are presently in place at the facility.
- The report of the Environmental Assessment Officer of Clare County Council concludes that the development would not have a negative impact on the surrounding environment, including designated sites, should present work practices be continued and all mitigation measures proposed within the EIS and NIS be strictly enforced.

9.0 ASSESSMENT

9.1 The issues arising in respect of this section 37L application can be addressed under the following headings:

- Nature and Extent of Proposed Development
- Principle of Development
- Ecological Impacts
- Surface and Ground Water Impacts
- Air Quality
- Noise and Vibration Impacts
- Landscape and Visual Impacts
- Roads Impacts
- Conditions of Permission
- Planning Conclusion

Section 10.0 and 11.0 below deal with EIA and AA respectively.

9.2 Nature and Extent of Proposed Development

9.2.1 The overall Toonagh quarry site has a stated area of 64 ha. This includes the following:

- Excavated areas primarily on the western side of the site. According to the EIS, the lowest point of the excavated area is at 22.5m aOD.
- Offices, staff facilities including canteen and weighbridge located adjacent to the site entrance.
- Workshop and fuel bund on the eastern side of the site, close to the road frontage.
- Concrete block plant on the eastern side of the site.
- ESB substation on the eastern side of the site.
- Fixed processing and screening plant on the eastern side of the site.
- Lime kiln and associated offices and fuel storage building to the rear of the eastern side of the site. This supplies lime to Moneypoint Power Station in Co. Clare.
- Lands to the north of the R476, where the settlement pond and associated wetlands are located.

According to the EIS, the topographic elevation of the overall quarry landholding ranges from 20.5 m AOD at the lowest point of the quarry, near the extraction area, to the highest point of the quarry near the western boundary of the landholding at c. 94m AOD. The quarry entrance is at c. 34m AOD.

9.2.2 The substitute consent application SU0048 relates to previous unauthorised quarrying activity on lands at the western side of the site, total stated area of 20.56 ha, to the existing quarry depth. That site includes lands on the northern side of the R476. Permission is now sought under section 37L for a continuation of quarrying activity on a stated area of 19.79 ha within the SU0048 site but entirely to the south of the R476. The proposed development comprises:

- Continuation of rock extraction and quarrying activities at this previously extracted area.
- Extraction to take place in 2 sequential phases, i.e. Phase I to +18m AOD and phase 2 to -2m AOD. The water table is estimated at between 23m-34m AOD across the site, therefore the section 37L development involves extraction below the water table.
- The application does not propose any specific duration of permission.
- Minimal stripping of topsoil and overburden as most of the area has already been subject to quarrying activity. Any limited remaining overburden that is stripped will be used to create earthen berms around the site to mitigate visual impacts.
- The quarrying activity includes controlled blasting and the loading and hauling of rock to the processing plant.
- The development does not include ancillary processing of extracted material or the surface water / trade effluent collection and treatment. The EIS states that these activities will continue to be carried out within the active quarry area that was originally granted permission by Clare County Council under reg. ref. 8/116 and various permissions since, using existing plant and equipment. No fixed plant is proposed for the S37 site.
- Quarry operational hours are limited to those specified in condition no. 5 of the 2006 section 261 authorisation, ref. QY6, i.e. between 0700 and 2000 Monday-Friday and between 0700 and 1600 on Saturdays, with no quarry operations or associated activities on Sundays or public holidays.
- Landscaping and restoration works.

9.3 Principle of Development

9.3.1 The overall landholding has a well-established use as a quarry producing limestone and related products for use in the construction industry. The site is within an area defined a 'working landscape' as per Map B of the *Clare County Development Plan 2011-2017*, described as follows:

Intensively settled and developed areas within Settled Landscapes or areas with a unique natural resource.

'Settled Landscapes' are described as the network of farmland, villages and towns where the majority of the population live and work. Uses envisaged within Settled Landscapes include agriculture, energy, forestry, extraction, transportation, industry and commerce, tourism, recreation and leisure, education, healthcare and social infrastructure, ref. section 16.4.3 of the plan. The site is within the Western Corridor Working Landscape, i.e. Ennis to Limerick, all lands within 10 km on either side of the N18/M18. Objective 16.3 relating to the Western Corridor aims:

a) To permit development in these areas that will sustain economic activity, and enhance social well-being and quality of life – subject to conformity with all other relevant provisions of the Plan and the availability and protection of resources;
b) That selection of appropriate sites in the first instance within this landscape, together with the consideration of the details of siting and design are directed towards minimising visual impact.
c) That particular regard should be given to avoiding intrusions on scenic routes and on ridges or shorelines. Developments in these areas will be required to demonstrate:
(*i) That sites have been selected to avoid visually prominent locations.*
(ii) That site layouts avail of existing topography and vegetation to reduce visibility from scenic routes, walking trails, public amenities and roads.
(iii) That design for buildings and structures reduce visual impact through careful choice of form, finishes and colours and that any site works seek to reduce visual impact of the development.

9.3.2 The site is in an area zoned as 'open countryside' within the boundary of the *Ennis and Environs Development Plan*. Outside the designated settlements, the plan gives high priority to the protection, conservation and enhancement of the character of the open countryside, ref. policy SS3. Development proposals will only be considered where it can be clearly demonstrated that such proposals will contribute to the sustainable growth of the local rural economy and the needs of the local population. Policy AG5 states that proposals for mineral extraction will only be considered where it can be clearly demonstrated that:

a) The development is phased and that each phase is restored to a viable use according to a programme of phasing agreed with the planning authority;
b) Adverse impacts upon people, the landscape and the local environment are minimised;
c) Monitoring procedures are put in place to measure environmental impacts;

d) A comprehensive scheme of landscaping works is agreed with the planning authority and implemented before any development commences;

e) A local consultative group is established by the operators of the development to include members and representatives of the local community and property owners to address operational issues impacting upon local amenity.

9.3.3 The proposed continuation of quarrying activity is considered to be generally in accordance with the above zoning objectives and criteria, subject to further assessment as set out below. I note that the planning authority has no objection to the proposal. The quarry is considered acceptable in principle at this location in the light of these matters.

9.4 Ecological Impacts

9.4.1 Ornithological Impacts

The Toonagh Quarry is known to have supported breeding Peregrine Falcon in the past. Peregrine Falcon is an Annex I species under the EU Birds Directive and an amber listed species of moderate conservation concern. The cliffs on the western side of the quarry, which are within the section 37L site, provide potential nesting habitat. The site surveys carried out for the EIS did not record any Peregrine Falcon. According to the EIS, the site was visited by the NPWS in July 2015, and it appears that no Peregrine Falcon nested at the site in 2015. The bird surveys recorded a nest site of a pair of Ravens that hold a territory within the cliffs on the western side of the quarry, within the section 37L site, during the July and August 2015 surveys. The lagoons in the northern part of the quarry support breeding wildfowl including a pair each of Little Grebe, Moorhen and Mallard.

According to the EIS, birds that occupy the active quarry area have become accustomed to blasting. There is presently bird monitoring in March / April each year, which is used to inform quarry operational activities during the nesting season, including blasting. This practice is to continue if the section 37L application is permitted. Both the western slopes of the quarry, where the Peregrine potentially nest, and the area north of the R476 will be undisturbed by the section 37L development. In addition, any clearance of the oak-ash-hazel woodland at the edge of the section 37L site should be undertaken outside of the bird nesting period. I am satisfied that the proposed development would not result in significant adverse birds impacts, subject to the implementation of the ongoing bird monitoring regime and other proposed mitigation measures. The

landscaping and restoration of the site would have positive impacts on avian species.

9.4.2 Aquatic Species

Section 9.5 below considers water impacts in detail and concludes that the section 37L development would not have any significant adverse impact on surface or ground water quality. The rNIS considers potential impacts on the qualifying interests, i.e. aquatic species, of designated sites that are/may be hydrologically linked to the quarry site. It concludes that the quarry discharge is not affecting local aquatic ecology receptors. I am satisfied that the section 37L development would not have any significant adverse impacts on aquatic species, subject to the satisfactory maintenance and monitoring of the existing water treatment system at the overall quarry site.

9.4.3 Bats Impacts

The site surveys carried out for the EIS found no bat roosts or potential bat roosts at the quarry landholding. The following bat activity was recorded, all outside the section 37L application area:

- 2 no. Soprano Pipistrelle and a common Pipistrelle in the relatively undisturbed habitats around the surface water settlement lagoon at the northern end of the site.
- An additional Soprano Pipistrelle was recorded foraging in the woodland at the southern end of the landholding.
- No Lesser Horseshoe Bat species detected (a qualifying interest of several nearby designated sites).

According to EIS section 5.3.1.1, there is no evidence that the existing bat populations are being affected by the ongoing quarrying activities at Toonagh. The proposed works would not increase noise disturbance or extend further into habitats used by bats. There have been no direct impacts on known bat roosts in the vicinity of the quarry site to date. Quarrying activities are carried out during the day and there is no potential for noise disturbance to foraging and commuting bats which emerge after dusk. Hazel scrub and woodland surrounding the quarry is not suitable roost habitat but may be used for foraging. The section 37L development involves minimal impact on this habitat. Based on a previous survey, it has been identified that the probable feeding and commuting routes for bats in the area would be towards Ballygriffy Wood, northeast of the quarry landholding, indicating that the quarry site would not have any impact on bat activity. The types of habitats present at the quarry site are not the preferred habitat of the Lesser Horseshoe Bat. The NIS concludes that the existing quarry development has not had any significant impact on Lesser

Horseshoe Bat roosts. Based on the available information, I am satisfied with this conclusion.

9.4.4 Ecological Impacts Conclusion

Overall, it is considered that the section 37L development would not result in significant habitat loss or ecological impacts. I note with regard to the rNIS that no known habitats of special conservation value would be affected by the development. In addition, the existing / proposed mitigation measures, including landscaping and remediation, would address any potential negative residual impact.

9.5 Surface and Ground Water Impacts

9.5.1 Background and Existing Water Treatment at Toonagh Quarry

There are no natural surface water features flowing into or out of the overall Toonagh quarry site. Although this is a karstic environment, there are no point sources such as swallow holes, etc. recorded within the quarry landholding. The quarry is located within the River Shannon Estuary North Catchment. The nearest surface water feature is a tributary of the Ballycullinan Stream, located 650m north west of the quarry landholding, with Ballycullinan River being located 700m north of the landholding and Ballycullinan Lough 1.5km to the north west. All are part of the Doonaha River catchment. The Shallee River and Ballygriffy River are c. 950m south of the quarry landholding. Both the Ballycullinan Stream / Doonaha River system and the Ballygriffy / Shallee River system ultimately drain to the River Fergus, north of Ennis.

