Inspector's Report

ABP-319006-24

Development	Excavation of mine, restoration of open-cast mine, refurbishment of processing plant and all associated site works. Natura Impact Statement (NIS) and Environmental Impact Assessment Report (EIAR) submitted with application.
Location	Drumgoosat, Knocknacran (East and West), Derrynascobe, Derrynaglah, Enagh, Drummond and Clontrain, Co. Monaghan
Planning Authority	Monaghan County Council
Planning Authority Reg. Ref.	2360045
Applicant(s)	Saint Gobain Mining (Ireland) Limited
Type of Application	Permission
Planning Authority Decision	Grant Permission
Type of Appeal	Third Party
Appellant(s)	Conan Connolly

	DK Essential Company Limited by Guarantee
Observer(s)	Sean Gallagher LL.M. Rebecca McConnon Fidelma O'Kane Heinrich Ehbrecht-Engels
Date of Site Inspection	4th February 2025
Inspector	Elaine Power

Contents

1.0 Introduction

1.1. Gypsum is a naturally occurring, non-metallic, mineral, which is found in rock form. It is composed of calcium sulphate and water ($CaSO_4(2H2O)$).

1.2. Gypsum mining has been carried out in the area of the appeal site for over 100 years. The existing Knocknacran open cast mine has been in operation since 1989 and the underground Drummond Mine, which is located outside of the redline boundary, to the south of the existing Knocknacran Mine has been operating since 2003. These mines are both within the ownership of the applicant and provide the only indigenous source of gypsum on the island of Ireland. The extracted gypsum from both the Knocknacran and Drummond mines is processed at the existing processing plant at the Knocknacran Mine site.

1.3. Gypsum is the only material that is required to be blasted onsite. Following blasting, the gypsum is crushed in a semi-mobile primary crusher on the pit floor of the Knocknacran open cast mine. The crushed gypsum is transferred to the processing plant via truck. The crushed gypsum is homogenised prior to being dispatched from the site. Due to the nature of gypsum, the processing plant does not generate a waste product. The homogenised gypsum is primarily used in the manufacture of plasterboard and plaster at the applicant's manufacturing factory in Ballynaclose, near Kingscourt c. 10km from the appeal site. The Irish cement industry and the Irish agricultural industry are also supplied with gypsum from the mine.

1.4. The proposed Knocknacran West open cast mine is located above the former underground Drumgoosat Mine, which cessed operating in 1989. There have been several recorded subsidence events over the underground Drumgoosat mine workings. In response to the appeal the applicant states that the most recent subsidence event was recorded on 16th February 2024 where a crown hole, 11m in diameter, was discovered on a routine survey over the former Drumgoosat Mine. The location of the known sinkholes / crown holes are identified in Figure 7.17 of the EIAR. In the interest of clarity, a sinkhole is a natural occurrence while a crown hole is the result of man-made activity.

1.5. In 2018 a significant subsidence event took place on the former Mageracloone GAA facility, which was located above the old Drumgoosat workings. A section of the R179 was closed for a number of weeks and some local residents were relocated until the risk from further subsidence could be determined. Following this significant subsidence event, assessments were undertaken by the applicant to ascertain the causes and the current and future stability of the existing underground workings beneath the site. An independent analysis was also undertaken on behalf of the Department of Communications, Climate Action and Environment (DCCAE).The assessments concluded that 3 no. unique conditions interacted to result in the subsidence event, these are summarised as (1) 12 m high gypsum pillars at this underground location compared to 6 m high pillars elsewhere within the mine workings; (2) water levels rising and submerging the 12 m high pillars, and (3) a thin gypsum floor beam. The risk of a significant future subsidence event is considered to be very low as water is no longer stored in the underground mine workings.

1.6. The mining operations at the Knocknacran and Drummond Mines are the subject of an IE Licence (Register No: P0519-04). The proposed Knocknacran West site is not within the boundary of the existing licence. However, it is proposed that the Knocknacran West mine would be integrated into the existing IE Licence during a licence review process, subject to planning permission being obtained.

2.0 Site Location and Description

2.1. The proposed development is located, in a rural area c. 7km north of Kingscourt, Co. Cavan and c. 7 km south of Carrickmacross, Co. Monaghan. The village of Magheracloone is located c. 50m from a woodland area located within the most northern portion of the site.

2.2. The appeal site has a total stated area of c 140.4 ha. It is irregular in shape and is divided by the Carrickmacross to Kingscourt regional road (R179). The topography of the area is undulating and levels within the site vary from c. 40m to c. 70 m OD. The area to the south-east of the R179 comprises the existing Knocknacran open cast Mine (c. 51.5ha.), the existing Knocknacran processing plant area (c. 24.6 ha) and the existing phase 1 Community Sports Complex (c. 8.6 ha). The area to the north-west of the R179 comprises an area of unmanaged pastoral land, areas of scrub and

woodland, 5 no. dwellings, 4 no. of which are unoccupied and / or derelict and the former underground Drumgoosat mine workings. A portion of this site, which previously accommodated a GAA ground, was subject to the significant subsidence event in September 2018 referred to above. The red line boundary of the appeal site also includes a part of the R179 regional road (c. 1.4 ha) to allow for improvement works.