The majority of the quarry floor at 22m AOD has been dry to date, including the active quarry area and the section 37L site with no or very little extraction to date below the water table. Most of the rainfall on the quarry site becomes surface water runoff due to the lack of remaining overburden. There are 2 no. existing sumps within the excavated area, i.e.:

- A large sump at the northern end of the site, close to the road frontage. This is the topographical low of the site and the sump contains surface water runoff. Water from this sump is used to supply the wheel wash at the site entrance.
- Groundwater and surface water at the base of the excavated area flow to a smaller sump at the lowest point of the excavated area. Water from this area is pumped to a 520 m^3 holding tank near the processing area, which supplies a 53 m^3 water tank at the concrete plant.

These sumps were viewed at site inspection. Water levels were found to be low at both locations.

Surface water from the quarry site is collected and diverted via a 450mm diameter concrete pipe under the R476 to a surface water settlement lagoon in the area north of the road. The lagoon contains a reed bed / marsh habitat, which removes silt from the effluent. It is dredged regularly and the spoil is placed close to the pond to form an embankment. There is also a surface water / clean water lagoon at the northern tip of the landholding, which receives some treated water from the surface water settlement lagoon. It has clear water with no silt load. Teated water is discharged from the lagoons to the groundwater environment. Clare County Council granted a 'licence to discharge trade or sewage effluent to waters' under the Local Government (Water Pollution) Act 1977-2007 to the applicant on 21st December 2011. Analysis of water levels at wells within the overall quarry site indicates that groundwater flows in a northwesterly direction north of the R476, towards the clean water lagoon, the nearby fen and Ballycullinan Stream. The discharge is therefore hydrologically linked to the alkaline fen habitat immediately north of the quarry landholding, which drains to the Ballycullinan Stream / Doonaha River system and ultimately to the River Fergus, as above.

EIS section 7.3 provides details of EPA water monitoring in the vicinity. EPA River Water Quality data for 2013 indicates Q4 'Good' and Q3-4 'Moderate' surface water quality at locations downstream of the quarry site. The upgradient monitoring site 2km north west of the site, upstream of Ballycullinan Lough, has Q3 'poor' status. The EIS provides results of surface water quality monitoring carried out at the quarry site in 2014 and 2015, from analysis of surface water samples at the discharge point from the surface water settlement lagoon. The results indicate very low levels of suspended solids, typically <5 mg/l. This is consistent with information provided in the rEIS submitted with SU0048, which included the results of surface water quality monitoring at the same location for the period 2008 to 2012.

The staff facilities at the site have a mains water supply from the Toonagh-Dysert Group Water Scheme. Foul water from the facilities is discharged to a separate waste water treatment system that was installed on the site in 2014.

9.5.2 Existing and Potential Water Impacts

The EIS provides the following information regarding existing / potential water impacts, based on a series of site investigations carried out at the quarry in 2015 to establish the location of the water table and the likely rate of groundwater ingress when the water table is encountered:

- The bedrock aquifer underlying and surrounding the quarry is classified as a 'Regionally Important Aquifer Karstified, Dominated by Conduit flow' (Rkc). Permeability of bedrock in karstic systems is very variable. No significant faults or karst features were identified during the various site investigations at the quarry. A cavity was found to the south of the active quarry area. The feature was pump tested, results are provided in EIS Appendix 7.3. Other features were drilled and hydraulically tested. Quantities of water encountered were low (< 0.05 l/s). The nearest karst feature is a swallow hole c. 750m south of the section 37L site. Following a tracer test, the swallow hole was found to be linked to a spring c. 1km further south east.
- Groundwater vulnerability is 'Extreme-High' across the Toonagh Quarry due to the exposure of bedrock at the surface. The quarry landholding is located within the Inner Source Protection Zone of the Drumcliff Spring catchment, which supplies the public drinking water for the town of Ennis, Co. Clare. Based on site investigations, there is no direct link between the quarry landholding and Drumcliff Spring.
- Analysis of water levels at wells within the overall quarry site indicates that the installation of the small surface water sump at the base of the quarry does not appear to have impacted on groundwater levels to the north of the quarry. Discharge from the quarry area south of the R476 is monitored as a combined volume of groundwater and surface water. The volumes discharged (i.e. groundwater pumped from the small surface water sump at 17m AOD) during August and September 2015 was typically 5-50 m^3 per day during dry periods, with larger volumes corresponding to rainfall events. The EIS concludes that there has been no significant inflow of groundwater from the site. The overall volumes currently discharged are small with the highest discharge volume corresponding to 35mm of rainfall on 12th September 2015.
- HES site investigations in June 2015 found very limited groundwater flow in the existing small surface water sump (17.5-17.8m AOD). There was no evidence of significant inflow when the water level in the sump was drawn down and water level recovery was very slow. Pump testing was carried out on an investigative sump at the base of the quarry floor to 15.5m AOD, located within the section 37L area, which included the karst cavity south of the quarry floor. Groundwater levels were drawn down 4.34m to the base of the pump at 15.5m AOD. The test was terminated at this juncture due to lack of inflows. Monitoring of the water level recovery over 2 days resulted in an estimated infiltration rate of <1m^3 per hour at the sump.
- A total of 15 no. investigative boreholes (BH101-116) were drilled on the quarry floor in September 2015. Limited inflows were encountered all boreholes. Subsequent testing at the boreholes was carried out to establish an estimate of groundwater volumes at teach location. EIS

table 7.4 indicates that 6 no. boreholes were dry, all other had minor water inflows.

- A production borehole (PW1) was installed on the quarry floor to facilitate a pumping test to -5m AOD and a production well to -10m AOD. A pumping test conducted by HES in October 2015 found extremely limited inflows, calculated at <0.05 l/s. After pump stoppage, the water level recovery was 1m every c. 6 minutes, indicating that inflows into the well were minimal.
- A groundwater tracing investigation was carried out at the quarry in March 2014. Water samples were collected from 11 locations over a 15 day period, following tracer input. Tracer was detected only in the water at the clean water lagoon at northern tip of the landholding and in a stream issuing from Drumeer Fen into which the surface water lagoon discharges. No tracer was detected in the Ballycullinan Stream / Doonaha River to the northwest or at sampling locations to the west, south and southeast. The water tracing report concludes that it is very probable that all water from the large sump within the excavated area flowed to the quarry water supply pond and that the water from the settlement pond also drains as groundwater flow northwards to the quarry water supply pond at the northern tip of the quarry landholding. No trace was found at Drumcliffe Spring.

The EIS concludes that the continuation of quarrying activities within the permitted and section 37L areas to below the water table would not affect groundwater flows or draw water from aquifers or other water sources supplying groundwater fed habitats in the vicinity of the Toonagh Quarry landholding. The groundwater source for the quarry is highly localised and very low quantities of water are expected to be drawn from the water table below the quarry. No significant additional inflows to the treatment system north of the R476 are predicted as a result of the proposed continuation of quarrying activities, including the excavations below the water table.

9.5.3 Water Impacts Conclusion

The existing water treatment system appears to be operating satisfactorily, achieving good standards of water quality. I note from the historic information provided with SU0048 that the results of surface water quality monitoring of the discharge point at the lagoons north of the R476 for the period 2008 to 2012 were consistent with natural uncontaminated surface waters including very low levels of suspended solids with no evidence of hydrocarbon contamination. In addition, surface water monitoring results for the period 1998 to 2004, as included in the EIS for 04/615 PL03.208121, all indicated that surface water quality in the area was high. In addition, the results of groundwater quality monitoring at wells within the overall quarry site for 2001, 2004 and 2013. appear to be consistent with

natural uncontaminated groundwaters showing no signs of mineral or nutrient contamination with the exception of elevated total suspended solids (TSS), which are assumed to be related to borehole construction and sediment build up. Aside from the elevated TSS, all results were below the EPA Drinking Water Guidelines Values. The comments of the Environment Section of Clare County Council also note that water quality records for the Section 4 Discharge Licence of the Toonagh Quarry discharge show good compliance with licence limits for prescribed parameters indicating that the lagoon is functioning well and is also reflective of good management of the lagoon itself.

The existing outflow from the overall quarry site to the settlement ponds is well below the capacity permitted under the discharge licence no. WP156. It is not anticipated that excavation below the water table at the section 37L site would result in a significant increase in the flow to the settlement ponds, beyond that which they have the capacity to cater for and that permitted under the Water Discharge Licence. Outflow from the ponds is monitored and is subject to a 'limit of discharge' within the terms and conditions of the licence. According to Clare County Council Environment Section, any significant change in water volumes discharged would require a statutory review of the licence. I also note the mitigation measures outlined in the EIS to prevent excessive sediment from entering the water system and to prevent hydrocarbon contamination. Given that the existing system achieves good water quality, these measures are presumably currently working well and will be continued in the event of permission being granted for the section 37L quarry development.

To conclude, therefore, I am satisfied that the section 37L development will not result in significant adverse impacts on water quality, subject to the ongoing implementation of the existing water management system and mitigation measures as outlined in the EIS.

9.6 Air Quality

9.6.1 Potential impacts on air quality primarily relate to dust generation as a result of quarrying activities. There is potential for cumulative impacts with the associated processing and screening works and the adjacent lime kiln and concrete block manufacturing plant.

9.6.2 EIS section 9.2 and table 9.1 provide details of dust monitoring carried out in 2014 and 2015 at 5 no. locations at the quarry perimeter (D1 – D5), including locations close to the concrete batching plant, stockpiles, the crushing and screening processing plant and the lime kiln. It is submitted that these results represent a typical period of quarry activity. The TA Luft dust deposition limit of 350 mg/m^3/day was exceeded at the following

instances:

- D1, adjacent to the processing and screening plant on the eastern side of the site. Exceedences for January, February, March and December 2014, January, February, March and August 2015. There were particularly high exceedences in January 2014 (595 mg/m^3/day) and February 2014 (939.9 mg/m^3/day).
- D2 adjacent to the lime kiln on the eastern side of the site. Exceedences for January and February 2014, January and February 2015.
- D3 on the western side of the site. Exceedences for January and February 2014.
- D4 on the western side of the site. Exceedences for January and February 2014, January 2015. A particularly high exceedance for February 2014 (607.1 mg/m^3/day).
- D5 north of the large surface water sump. One exceedance in February 2014.

The EIS states that the dust emissions from the development will be similar to those presently in existence. It notes that most of the exceedences recorded were at D1 and D2 at the eastern side of the site, close to the crushing and screening processing plant, the concrete batching plant, concrete stockpiles and the lime kiln, i.e. outside the section 37L site. The high results for January and February 2014 are associated with a period of extremely windy weather.

9.6.3 I have some concerns about air quality impacts with regard to the exceedences recorded at several locations as detailed in the EIS. I note that the historic information analysed in the assessment of SU0048 also indicated some exceedences of the 350 mg/m^2/day limit. In addition, the HSE submission on SU0048 states that dust deposits were clearly visible on the road to the front entrance of the quarry and surrounding vegetation during a site visit on 12th July 2013. This visit was carried out during a period of exceptionally dry weather but there was no evidence of any watering down of the roads or the stockpiles or covering of the conveyors. However, it would appear that most of the historic exceedences are associated with the manufacturing and processing works on the quarry landholding, outside the section 37L site.

9.6.4 The EIS states that the dust emissions from the proposed development will be similar to those presently in existence. Section 9.4 outlines mitigation measures already in place at the site, generally relating to the use of stored water on stockpiles, processing, equipment and access routes during periods of dry weather, as well as dust monitoring. Ongoing exceedence of the recommended dust deposition limit is not a satisfactory situation and the EIS does not include any proposed new mitigation measures to address this issue. I accept, however, that the available

monitoring results indicate that dust deposition was generally within the accepted parameter overall and that no known event since 1990 has resulted in any significant environmental impact arising from air quality impacts on residents from the quarry operations. At site inspection I noted that the dust mitigation measures in place are currently being carried out. It is considered that, on balance, the section 37L development is acceptable subject to the satisfactory implementation of the mitigation measures outlined in the EIS.

9.7 Noise and Vibration Impacts

9.7.1 Noise Impacts

The EIS provides information on noise monitoring carried out at 6 no. locations (A to F) at the nearest noise sensitive locations to the quarry site during 2014 - 2015. The recommended daytime noise limit of 55 Db $L_{Aeq,\ 1\ hour}$ was not exceeded, except for 2 no. locations (A and B) close to the northern end of the landholding, which is attributed to traffic noise from the R476, in addition to noise from quarrying activity. This is reasonable, given that they are further from the active quarry area then other monitoring locations. It is also consistent with the findings of the rEIS submitted with SU0048, which included noise monitoring results for the same 6 locations for the period 2007 - 2013, indicating a series of exceedences at locations 'A' and 'B'. The rEIS indicates several other historic individual exceedences at various locations, however historic noise levels were generally within the recommended limit and the operation did not result in excessive noise impacts overall.

EIS section 10.3 assesses potential noise impacts associated with the section 37L development including rock blasting, rock breaking and rock extraction within the section 37L area. It does not assess cumulative noise impacts associated with the adjacent concrete batching plant, concrete block plant and lime kiln. The projected noise levels for the 6 no. noise sensitive locations A – F, assuming a worst case scenario with all items of equipment and mobile plant being in operation simultaneously, are generally below the recommended limit. There are projected noise levels of 59 – 60 Db $L_{Aeq,\ 1\ hour}$ at locations A and B, i.e. in excess of the recommended daytime noise limit, however they are lower than existing noise levels at those locations. The EIS also states that additional HGV traffic associated with the section 37L development would have a 'perceptible but slight' noise impact. The EIS proposes the construction of a 3m high landscaped berm inside the road frontage of the quarry site, which would provide acoustic screening to locations to the north of the quarry, including locations A and B. Projected noise levels are calculated to be within the recommended limit at all locations when noise attenuation

from the berm is taken into account. Other noise mitigation measures recommended in the EIS include use and maintenance of plant, equipment and vehicles and design of internal haul roads.

The EIS noise assessment is considered deficient in that it does not provide a full cumulative assessment of combined noise impacts resulting from all activities at the site, including the adjacent concrete block plant, concrete batching plant and lime kiln. However, I note that historic noise levels in the vicinity were generally within the recommended limit, except at locations A and B, where a specific mitigation measure is now proposed. I therefore consider that the proposed continuation of quarrying activity would not result in significant adverse noise impacts. I also note the HSE submission on file, which states that there have been no noise complaints made to Clare County Council regarding the existing operation.

9.7.2 Vibration Impacts

Blasting at the site is strictly controlled and monitored. Blast vibration monitoring undertaken in 2014 and 2015 at the closest residential properties found PPV values well below the recommended limit, in the range of <1 to 2.5 mm/s. AOP values measured during each blast were below the limit value of 125 Db Lin. I note that historic information provided in the rEIS of SU0048 for the period January 2006 to April 2013 was all within accepted parameters. Blasting during the section 37L extraction is also to be monitored and carried out under controlled conditions. The current blasting procedure would continue to be used. The EIS concludes that vibration impacts are not considered to be significant. This is acceptable.

9.7.3 Noise and Vibration Impacts Conclusion

Based on the above analysis, I am satisfied that the section 37L development would not result in significant adverse noise or vibration impacts, subject to the implementation of the proposed mitigation measures. Conditions specifying the recommended limit values and requiring ongoing noise and vibration monitoring should be imposed if the Board is minded to grant permission.

9.8 Landscape and Visual Impacts

9.8.1 The quarry landholding is not located in a sensitive area where any specific landscape designations apply under the current Clare County Development Plan 2011-2017. Views of the landholding are generally restricted to close and medium distance views from areas within 2.5 km located to the east, north and south of the site, due to the undulating

nature of the local topography, i.e. intervening drumlins, which closes off extensive views. The greatest visual impact is on the adjacent stretch of the R476.

9.8.2 The section 37L development includes the following landscaping and site restoration measures:

- Initial restoration at site margins and areas no longer operational. Establishment / maintenance of fences and hedgerows along the northern, western and southern site margins, with woodland and scrub planting where opportunities occur;
- Construction of an irregular, 3m high earthen berm inside the road frontage to the R476, to be planted with native woodland species to create a woodland screen in the medium to long term;
- Progressive restoration of the quarry benches where possible, placing and spreading quarry spoil and soil materials at the base of each working face upon its completion and prior to commencing / extending lower levels of extraction;
- Following quarry closure: decommission and remove all plant; remove and level quarry waste and stockpiles and establish scrub; reinstate quarry floor to grassland, scrub and woodland; establish a lake at the western side of the quarry site; establish wildflower grassland to pasture at the eastern side of the site. A limited amount of restoration blasting is to be undertaken to create localised shallow edges to the water body for the benefit of biodiversity and emergency access / egress.

9.8.3 The LVIA carried out in EIS chapter 11 generally concludes that the development will not significantly increase visual impacts beyond those associated with the existing quarry and adjacent industrial activities. The earthen berm inside the road frontage would screen much of the plant, staff facilities, etc., in views from the road, resulting in a positive visual impact and improving further as the woodland landscaping of the berm matures. The site restoration measures would result in positive visual impacts. Having inspected the site and viewed it from several vantage points in the vicinity, I accept the conclusions of the EIS LVIA. I am satisfied that visual impacts resulting from the development are acceptable, subject to the implementation of the proposed landscaping scheme and site restoration plan.

9.9 Roads Impacts

9.9.1 The site is accessed via the R476, where an 80 kph speed limit applies. The site has a large, recessed access with visibility in excess of the recommended 160m visibility from a set back of 3m set out in the NRA DMRB for roads within an 80 kph speed zone. Warning signage is present

and maintained on the R476. No recorded incidents have occurred at the entrance to date. The R476 is and would continue to be the main haul route for quarry traffic.

9.9.2 The EIS traffic assessment is based on the average volume of traffic to be generated by the section 37L development and its impacts on the following road junctions in the area:

- Junction 1 R476 / entrance to Beech Grove
- Junction 2 R476 / Ballygriffey north road
- Junction 3 R476 / L4152
- Junction 4 R476 / quarry entrance
- Junction 5 R476 / L4154

The traffic assessment uses the results of a traffic survey carried out at the above junctions on Wednesday 5th August 2015 between 07.00 and 19.00, as well as information from the weighbridge tickets for the previous operational year to plot existing average traffic volumes at the quarry site access and the local road junctions. Projected quarry traffic is based on the estimated volume of material to be extracted in the section 37L development, i.e. 750,000 tonnes p.a., along with existing traffic volumes and projected changes to background traffic based on NRA information. A junction capacity assessment carried out using PICADY software found Ratio to Flow Capacity (RFC) values well below the recommended limit for all junctions, including the quarry entrance.

9.9.3 The EIS assesses the future capacity of the R476 using An Foras Forbartha – RT180 Geometric Design Guidelines. The existing road geometry indicates a 2 way capacity of c. 429 passenger car units (pcu) per hour at a Level of Service C and 775 pcu per hour at a Level of Service D. The projected annual daily traffic (ADT) of the R476 in the design year of 2035 will be 433 pcu per hour without the section 37L development and 649 pcu including the development., i.e above capacity for the R476 for service level C but below capacity for service level D.

9.9.4 EIS section 12.4 outlines mitigation measures that are presently in place at the quarry, including HGV management, warning signage, adequate on-site parking, hedgerow trimming, road sweeping and use of wheelwash. Aside from renewing existing road markings, it does not recommend any improvement works to facilitate the section 37L development. With regard to the above analysis, I have concerns about the future capacity of the R476 to cater for traffic generated by the development. I also note that the EIS traffic impact analysis does not include any projected increase in traffic associated with the ancillary activities at the site, i.e. concrete and lime manufacture, which could result in cumulative traffic impacts. In addition, the rEIS submitted with SU0048 accepts that there has been a slight adverse impact on the pavements on the surrounding road network,

particularly the R476. While I accept that the permissions for the other developments at the overall quarry site included development contributions for roads and that the site operator has carried out improvement works to the R476 in the past, I consider that further improvements to the R476 would be necessary to facilitate the continuation of quarry activities at the site. However, I also accept that the quarry access appears to be operating satisfactorily at present and that local road junctions have capacity to cater for quarry traffic, as discussed above. On balance, I consider that, if the Board is minded to grant permission, a condition should be imposed requiring the applicant to carry out improvement works to the R476 such that it has capacity to cater for future quarry traffic, to the satisfaction of the PA.

9.10 Conditions of Permission

9.10.1 The EIS does not propose any specific duration of permission, it merely outlines phasing. In view of the extent of the proposed extraction to a depth of -2m AOD, which is likely to materially exceed the duration of any development plan for the area and in which material changes may occur in terms of national and local policy with regard to the extractive industry, I consider the restriction of the duration of the permission to a period of 10 years is appropriate on foot of which a reassessment of the proposal can be undertaken in light of the policy considerations that would pertain.

9.10.2 The PA recommends a condition stating that if additional volumes of water are generated at the site during the section 37L development, resulting in a higher discharge volume than that permitted in the section 4 Discharge Licence, the applicant would be legally obliged to seek a review of the licence. This would be in the event that flow data shows significant increases in volumes delivered to the settlement lagoon and therefore would constitute a 'material change' in quantities, and/or where the 37L shows impact on the quality of the discharge being discharged from the treatment system to the environment. However, given that:

(i) It appears that the section 37L development would not generate a substantial amount of additional outflow than that currently treated at present and
(ii) The existing water discharge licence involves ongoing monitoring and compliance under a separate code,

It is not considered necessary to impose such a condition.