2.3. A wayleave runs from the southern portion of the site to the River Bursk, to facilitate a surface water pipeline.

2.4. The area surrounding the site is generally characterised by agricultural uses with low density housing along the road network. There is a petrol station and convenience store fronting onto the R179, adjacent to the existing Community Sports Complex. To the south of the site is the existing Drummond Underground Mine, which has permission to operate until 2032 (Reg. Ref. 03/578) and is also within the ownership of the applicant and utilises the processing plant that forms part of the proposed development.

2.5. The main vehicular entrance to the existing Knocknacran open cast mine is from the site's western boundary with the L4816. There is a secondary entrance to the Knocknacran mine, via the R179, however, this gated access is generally locked.

3.0 Proposed Development

3.1. The proposed development comprises of 4 no. distinct elements. These are as follows: -

1. Excavation of the former Drumgoosat underground mine by open cast mining methods for the purposes of gypsum extraction. The development includes the construction of a cut-and-cover tunnel under the Carrickmacross to Kingscourt regional road (R179) for the transport of gypsum by haulage truck and covered conveyor, to the existing processing plant area at Knocknacran, and for the transport of overburden by haulage truck to the existing Knocknacran Open-Cast Mine site for ongoing restoration purposes. The temporary realignment of the R179 during the tunnel construction period, to allow the R179 to remain in constant use. The demolition of 1 no. house and 3 no. unoccupied houses and

sheds to facilitate the development and the pumping of water from the existing Drumgoosat underground workings via an existing borehole on the Knocknacran West Mine site.

2. The continued ongoing restoration of the existing Knocknacran open cast mine, permitted under Reg. Ref. 17/217 and operating subject to Industrial Emissions (IE) Licence P0519-04 and Mining Lease M139. The proposed development includes a modification to the existing approved restoration plan to return the existing Knocknacran open cast mine to near ground levels.
3. The continuation of use and the refurbishment of the existing Knocknacran processing plant area, including water treatment facilities and associated infrastructure including discharge pipeline to the River Bursk. The proposed development includes a replacement vehicular access to the existing Knocknacran open cast mine and Knocknacran processing plant area site from the L4816.
4. The construction of 2 no. playing pitches, one with a perimeter running track and the other is an all-weather pitch with associated goal posts, ball stops, dugouts, pitch fencing, flood lighting; a new building to incorporate reception, meeting / club rooms, sports hall, handball alley, changing rooms and toilets, a viewing gallery, a part covered grandstand and additional parking and all associated siteworks, at the existing Community Sports Complex permitted under Reg. Ref. 20/365.

3.2. The proposed mine development is an activity that requires an Industrial Emissions (IE) Licence and a Mining Lease. The planning application is accompanied by an Environmental Impact Assessment Report (EIAR) and a Natura Impact Statement (NIS).

4.0 Planning Authority Decision

4.1. Decision

Permission was granted subject to 26 no. conditions. The conditions are generally standard conditions, relate to mitigation measures outlined in the EIAR or are

monitoring conditions that would be undertaken as part of the IE Licence. In my opinion conditions of note are as follows:

13 a. Stability monitoring of roads shall be continued throughout the life of the mining activity in accordance with the Trigger Action Response Plans contained within Appendices 7.8 and 7.9 of the submitted EIAR.

13 b. Any proposed modification to the stability monitoring referred to in the submitted Trigger Action Response Plans for the L4900 and R179 shall only be carried out following agreement in writing with the Planning Authority and the Geoscience Regulation Office (GSRO).

Reason: In the interest of road safety and orderly development.

14 a. Within 12 months of the date of closure of the mine, the developer shall carry out further hydrogeological and stability assessments to assess the assumptions made in the EIAR concerning the stability of underground mining voids remain valid. These assessments shall be submitted to the Planning Authority for agreement in writing.

14 b. If the assessments referred to in condition 14 a above indicate that it will not be possible to inhibit water ingress into mine workings that occur beneath the R179 and L4900, backfilling of four way intersections beneath the two roads shall be undertaken, the details of which shall be agreed in writing with the Planning Authority prior to commencement of development.

Reason: In the interest of orderly development.

17. Mining activities herby permitted shall be for a maximum period of 30 years from the date of grant of permission, unless before the end of that period, permission for the continuance of the use of the mine beyond that date has been granted.

Reason: In the interest of orderly development.

4.2. Planning Authority Reports

4.2.1. Planning Reports

The initial planners report dated 2nd June 2023 stated that in principle, the planning authority had no objection to the development proposed which would afford for a new supply of gypsum to be excavated to maintain the viability of the Irish gypsum industry given that the existing operations onsite represent the only gypsum operation in the country. It also considered that the additional works proposed with respect to the community sports complex were acceptable and would support objectives and policies of the development plan in terms of the provision of community facilities.