9.10.3 The PA has not made any recommendation with regard to financial contributions. I note that the current section 48 Clare County Council Development Contribution Scheme 2013-2017 includes specific charges

for ‘quarrying and extractive industry’. Development charges should therefore be imposed in accordance with the Scheme.

9.11 Planning Conclusion

9.11.1 The section 37L development would be in keeping with the provisions of the development plan and the Guidelines for Planning Authorities and Ancillary Activities issued by the Minister. It would not be likely to have significant negative effects on the environment. It would not be likely to have significant effects on any Natura 2000 site. It would not seriously injure the character of the areas. It would be acceptable in terms of traffic safety and convenience. It would therefore be in keeping with the proposed planning and sustainable development of the area.

10.0 ENVIRONMENTAL IMPACT ASSESSMENT

10.1 Overview

10.1.1 The EIS is presented in 3 volumes as follows:

- Volume I Non-Technical Summary
- Volume II Main Text
- Volume III Appendices

The introductory chapters of the EIS provide background information regarding the site location and history, the nature and extent of the overall quarry operation including the operator, site management, health and safety, environmental management, waste management, the planning history of the overall quarry site and related concrete production and lime kiln, also the EIS team and public consultation and scoping carried out by the applicant. The EIS then assesses the impacts of the proposal on the environment under the following headings: socio economic, ecology, soils and geology, water, climate, air quality (dust), noise and vibration, landscape and visual, traffic cultural heritage and archaeology and interaction of the foregoing.

10.2 Likely Significant Direct and Indirect Effects

10.2.1 There is a large degree of commonality between the significant issues identified and assessed under the planning assessment and AA and the likely significant direct and indirect impacts of the development on the environment. The EIA should, therefore, be read in conjunction with the planning assessment set out in section 9 above and the AA set out in section 11 below, in addition to the EIA and AA set out in my report on SU0048. The main impacts identified in the EIS may be summarised as follows, the order reflects that of the EIS document submitted.

10.2.2 Socio Economic

This section considers potential impacts on population, employment and economic activity, land use, tourism and amenity and material assets. The population density in the vicinity of the site is low, with minor ribbon development along the local road network. The small settlement of Toonagh is located at a crossroads c. 600m south of the site, consisting of a convenience shop, school buildings, a vacant trade premises and a cluster of houses. There are c. 80 no. dwellings within 1km of the site, including clusters to the immediate north west of the quarry entrance and at Toonagh. Toonagh Quarry is the largest and only substantial employer in the area and directly employs c. 20 people. There are significant tracts of woodland and hazel scrub around the site but the primary land use is livestock grazing and small scale agriculture. There have been no negative impacts to date on the thriving tourism industry in Co. Clare.

The section 37L development involves no alteration to the day to day operations at the site. The quarry operates under rigid guidelines to ensure that residential amenities are maintained, including an Environmental Management System (EMS). The EMS and the mitigation measures proposed in the EIS will ensure that impacts on the population would be minimal. The development would maintain current employment levels. The only impact on tourism destinations is a visual impact on a small section of a walkaway along the old West Clare railway, which runs in a south-east to north-west axis, over 1 km to the east of the quarry site. The EIS concludes that the development would not have any impact on the material assets of the area.

10.2.3 Ecology

This chapter is based on ecological surveys carried out at the site on 29th July 2015 and 25th August 2015; bat surveys carried out on 28th August 2014 and 29th July 2015 (day and nocturnal) and qualitative water sampling assessment of the surface water settlement lagoon and the surface water reservoir / clean water lagoon in the northern part of the site.

The following significant ecological impacts are identified:

- Breeding bird surveys were carried out at the site. There are Peregrine Falcons and Raven possibly nesting in the cliffs on the western side of the quarry, within the section 37L site. The lagoons in the northern part of the quarry support breeding wildfowl. Potential nesting cliffs are to remain undisturbed. No likely impacts to Peregrine Falcon.
- The EIS considers impacts on water quality and aquatic species in the lagoons in the northern part of the quarry and on off-site designated

wetlands, surface water features and non-designated wetlands within 2km of the quarry, which was informed by identified groundwater flows. The existing surface water treatment system is working well with no evidence of impacts beyond the first surface water lagoon. No impacts on hydrologically linked sites. No impacts on groundwater flows or groundwater fed habitats.

- Part of the settlement lagoon in the northern part of the quarry landholding has characteristics of the following Annex I habitats:
    - Hard oligo-mesotrophic waters within benthic vegetation of Chara spp. (3140);
    - *Calcareous fens with *Cladium mariscus* and species of the Caricion davallianae (7210)
    - Alkaline fens (7230)

  This area is to be retained undisturbed.
- A 0.25 ha area of remnant oak-ash-hazel woodland, isolated from surrounding woodland, occurs partially within the section 37L site and partly within the active quarry area. Part of this may be removed by the future quarrying activities. This would be a permanent impact. The area is not a key ecological receptor as it is a small fragment that is subject to existing quarry disturbance and is heavily impacted by the non-native invasive species Travellers Joy (*Clematis vitalba)*. The remaining oak-ash-hazel woodland around the site would remain undisturbed.
- No bat roosts or potential bat roosts were identified at the quarry landholding. Bat activity was low overall. No Lesser Horseshoe Bats were identified. No significant bats impacts are identified.

EIS section 5.4 outlines mitigation measures for water quality protection and recommends that the area of the quarry landholding north of the R476 be retained undisturbed, with no dumping of spoil in this area. Other mitigation measures include ongoing bird monitoring, which is currently undertaken at the site, to be taken into account in planning operational activities during the nesting season. The landscaping and restoration plan has the potential to improve local biodiversity and to provide suitable foraging habitat for Lesser Horseshoe Bats in SAC roost sites within 6km of the quarry. The EIS assessment of ecological impacts is considered acceptable.

10.2.4 Soils and Geology

The assessment of impacts on the geological environment (soils, subsoils and bedrock) considers the overall quarry site as a unit with references to the section 37L site. The Geological Survey of Ireland (GSI) confirms that Toonagh Quarry has been classified as a County Geological Site and may be proposed for NHA designated under the IGH 8 Lower Carboniferous

theme of the Irish Geological Heritage programme. The quarry is described as the best representative section in the county, other than karstic exposures in the Burren, for the typical Clare Burren Formation. There is very little soil remaining in most of the section 37L site, which is underlain by karstified bedrock or subcrop. The underlying limestone is of very high quality. EIS Appendix 6.1 is a Geophysical Report dated 12th May 2015, which details site surveys carried out by Apex Geoservices using Electrical Resistivity Tomography (ERT) and Ground Penetrating Radar (GPR) to identify possible faults and fracture zones.

The EIS identifies the following soils and geology impacts:

- Little or no impact on the soils/subsoils environment as almost all of the section 37L site has already been subject to extraction works.
- Permanent impact on the existing bedrock geological environment due to continued extraction.
- Removal of overburden with increased risk of surface water runoff containing elevated suspended solids entering the local surface water network.
- Potential risk of groundwater contamination as a result of fuel spills from plant and machinery.

The EIS proposes mitigation measures, including the careful design of the extraction area, environmental management, soil storage and water management measures, measures relating to the use and storage of fuel and chemicals and the proposed quarry restoration plan. No significant residual impacts are identified. The above impacts are noted and this aspect of the EIS is considered adequate.

10.2.5 Water

The EIS assesses the potential impacts of continued quarrying activities on the surface and groundwater environments within the section 37L site and within the overall quarry landholding and on the surrounding water environment.

The EIS outlines the existing water management in place at the quarry and water environment in the vicinity. Excavation at the existing quarry and the section 37L site has not taken place below the water table. EIS section 7.2.2 describes the hydrogeological setting of the quarry including groundwater levels, existing groundwater and surface water quality, aquifer potential and characteristics, karst features, groundwater vulnerability, EPA / GSI source protection zones, groundwater flow, groundwater usage and existing pollution sources. EIS section 7.3 identifies the following potential water impacts:

- Potential risk of hydrocarbon contamination due to leaks or spillages from vehicles within the site.

- Uncontrolled emissions of sediment laden waters from soil stripping, resulting in contamination of watercourses and impacts on fisheries.
- Proposed excavation to a depth of -2m AOD. Site investigations indicate that the water table is at c. 23m AOD – 26m AOD across the quarry floor. Dewatering will be required to excavated to a depth of -2m AOD. Groundwater dewatering volumes would be constrained by the limited recharge and the aquifer properties.

EIS section 7.4 outlines proposed mitigation measures, which are primarily a continuation of the existing surface water management system, which will also collect dewatered groundwater from excavation below the water table. Also measures to prevent hydrocarbon contamination and excessive dust / sediment discharge. Overburden is to be placed in screening berms at the site perimeter. No significant residual impacts on the water environment are identified.

The above assessment is satisfactory and the section 37L development is considered to be acceptable in terms of potential impacts on surface and ground waters, subject to the strict implementation of the submitted mitigation measures.

10.2.6 Climate

The development would not alter the local, regional or global climate. The quarrying industry is not a significant industrial generator of greenhouse gases and has not resulted in any net contribution to greenhouse gas emissions. This point is accepted.

10.2.7 Air Quality (dust)

EIS section 9.2 and table 9.1 provide details of dust monitoring carried out in 2014 and 2015 at 5 no. locations at the quarry perimeter (D1 – D5), including locations close to the concrete batching plant, stockpiles, the crushing and screening processing plant and the Cloghgrennane Lime Ltd lime kiln. Dust emissions from the development will be similar to those presently in existence. Section 9.4 outlines mitigation measures already in place at the site, generally relating to the use of stored water on stockpiles, processing, equipment and access routes during periods of dry weather. Ongoing dust monitoring is to be carried out. I have some concerns about air quality impacts as a result of the exceedences recorded at several locations as detailed in EIS table 9.1. The EIS does not include any proposed new mitigation measures to address this issue. See planning assessment above.

10.2.8 Noise and Vibration

The closest noise / vibration sensitive dwellings are c. 200-300m from the present active quarry area. Potential noise and vibration impacts are assessed against the limits set out in the EPA *Environmental Management in the Extractive Industry (Non Scheduled Activities),* 2006, i.e.:

Daytime noise:	(0.88 hrs to 20.00 hrs) 55 Db $L_{Aeq, 1\ hour}$
Night time noise:	(20.00 hrs to 08.00 hrs) 45 Db $L_{Aeq, 1\ hour}$

Ground bourne vibration:	Peak Particle Velocity (PPV) = 12 mm/s
Air overpressure (AOP):	125 Db (linear maximum peak value), with a 95% confidence limit.

EIS section 10.2 presents noise monitoring results for 6 no. locations (A to F) at the nearest noise sensitive locations to the quarry site during the years 2015 and 2015. Blast vibration monitoring results are provided for 2014 and 2015.

EIS section 10.3 assesses potential noise impacts associated with the proposed continuation of quarrying activity including rock blasting, rock breaking and rock extraction within the section 37L area. It does not assess cumulative noise impacts associated with the adjacent concrete batching plant, concrete block plant and lime kiln. Table 10.3 presents calculated noise levels for the 6 no. noise sensitive locations A – F, assuming a worst case scenario with all items of equipment and mobile plant being in operation simultaneously. The EIS also considers noise impacts associated with HGV traffic to and from the quarry, based on information on existing and future traffic movements provided in the TIA, for a peak hour period along the R476.

EIS section 10.4 outlines mitigation measures including acoustic screening provided by the quarry face, the location of stock piles around the site and a new 3m high landscaped berm along the northern side of the excavated area. Projected noise levels are calculated to be within the recommended limit at all locations with the inclusion of the berm. Blasting is to be monitored and carried out under strictly controlled conditions. The EIS concludes that, subject to the implementation of the proposed mitigation measures, noise limits will be within the recommended limit during both phases of extraction. Traffic levels at peak times will contribute a slight impact to the noise environment in the area. Vibration impacts are not considered to be significant.

The EIS noise assessment is considered deficient in that it does not provide a full cumulative assessment of combined noise impacts resulting from all activities at the site, including the adjacent concrete block plant, concrete batching plant and lime kiln. See assessment above.

10.2.9 Landscape and Visual Effects

EIS chapter 11 comprises a 'Landscape and Visual Impact Analysis', which considers views from 13 no. locations around the quarry landholding. The existing quarry operation has impacts on the landscape character, these are identified in the rEIS of SU0048 as '*moderately significant local impacts on landscape and visual amenity*'. The EIS identifies the following landscape and impacts:

- No significant visual changes to the existing western and northern quarry faces, located within the section 37L site.
- Modest, perceptible changes to views of the quarry from the R476, including a 'lengthening' of the western quarry face southwards and establishment of a new southern face to the quarry void, within the section 37L site. Moderately positive impacts in the short term due to the creation of a landscaped berm inside the road frontage. Views to improve in the medium / long term as the landscaping matures. Positive impacts as a result of the site restoration.
- The southern quarry face will be lower than existing and therefore less visible. The expansion of the southern face may open up views across the southern part of the site from the south but the taller plant structures are likely to remain the principal features of the quarry landholding from this approach. Views to remain substantially unchanged with slight / imperceptible visual impacts. The landscaped berm will provide some screening. Slightly positive visual impacts in the short term and moderately / highly positive in the long term. The quarry face will remain a permanent feature following decommissioning, however the quarry plant would be removed.
- The enlargement of the quarry void to the east is unlikely to be perceptible from the R476.
- The elevated western quarry face will continue to be the principal feature of the quarry along with existing taller plant structures in occasional views from the east and northeast. A slight lengthening of the quarry face to the south is likely to be the only visible change.
- The upper edge of the northern quarry face will continue to screen the quarry in views from the north, therefore no perceptible change to these views. Glimpsed views from the north and northeast, including the 'Burren Way' walking route, will experience little change as a result of the section 37L development. Positive long term impact of decommissioning and restoration.
- The nearest designed scenic routes are c. 5.5 km to the north, near Corrofin and 10 km to the south west, west of Connolly, from where there are no views of the active quarry area or the section 37L area.
- Overall slight short and medium term impact. Moderately positive long term impact as a result of the proposed site restoration.

EIS section 11.4 outlines mitigation measures comprising landscape mitigation, a landscape restoration plan and a new 3m high berm inside the road frontage of the site. The site will eventually be restored to a series of semi-natural habitats including grassland, scrub, woodland and permanent aquatic habitats. There will be a permanent adverse landscape effect arising from the change to local landform, but the site restoration will counterbalance this effect. The EIS identifies a positive residual impact.

I am satisfied that the EIS assessment of landscape and visual impacts is adequate and that visual impacts resulting from the development are acceptable.

10.2.10 Traffic

The EIS traffic assessment is based on the average volume of traffic to be generated by the section 37L development and its impacts on 5 no. nearby road junctions. The proposed haul route is stated as being north and south on the R476. No recorded incidents have occurred at the entrance to date.

A traffic survey was carried out on Wednesday 5th August 2015 between 07.00 and 19.00. The quarry site generated the following peak traffic movements during the survey period:

Time	**AM Peak Hour**		**PM Peak Hour**	
	Entering (07.00-08.00)	**Leaving (08.15-09.15)**	**Entering (15.45-16.45)**	**Leaving (16.45-17.45)**
Quarry HGVs	9	5	6	5
Employee vehicles	20	7	8	18

The traffic assessment takes into account both projected changes in quarry traffic as a result of the section 37L development and changes in the 'baseline' traffic. A junction capacity assessment was carried out using PICADY software to produce a Ratio to Flow Capacity (RFC) value for each junction, indicating RFC figures well below the recommended limit for all junctions. The EIS assesses the capacity of the R476 using An Foras Forbartha – RT180 Geometric Design Guidelines. This R476 will be above capacity in 2035 for level of service C, excluding the section 37L development. An ADT of 649 pcu is envisaged with the inclusion of site generated traffic, i.e above capacity for the R476 for service level C but below capacity for service level D.

EIS section 12.4 outlines existing mitigation measures at the quarry site, including HGV management, warning signage, adequate on-site parking,

hedgerow trimming, road sweeping, use of wheelwash. The EIS recommends that existing road markings on the R476 be renewed at the quarry entrance to inform traffic exiting the quarry that it should stop prior to tuning onto the R476.

The EIS traffic analysis does not take into account any future changes in the adjacent concrete block plant, concrete batching plant and lime kiln at the site. However, it is accepted that such changes may not be anticipated at this time. See traffic assessment above.

10.2.11 Cultural Heritage & Archaeology

There are no protected structures or structures listed in the National Inventory of Architectural Heritage (NIAH) at the section 37L site or in its vicinity. A field inspection carried out on 29th January 2013 found 1 no. non-designated upstanding structure within the 1km radius study area from the development, i.e. Drummina House. There are no designated or non-designated structures of heritage interest situated within the section 37L area or in its vicinity that would be directly or indirectly effected by the development. There are no recorded monuments located within the section 37L area. The closest recorded monument is CL025-111 – Drummina Enclosure, located c. 246m west of the section 37L site. There is no visible indication of a monument at this location and it is considered too distant to be directly or indirectly impacted by the proposed development. The remaining recorded monuments are also considered too distant to be directly or indirectly impacted by the proposed development. There is 1 no. additional undesignated monument located within the study area, a house ref. CL025-247, Toonagh House, which is situated over 900m south east of the section 37L site. It is also too distant to be directly or indirectly impacted by the development. Examination of cartographic sources, place name evidence, aerial photographs and other sources including previous excavations did not indicate any additional monuments or cultural heritage material within the study area.

EIS section 13.3 states that there are no identified potential direct or indirect impacts on cultural heritage or archaeology as a result of the section 37L development. No mitigation measures are recommended. I am satisfied that the EIS assessment of archaeological and cultural heritage impacts is adequate and that the section 37L development would not have any adverse impacts on protected structures or recorded monuments in the area.

10.2.12 Interaction of the Foregoing

The interactions chapter repeats conclusions identified in the individual

chapters of the EIS. Mo new impacts are identified.

10.3 EIA Conclusion

10.3.1 I note the following shortcomings in the EIS, as discussed in greater detail above:

- The assessment of air quality does not include any additional mitigation measures to address noted exceedences of the recommended dust deposition limit at the overall quarry site. However, it is accepted that the exceedences are located outside the boundary of the section 37L site.
- The noise assessment does not consider cumulative noise impacts resulting from the quarry operation along with the adjacent concrete batching plant, concrete block plant and lime kiln.

10.3.2 While the above deficiencies are noted, it is considered that the EIS generally includes adequate descriptions of the site, of the proposed development, of its likely effects on the environment, and of measures proposed to mitigate such effects. Overall the document in conjunction with other documentation and submissions received facilitates the assessment of likely significant effects on the environment. The ongoing management and monitoring of the site incorporating existing and proposed additional mitigation measures is considered to be an effective means of ensuring that the development as proposed would not have a significant impact on the environment.

11.0 APPROPRIATE ASSESSMENT

11.1 Introduction

11.1.1 This section of the report considers the likely significant effects of the proposal on the relevant European sites in view of the Conservation Objectives, with each of the potential significant effects assessed in respect of each of the Natura 2000 sites considered to be at risk and the significance of same. The assessment is based on the submitted Natura Impact Assessment (NIS).

11.2 The Project and Its Characteristics

11.2.1 NIS section 1.1. provides an overview of the existing quarry operation and the proposed section 37L continuation of quarrying activity, as described in sections 2.0 and 3.0 above.

11.3 The European Sites Likely to be Affected

11.3.1 NIS section 3 outlines the Stage 1 screening process. The quarry is not located in a European site. No direct impacts are proposed to habitats potentially used by mobile qualifying European protected species possibly linked to European sites, which occur in the locality of the quarry (e.g. Peregrine Falcon, Lesser Horseshoe Bat, Otter and Marsh Fritillary).

11.3.2 The NIS provides detailed analysis of potential source-pathway-receptor linkages to European sites, i.e. indirect effects. The following points of same are noted:

- The quarry activities include collection, diversion and discharge of surface water / trade effluent runoff from the active quarry area to the surface water settlement lagoon north of the R476. Potential exists for downstream emissions from the quarry and other indirect impacts. Based on the analysis of water impacts provided in the EIS, it is considered that groundwater fed habitats in surrounding European sites will not be affected by the ongoing operations within the active quarry area or by the section 37L development.
- The tracer tests as detailed in the EIS demonstrated unambiguously that water from the input site at the north eastern end of the active quarry area emerges some 400m to the north-northeast in the surface water reservoir / clean water lagoon at the northern tip of the quarry landholding and hence to the Drumeer Fen stream, which is linked to the Lower River Shannon SAC.
- No increased sediment loading in the watercourses is anticipated during the ongoing quarry operations. The surface water settlement lagoon in the northern part of the site is working well, as confirmed in the water impacts analysis carried out in the EIS carried out by Hydro Environmental Services (HES) in July 2015 and the Ecology Surveys carried out by Tobin Engineers at the site on 29th July 2015 and 25th August 2015.
- With respect to the Lesser Horseshoe Bat, *Bat Conservation Ireland* (guidelines December 2012) recommend 'screening in' projects within 6km of a roost to account for flight paths and feeding areas. The key consideration of the proposal is possible effects on Lesser Horseshoe Bat populations, roost sites and forage areas. It is considered that, given the close proximity (<6 km) of a number of Lesser Horseshoe Bat roosts that uncertainty exists regarding possible effects of the continuation of quarrying activities at Toonagh Quarry including the section 37L development.

11.3.3 The NIS lists European sites within a 15 km radius. This is acceptable with regard to the DoEHLG document *Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities* (2010), which recommends a distance of 15km to identify European sites that could potentially be affected by a development. The NIS considers that potential

qualifying interests associated with European sites beyond 15km will not be affected, based on the identified potential effects associated with the proposed development. Table 3.1 of the NIS provides a list of the Natura 2000 sites within 15km, which may be considered with regard to their qualifying interests and conservation objectives, and provides a screening assessment as follows:

Name of Site **Description**	**Site Code**	**Distance from Section 37L Site (km)**	**Conservation Objectives / Qualifying Interests**	**Screening Assessment**
Toonagh Estate SAC Former estate with stables providing nursery roost for Lesser Horseshoe Bat.	002247	470m south	To maintain or restore the favourable conservation condition of the Annex II species for which the SAC has been selected: 1303 Lesser Horseshoe Bat *Rhinolophus hipposideros*	**Yes** Lesser Horseshoe Bat roost site in close proximity.
Ballycullinan Old Domestic Building SAC Derelict dwelling and surrounding fields east of Ballycullinan Lough.	002246	1.1 km northwest	To maintain or restore the favourable conservation condition of the Annex II species for which the SAC has been selected: 1303 Lesser Horseshoe Bat *Rhinolophus hipposideros*	**Yes** Lesser Horseshoe Bat roost site in close proximity.
Ballycullinan Lake SAC Calcareous lake and associated wetlands with Cladium fens.	000016	1.25 km northwest	To maintain or restore the favourable conservation condition of the Annex I habitat for which the SAC has been selected: 7210 Calcareous fens with Cladium mariscus and species of the Caricion davallianae*	**No** No impacts will arise to groundwater and surface water. It is considered certain that there will be no changes in groundwater flows linked to calcareous fens with *cladium mariscus* and species of the Caricon davallinae [7210] habitat, and no effects will arise to

				this site.
East Burren Complex SAC Extensive site incorporating a wide range of terrestrial and wetland limestone habitats.	001926	2.5 km north	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and the Annex II species for which the SAC has been selected. Habitats: 3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. 3180 Turloughs* 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation 4060 Alpine and Boreal heaths 5130 Juniperus communis formations on heaths or calcareous grasslands 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco Brometalia*) (* important orchid sites)* 6510 Lowland hay meadows (lopecurus pratensis, Sanguisorba officinalis) 7210 Calcareous fens with Cladium mariscus and species of the Caricion davallianae* 7220 Petrifying springs with tufa formation (Cratoneurion)* 7230 Alkaline fens 8240 Limestone pavements* 8310 Caves not open to the public 91E0 Alluvial forests	**Yes** Lesser Horseshoe Bat roosts potentially within 6km of quarry development. No impacts to groundwater and surface water. No Otter breeding sites occur at this site. Possible Otter habitat (settlement ponds) at the site will be retained undisturbed. No Marsh Fritillary were recorded on this site. Possible marsh Fritillary on the site will be retained undisturbed.

			with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)* Species: 1065 Marsh Fritillary *Euphydryas aurinia* 1303 Lesser Horseshoe Bat *Rhinolophus hipposideros* 1355 Otter *Lutra lutra*	
Moyree River System SAC Sheltered river valley surrounded by limestone outcrops and Ash-Hazel woodland.	000057	6.8 km northeast	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and the Annex II species for which the SAC has been selected. Habitats: 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation 7230 Alkaline fens 8240 Limestone pavements* 8310 Caves not open to the public Species: 1303 Lesser Horseshoe Bat *Rhinolophus hipposideros* 1355 Otter *Lutra lutra*	**No** No impacts will arise to surface water or ground water. Roost sites within the SAC >6km from quarry development.
Dromore Woods and Loughs SAC Diverse site with a mosaic of woodland, limestone pavement and wetland habitats. Several lakes	000032	3.3 km northeast	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and the Annex II species for which the SAC has been selected: Habitats: 3150 Natural eutrophic	**Yes** Lesser Horseshoe Bat roosts potentially within 6km of quarry development. No impacts will arise to groundwater or surface water.

within the site are linked by the River Fergus.			lakes with Magnopotamion or Hydrocharition - type vegetation 6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels 8240 Limestone pavements* Species: 1303 Lesser Horseshoe Bat *Rhinolophus hipposideros* 1355 Otter *Lutra lutra*	
Ballyalia Lake SAC Small shallow naturally eutrophic lake on the River Fergus. The lake is base rich with clear water.	000014	3.15 km southeast	To maintain or restore the favourable conservation condition of the Annex I habitat(s) for which the SAC has been selected: 3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	**No** No impacts will arise to groundwater and surface water.
Ballyallia Lake SPA Small eutrophic lake supporting a good diversity of wintering waterfowl.	004041	3.15 km southeast	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: A050 Wigeon *Anas penelope* A051 Gadwall *Anas strepera* A052 Teal *Anas crecca* A053 Mallard *Anas platyrhynchos* A056 Shoveler *Anas clypeata* A125 Coot *Fulica atra* A156 Black-tailed Godwit *Limosa limosa*	**No** Given the distance disturbance impacts to these species are not likely to arise.

			To maintain or restore the favourable conservation condition of the wetland habitat at Ballyallia Lough SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.	
Corofin Wetlands SPA Oligotrophic limestone wetlands supporting nationally important numbers of whooper swan and black-tailed godwit.	004220	3.3 km north	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: A004 Little Grebe *Tachybaptus ruficollis* A038 Whooper Swan *Cygnus cygnus* A050 Wigeon *Anas penelope* A052 Teal *Anas crecca* A156 Black-tailed Godwit *Limosa limosa* To maintain or restore the favourable conservation condition of the wetland habitat at Corofin Wetlands SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.	**No** Given the distance disturbance impacts to these species are not likely to arise.
Lower River Shannon SAC Very large site comprising marine, estuarine and freshwater habitats.	002165	4.3 km southeast	The conservation objectives for Lower River Shannon SAC relate to the maintenance of a favourable conservation condition of the following Annex I habitat and Annex II species. There are detailed targets for each habitat and species. 1029 Freshwater Pearl	**No** No impacts will arise to groundwater and surface water.

			Mussel *Margaritifera margaritifera* 1095 Sea Lamprey *Petromyzon marinus* 1096 Brook Lamprey *Lampetra planeri* 1099 River Lamprey *Lampetra fluviatilis* 1106 Atlantic Salmon *Salmo salar* (only in fresh water) 1110 Sandbanks which are slightly covered by sea water all the time 1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide 1150 Coastal lagoons 1160 Large shallow inlets and bays 1170 Reefs 1220 Perennial vegetation of stony banks 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 1310 Salicornia and other annuals colonizing mud and sand 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) 1349 Bottlenose Dolphin *Tursiops truncatus* 1355 Otter *Lutra lutra* 1410 Mediterranean salt meadows (*Juncetalia maritimi*) 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation 6410 Molinia meadows on calcareous, peaty or	

			clayey-silt-laden soils (*Molinion caeruleae*) 91E0 *Alluvial forests with Alnus glutinosa and Fraxinus excelsior (*Alno-Padion, Alnion incanae, Salicion albae*)	
River Shannon and River Fergus Estuaries SPA Large estuarine complex supporting internationally important populations of wintering birds including Dunlin, Black-tailed Godwit and Redshank.	004077	9.7 km southeast	The conservation objectives for Lower River Shannon SPA relate to the maintenance of a favourable conservation condition of the following Annex I habitat and bird species. There are detailed targets for each habitat and species: Species: A017 Cormorant *Phalacrocorax carbo* breeding + wintering A038 Whooper Swan *Cygnus cygnus* wintering A046 Light-bellied Brent Goose *Branta bernicla hrota* wintering A048 Shelduck *Tadorna tadorna* wintering A050 Wigeon *Anas penelope* wintering A052 Teal *Anas crecca* wintering A054 Pintail Anas acuta wintering A056 Shoveler Anas clypeata wintering A062 Scaup *Aythya marila* wintering A137 Ringed Plover *Charadrius hiaticula* wintering A140 Golden Plover *Pluvialis apricaria* wintering A141 Grey Plover *Pluvialis squatarola*	**No** While the site is within the River Fergus catchment significant effects to these qualifying interests are not considered likely given the distance involved.

			wintering A142 Lapwing *Vanellus vanellus* wintering A143 Knot *Calidris canutus* wintering A149 Dunlin *Calidris alpina* wintering A156 Black-tailed Godwit *Limosa limosa* wintering A157 Bar-tailed Godwit *Limosa lapponica* wintering A160 Curlew *Numenius arquata* wintering A162 Redshank *Tringa totanus* wintering A164 Greenshank *Tringa nebularia* wintering A179 Black-headed Gull *Chroicocephalus ridibundus* wintering Habitat: A999 Wetlands	
Pouldatig Cave SAC Natural limestone cave and hibernating site for Lesser Horseshoe Bat	000037	6.4 km south	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and the Annex II species for which the SAC has been selected: Habitat: 8310 Caves not open to the public Species: 1303 Lesser Horseshoe Bat *Rhinolophus hipposideros*	**No** Roost sites within the SAC >6k from quarry development.
Ballyogan Lough SAC Lake complex with limestone pavement, scrub woodland, lake	000019	7.5 km northeast	To maintain or restore the favourable conservation condition of the Annex I habitat for which the SAC has been selected: 7210 Calcareous fens	**No** No impacts will arise to groundwater or surface water..

and caladium fen.			with Cladium mariscus and species of the Caricion davallianae*	
Newhall and Edenvale Complex SAC Natural fossil limestone caves supporting an important population of Lesser Horsehsoe Bat.	002091	8.05 km south	To maintain or restore the favourable conservation condition of the Annex I habitat and the Annex II species for which the SAC has been selected: Habitat: 8310 Caves not open to the public Species: 1303 Lesser Horseshoe Bat *Rhinolophus hipposideros*	**No** Roost sites within the SAC >6k from quarry development.
Knockanira House SAC Two storey building with Lesser Horseshoe bat maternity roost.	002318	12.1 km south	To maintain or restore the favourable conservation condition of the Annex II species for which the SAC has been selected: 1303 Lesser Horseshoe Bat *Rhinolophus hipposideros*	**No** Roost sites within the SAC >6k from quarry development.
Slieve Aughty Mountains SPA Large site of hills and lakes, much of which is afforested, supporting breeding hen harrier and merlin.	004168	9.8 km east	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA: A082 Hen Harrier *Circus cyaneus* A098 Merlin *Falco columbarius*	**No** SNH (2013) indicates that the foraging distance of hen harrier in the breeding season does not exceed 10km, and that of merlin is within 5km.
Old Domestic Buildings Rylane SAC Two domestic buildings, adjacent sheds and	002314	12.8 km east	To maintain or restore the favourable conservation condition of the Annex II species for which the SAC has been selected:	**No** Roost sites within the SAC >6k from quarry development.

hedgerows supporting Lesser Horseshoe Bat roosts.			1303 Lesser Horseshoe Bat *Rhinolophus hipposideros*	
Moneen Mountain SAC Inland Burren habitats including limestone pavement and associated grasslands and heaths, hazel scrub and ash woodland.	000054	11.4 km northwest	To maintain or restore the favourable conservation condition of the Annex I habitats and the Annex II species for which the SAC has been selected: Habitats: 3180 Turloughs* 4060 Alpine and Boreal heaths 5130 Juniperus communis formations on heaths or calcareous grasslands 6130 Calaminarian grasslands of the Violetalia calaminariae 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco Brometalia*) (* important orchid sites)* 7220 Petrifying springs with tufa formation (*Cratoneurion*)* 8240 Limestone pavements* Species: 1065 Marsh Fritillary *Euphydryas aurinia* 1303 Lesser Horseshoe Bat *Rhinolophus hipposideros*	**No** Roost sites within the SAC >6k from quarry development. No impacts will arise to groundwater or surface water. Significant effects to qualifying interests unlikely due to the distance of the site from the quarry. Lesser Horseshoe Bat roost sites >6km from the quarry. Terrestrial habitats have no potential to be impacted. It is considered highly unlikely that given the distance involved any pollutants held in groundwater would have the potential to significantly impact qualifying interests.
Newgrove House SAC Remains of a former mansion used as a hibernating site by	002157	14 km east	To maintain or restore the favourable conservation condition of the Annex II species for which the SAC has been selected:	**No** Roost sites within the SAC >6k from quarry development.

Lesser Horseshoe Bat			1303 Lesser Horseshoe Bat *Rhinolophus hipposideros*	

* Denotes a priority habitat

12.3.4 Having examined the 15km site radius, I note that the following additional designated sites not listed in the submitted NIS are located within 15km of the section 37L site. They are included here for the sake of completeness. The following screening assessment may be made, using the same rationale as provided in the NIS:

Name of Site Description	**Site Code**	**Distance from section 37L site (km)**	**Conservation Objectives / Qualifying Interests**	**Screening Assessment**
Old Farm Buildings, Ballymacrogan SAC Farmyard containing a series of stone sheds. The Lesser Horseshoe Bat breeds in two of the buildings.	002245	3.8 km northeast	To maintain or restore the favourable conservation condition of the Annex II species for which the SAC has been selected: 1303 Lesser Horseshoe Bat *Rhinolophus hipposideros*	**Yes** Lesser Horseshoe Bat roost site in close proximity.
Old Domestic Building (Keevagh) SAC A derelict dwelling, which is a breeding site of the Lesser Horseshoe Bat.	002010	12.7 km southeast	To maintain or restore the favourable conservation condition of the Annex II species for which the SAC has been selected: 1303 Lesser Horseshoe Bat *Rhinolophus hipposideros*	**No** Roost sites within the SAC >6km from quarry development.

11.4 Mitigation Measures and Residual Impacts

11.4.1 NIS section 4 details the Stage 2 assessment, i.e. consideration of the effects on the relevant Natura 2000 sites with respect to their Conservation Objectives. All of the potential effects relate to effects on the Lesser Horseshoe Bat populations at the relevant sites. The following points are noted regarding bat surveys carried out at the section 37L site and potential bats impacts:

- Daytime and nocturnal site surveys were carried out at the Toonagh quarry landholding on 28th August 2014 and 29th July 2015 by an experienced bat surveyor. Transects and listening stops were conducted throughout the landholding including fringing areas of woody vegetation.
- No suitable Lesser Horseshoe Bat roost sites exist on the landholding and no evidence of roosts was found on the day survey. As the quarry does not contain caves, it is not likely to support any areas suitable for winter hibernation. No bat activity was recorded on the site during the 2 nights of nocturnal surveys. Bats were not actively foraging at the site and no commuting routes were identified. It was noteworthy that no bats were recorded foraging in areas of semi-natural vegetation and wetlands within the quarry landholding north of the R476. Bat activity was very low in roads surrounding the quarry. Low numbers of Pipistrelle species were recorded and no Lesser Horseshoe Bats were detected at any location.
- The conservation status of Lesser Horseshoe Bat is currently favourable (NPWS 2013). The nearest SACs designated for the species, Toonagh Estate and Ballycullinan buildings are significant maternity roosts that may account for 2% of the national population and 5% of the Co. Clare population.
- There have been no direct impacts to any of the listed SACs from development at Toonagh quarry to date.
- Given that the nearest roost sites are over 400m from the Toonagh quarry landholding and population growth of roosting Lesser Horseshoe Bat has been observed in these closest sites during the lifetime of the quarry, it is considered unlikely that roosts would have been effected by past or potential future blasting events. Quarrying activities are carried out during the day and there is no potential for noise disturbance to foraging and commuting bats which emerge after dusk.
- Hazel scrub and woodland surrounding the quarry are not suitable roost habitat but may be used for foraging. Based on a review of aerial imagery back to 1995, there has been no significant change in woodland vegetation extent (potential forage habitat) except a very small, fragmented area (< 0.2ha)
- Lesser Horseshoe Bat were surveyed as part of the EIS for the lime kiln development at the site in 2005. It was identified that the probable feeding and commuting routes for the bats would be toward Ballygriffy Wood, which is located to the northeast of the quarry landholding and therefore the quarry development would not impact on this bat activity. It was further noted that the types of habitats present at the quarry site are not the preferred habitat type for the Lesser Horseshoe Bat, which prefers tracts of mature broadleaf woodland such as those found at Ballygriffy Wood.

- Dust result levels at Toonagh quarry over the past 6 years were predominantly below the compliance threshold limit of 350mg/m^3/day. It is considered extremely unlikely that dust will have had a significant impact on Lesser Horseshoe Bat potentially foraging in and around the Toonagh quarry landholding.
- Considering that the extent of foraging habitat within the Toonagh quarry landholding and environs has not significantly changed over time, that more preferable foraging habitat exists outside of the quarry landholding and that the nearest roost sites have seen a growth in abundance during the lifetime of the quarry, the NIS concludes that no significant impacts have arisen to SAC Lesser Horseshoe Bat roosts in the vicinity of the development.
- The landscape and restoration plan proposes to reinstate as much as possible typical semi-natural habitat vegetation in the area post quarrying. This includes for potential suitable bat foraging habitats such as a large pond, semi natural woodland (hazel scrub) and semi natural grassland as well as the retention of all existing semi natural habitats at the site. This is a favourable approach regarding Lesser Horseshoe Bat species and other bat species.

11.4.2 The following points are noted with regard to potential effects on the relevant designated sites, based on the assessment provided in the NIS:

- The Lesser Horseshoe Bat population at Toonagh Estate SAC has been increasing. Approximately 100 no. individuals have been counted in recent years. The NPWS site synopsis notes that there are no immediate threats to the site. The NBDC has records of Lesser Horseshoe Bat (60 no. emergence count) c. 1 km to the east of Toonagh Estate SAC from 2011. Given the close proximity of the site to the Toonagh Quarry landholding (470m), Lesser Horseshoe Bat may be sensitive to loss of potential commuting and foraging habitats at the Toonagh quarry landholding.
- Ballycullinan (old domestic buildings) SAC is a derelict dwelling that is a Lesser Horseshoe Bat breeding site. The number of bats using the site has gradually increased and in June 1999 115 no. individuals were counted, making it a population of international importance. A small area of Hazel (*Corylus avellana*) woodland and extensive hedgerows are included in the site as they provide foraging habitat. The NPWS site synopsis notes that there are no immediate threats to the site. The NBDC as records of Lesser Horseshoe Bat (128 no. emergence count) within this SAC from 2011. Given the close proximity of the site to the Toonagh Quarry landholding (1.1 km), Lesser Horseshoe Bat may be sensitive to less of potential commuting and foraging habitats at the Toonagh quarry landholding.

11.4.3 The NIS does not consider potential effects on the Old Farm Buildings Ballymacrogan SAC. The following information has been gleaned from the NPWS site synopsis. This site, which is west of Ruan in Co. Clare, consists of a farmyard which contains a series of stone sheds. The Lesser Horseshoe Bat breeds in two of the buildings. The Vincent Wildlife Trust has carried out work on one of the sheds in use by the Lesser Horseshoe Bats at this site to improve the roosting conditions. Approximately 80 individual bats were counted on emergence in June 2000, although numbers have exceeded 100 (threshold for international importance) in the past. There appear to be no immediate threats facing the site. Lesser Horseshoe Bat are identified as the key qualifying interest regarding consideration as the site is 3.8 km from the quarry landholding.

11.5 Other Plans or Projects (In Combination Effects)

11.5.1 Key pressures on the River Fergus Water Management Unit are diffuse pollution from agriculture and one off houses. Diffuse pollution from agricultural sources is an issue for the catchment. The Fergus Water Management Unit Action Plan notes that there are 17 no. registered quarries in the catchment. Of these, 2 no. quarries are located within 5 km of Toonagh quarry. Monitoring to date indicates that the surface water / trade effluent management system at the quarry is operating effectively and discharges to groundwater from the quarry have not contributed to adverse effects on the River Fergus catchment and water dependent qualifying interests of relevant European sites.

11.5.2 The NIS does not consider potential cumulative impacts on Lesser Horseshoe Bat and is deficient in this respect. However, the general assessment of potential impacts on Lesser Horseshoe Bat is acceptable.

11.6 NIS Conclusion

11.6.1 The NIS outlines ongoing and proposed mitigation measures as detailed in the EIS relating to surface water / trade effluent management, dust management, landscaping and site restoration at the quarry site. It concludes that, as the mitigation measures continue to be implemented in full, it is envisaged that there will continue to be no significant adverse effects on the conservation status of the Annex I habitats or Annex II species directly, indirectly or cumulatively.

11.7 Appropriate Assessment Conclusion

11.7.1 The section 37L development would not involve significant loss or fragmentation of habitats that might support the population of Lesser Horseshoe Bats within the SACs in either foraging, breeding or migration. The activity in the proposed quarry extension would be similar in intensity to that in the previously authorised quarry and would be at a substantial distance from the SACs, and so would not cause significant disturbance to the populations there. I also note that Lesser Horseshoe Bat populations have been increasing in some of the nearby SACs. It is therefore concluded that the development would not be likely to have significant effects on any Natura 2000 sites either by itself or in combination with any other plan or project.

12.0 CONCLUSION AND RECOMMENDATION

12.1 Having regard to the acceptability of the environmental impacts and effects on designated sites as set out above, it is considered that, subject to compliance with the conditions set out below, the section 37L development is not contrary to the proper planning and sustainable development of the area. I recommend that permission be granted for the reasons and considerations and subject to the conditions set out below.

REASONS AND CONSIDERATIONS

The Board had regard to, *inter alia*, the following-

(a) the provisions of the Planning and Development Acts, 2000 to 2015, as amended, and in particular Section 37L,

(b) the 'Quarry and Ancillary Activities, Guidelines for Planning Authorities issued by the Department of the Environment, Heritage and Local Government in April, 2004,

(c) the provisions of the Clare County Development Plan 2011-2017,

(d) the Environmental Impact Statement submitted with the application,

(e) the Natura Impact Statement submitted with the application,

(f) the submissions made in accordance with regulations made under Article 270(1) of the Planning and Development (Amendment) (No. 2) Regulations 2015,

(g) the report and the opinion of the planning authority under section 37L(12)(a),

(h) the planning history of the site,

(i) the pattern of development in the area,

(j) the details contained within application for substitute consent on the site ref. SU0048,

(k) the nature and scale of the development the subject of this application, and

(l) the Inspector's Report.

Appropriate Assessment

The Board noted that the proposed development is not directly connected with or necessary to the management of a European Site. Having regard to the nature, scale and extent of the subject development, the Natura Impact Statement submitted with the application and the mitigation measures contained therein, the submissions on file and the Inspector's assessment, the Board completed an Appropriate Assessment of the effects of the development on nearby Natura 2000 sites. The Board concluded that, on the basis of the information available, the subject development, either individually or in combination with other plans or projects, would not adversely affect the integrity of any European sites, having regard to the Conservation Objectives of those sites.

Environmental Impact Assessment

The Board considered that the Environmental Impact Statement submitted with the application, the report, assessment and conclusions of the Inspector with regard to this file and other submissions on file, was adequate in identifying and describing the direct and indirect effects of the proposed development. The Board completed an environmental impact assessment, and agreed with the Inspector in her assessment of the likely significant effects of the proposed development, and generally agreed with her conclusions on the acceptability of the mitigation measures proposed and residual effects. The Board generally adopted the report of the Inspector. The Board concluded that, subject to the implementation of the mitigation measures proposed, the proposed development would not be likely to have significant effects on the environment.

CONDITIONS

1. The development shall be carried out in accordance with the plans and particulars lodged with the application submitted to An Bord Pleanála on the 17th day of December 2015, except as may otherwise be required in

order to comply with the following conditions. Where such conditions require points of detail to be agreed with the planning authority, these matters shall be the subject of written agreement, and shall be implemented in accordance with the agreed particulars. In default of agreement, the matter(s) in dispute shall be referred to An Bord Pleanála for determination.

Reason: In the interest of clarity.

2. This grant of planning permission for further extraction relates only to the 19.79 ha area outlined in red on drg. No. 7228-2001 submitted with the application on the 15th day of December 2015. Excavation across the entire 19.79 ha site shall be limited to a maximum depth of -2 m above Ordinance Datum.

Reason: In the interest of clarity.

3. This grant of approval shall be for a period of 10 years from the date of this order.

Reason: To enable the effects of the development to be reassessed in the light of the operation of the permission and the circumstances then obtaining.

4. A detailed restoration scheme for the site according to the broad principles indicated on Drawing K14-101 submitted to An Bord Pleanála on the 15th day of December, 2015, shall be submitted to the planning authority for written agreement within three months of the date of this order. The following shall apply in relation to the design and timing of the restoration plan:

    a. Details relating to finished gradients of the cliff faces, the type of restoration to be carried out and to measures to ensure safety during site restoration shall be provided.
    b. Details of landscaping including planting and mounding to be carried out.
    c. A phasing timescale for implementation and proposals for an aftercare programme of five years shall be submitted to the planning authority for written agreement.

Reason: In the interest of the visual amenities of the area, to ensure public safety, and to ensure that the quarry restoration protects and enhances ecology.

5. All proposed screening measures, including improvements to boundaries and the provision of any fencing and berms, shall be completed prior to commencement of extraction on site.

Reason: In the interest of visual amenity and to safeguard the amenities of property in the vicinity during the operating phase of the development.

6. Prior to the commencement of development the developer shall submit and agree in writing with the planning authority a scheme to carry out improvements to the R476 such that it has capacity to cater adequately for future quarry traffic. The scheme shall include a phasing timescale for implementation. Existing road traffic markings at the site entrance shall be renewed.

Reason: For the safety and convenience of road users

7. Mitigation & monitoring measures outlined in the Environmental Impact Statement and Natura Impact Statement submitted with this application, shall be carried out in full, except where otherwise required by conditions attached to this permission. All results shall be submitted to the planning authority on a quarterly basis.

Reason: In the interest of protecting the environment and in the interest of public health.

8. The development shall be operated and managed in accordance with an Environmental Management System (EMS), which shall be submitted by the developer to, and agreed in writing with, the planning authority prior to commencement of development. This shall include the following:

(a) Proposals for the suppression of on-site noise.

(b) Proposals for the on-going monitoring of sound emissions at dwellings in the vicinity.

(c) Proposals for the suppression of dust on site.

(d) Proposals for the bunding of fuel and lubrication storage areas and details of emergency action in the event of accidental spillage.

(e) Details of safety measures for the land above the quarry, to include warning signs and stock proof fencing.

(f) Monitoring of ground and surface water quality, levels and discharges.

(g) Details of site manager, contact numbers (including out of hours) and public information signs at the entrance to the facility.

Reason: In order to safeguard local amenities.

9. Water supply and drainage arrangements, including the disposal of surface water, shall comply with the requirements of the planning authority for such works and services.

Reason: In the interest of public health and to ensure a proper standard of development.

10. The quarry, and all activities occurring therein, shall only operate between 0700 hours and 2000 hours, Monday to Friday and between 0700 hours and 1600 hours on Saturdays. No activity shall take place outside these hours or on Sundays or public holidays.

Reason: In order to protect the residential amenities of property in the vicinity.

11. During the operational phase of the proposed development, the noise level from within the boundaries of the site measured at noise sensitive locations in the vicinity, shall not exceed-

(a) an L_{ArT} value of 55 dB(A) during 0700-1800 hours. The T value shall be one hour.
(b) an L_{AeqT} value of 45 dB(A) at any other time. The T value shall be 15 minutes.

Reason: In order to protect the residential amenities of property in the vicinity.

12. (a) Dust levels at the site boundary shall not exceed 350 milligrams per square metre per day averaged over a continuous period of 30 days (Bergerhoff Gauge). Details of a monitoring programme for dust shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. Details to be submitted shall include monitoring locations, commencement date and the frequency of monitoring results, and details of all dust suppression measures.

(b) A monthly survey and monitoring programme of dust and particulate emissions shall be undertaken to provide for compliance with these limits. Details of this programme, including the location of dust monitoring

stations, and details of dust suppression measures to be carried out within the entire quarry complex, shall be submitted to, and agreed in writing with, the planning authority prior to commencement of any quarrying works on the site. This programme shall include an annual review of all dust monitoring data, to be undertaken by a suitably qualified person acceptable to the planning authority. The results of the reviews shall be submitted to the planning authority within two weeks of completion. The developer shall carry out any amendments to the programme required by the planning authority following this annual review.

Reason: To control dust emissions arising from the development and in the interest of the amenity of the area.

13. (a) Blasting operations shall take place only between 1000 hours and 1700 hours, Monday to Friday, and shall not take place on Saturdays, Sundays or public holidays. Monitoring of the noise and vibration arising from blasting and the frequency of such blasting shall be carried out at the developer's expense by an independent contractor who shall be agreed in writing with the planning authority.
(b) Prior to the firing of any blast, the developer shall give notice of his intention to the occupiers of all dwellings within 500 metres of the site. An audible alarm for a minimum period of one minute shall be sounded. This alarm shall be of sufficient power to be heard at all such dwellings.

Reason: In the interest of public safety and residential amenity.

14. (a) Vibration levels from blasting shall not exceed a peak particle velocity of 12 millimetres/second, when measured in any three mutually orthogonal directions at any sensitive location. The peak particle velocity relates to low frequency vibration of less than 40 hertz where blasting occurs no more than once in seven continuous days. Where blasting operations are more frequent, the peak particle velocity limit is reduced to eight millimetres per second. Blasting shall not give rise to air overpressure values at sensitive locations which are in excess of 125 dB (Lin)max peak with a 95% confidence limit. No individual air overpressure value shall exceed the limit value by more than 5 dB (Lin).

(b) A monitoring programme, which shall include reviews to be undertaken at annual intervals, shall be developed to assess the impact of quarry blasts. Details of this programme shall be submitted to, and agreed in writing with, the planning authority prior to commencement of any quarrying works on the site. This programme shall be undertaken by a suitably qualified person acceptable to the planning authority. The results of the reviews shall be submitted to the planning authority within two weeks of completion. The developer shall carry out any amendments to

the programme required by the planning authority following this annual review.

Reason: To protect the residential amenity of property in the vicinity.

15. The developer shall pay to the planning authority a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or intended to be provided by or on behalf of the authority in accordance with the terms and Development Act 2000, as amended. The contribution shall relate to the greenfield area of the site which has not to date been excavated and shall be paid prior to commencement of development or in such phased payments as the planning authority may facilitate and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. Details of the application of the terms of the Scheme shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to An Bord Pleanála to determine the proper application of the terms of the Scheme.

Reason: It is a requirement of the Planning and Development Act 2000, as amended, that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to the permission.

16. Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the planning authority, to secure the satisfactory reinstatement of the site, coupled with an agreement empowering the planning authority to apply such security or part thereof to such reinstatement. The form and amount of the security shall be as agreed between the planning authority and the developer or, in default of agreement, shall be referred to the Board for determination.

Reason: To ensure the satisfactory restoration of the site in the interest of visual amenity.

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Sarah Moran
Senior Planning Inspector
17th October 2016