However, concerns were raised regarding the EIAR and NIS submitted. The report recommended that 4 no. items of further information be requested. These are summarised below: -

1. The submitted EIAR was not considered sufficient to afford for a full assessment of the development proposed. Submit revised documentation which addresses the following issues:

   <u>Chapter 5 – Population and Human Health</u>

   i. Chapter 5 does not incorporate impacts of the proposed development on climate.

   ii. Provide support for the proposed development with regard to European and National Legislation, plans, programmes, and policies. Demonstrate how the development meets Ireland's economic, social and environmental goals.

   iii. Details of consultations with the public.

   <u>Chapter 6 – Biodiversity</u>

   iv. Clarity is required in relation to the survey effort and methodologies for fauna used to information the assessment. The reported survey methodologies within the chapter are not sufficient or completed in-line with the referenced guidance or best practice. Where deviation from best practice is required, robust justification must be provided.

v. Mitigation needs to be evidence based. Further information on the baseline is therefore needed along with clarity on the impacts proposed in the short to medium terms, to justify and thereby assess the mitigation strategy.

vi. Reliance on future surveys is not an appropriate approach to inform the planning authority of potential impacts. A comprehensive assessment is required.

Chapter 8 – Water

vii. Chapter 8 does not consider the potential cumulative effects of specific impacts within each construction phase.

viii. Chapter 8 does not describe the worst-case scenarios in the event that the identified mitigation measures fail.

Chapter 9 – Climate

ix. There are significant gaps in methodology, study boundaries, quantification of emissions and basis for the assessment of significance.

x. The basic methodology in the European Commission, Climate Change and Major Projects 2016, has not been followed.

xi. There is no explanation of the relationship between temperature extreme and water discharge levels, likelihood of this occurring or magnitude/significance of the consequence.

xii. The assessment does not qualify GHG emissions from any of the scope 1 phases, although the data required to calculate is presented. This is a significant gap in the assessment.

xiii. There is no justification as to why a 30% reduction in diesel fuel consumption is included in the calculation from phase 4 mine development onwards.

xiv. Use of the term microclimate should be clarified as typically it refers to shading and wind tunnelling effects, which have not been discussed at all in the chapter. It should be clarified if the conclusion refers to GHG emissions and related climate impacts or microclimate.

xv. Carbon release during soil stripping and CO2 sequestered during restoration is mentioned in residual effects. However, this potential effect is not discussed in any of the previous sections. It is recommended that a full mass balance for carbon is provided.

Chapter 10 – Air Quality

xvi. Clarification on whether the dust related complaints correspond to reported elevations of baseline dust records would be beneficial in assessing this history.

xvii. Clarity is requested from the baseline PM10 to be supplied in 24 hour averages and to be presented against the AQS of annual AQS (of 40µg/m3) or 24 hour AQS of 50µg/m3.

xviii. The dust magnitude for each individual activity should be determined for all parts of the development together.

xix. It appears that the two arguably most significant dust sources are not assessed at all: overburden stripping and phased restoration.

xx. Although comprehensive mitigation measures are proposed in Chapter 10, given the lack of assessment, it is difficult to ascertain whether these measures are sufficient.

xxi. The residual effects section must also provide a clear assessment as to whether these effects are intermittent or continuous, cover construction, operation and adverse phases, adverse or positive, significant or not significant.

xxii. Appendix 10.2, Mineral Dust Assessment was reviewed, in light of the Chapter 10 dust risk assessment, the pathway effectiveness, assessment is lacking sufficient detail. There is no information on the number of hours for relevant wind speed or direction, or the relevant degrees in which a receptor fails therefore it is very difficult to discern if the assessment of pathway effectiveness is adequate. Further details are required to adequately address this effect on the environment.

Chapter 11 – Noise

xxiii. Clarification is required on the use of LAR,T for night time compliance limits. Should this be LAEQ,T as per NG4 or is there a purpose for this parameter for night-time limits.

xxiv. There is no impact assessment presented in relation to the likely predicted change at sensitive receptors. To inform on the likely impact of change to the locality, this should be supplied

xxv. The associated appendices to Chapter 11 are unclear and difficult to follow.

Chapter 12 – Vibration

xxvi. Clarification on the source of the magnitude scale is required.

xxvii. The chapter presents human response to vibration but does not develop this through the impact assessment or otherwise address such. As these values are more intrinsic to the human perception, it is warranted for an assessment of the likely impact of the proposed development on such to be assessed.

Chapter 17 - Major Accidents and Disasters

xxviii. Chapter 17 does not address potential scenarios resulting in the accidental release of large volumes of mine water and / or heavily impacted water to surface water bodies.

xxix. Chapter 17 should also present and assess scenarios similar to the incidence of 2018 (significant increase in mine water volumes).

Chapter 19 - Mitigation and Monitoring

xxx. Chapter 19 should include all mitigation identified in relevant chapters are included and committed to within the EIAR. Where monitoring is presented, it must be in-line with the relevant specialist sections in relation to the number and location of such monitoring.

2. Following an assessment of the submitted Natura Impact Statement (NIS), the Planning Authority notes the following:

   i. In-text citations are missing in parts of the NIS due to formatting errors.

ii. Justification is required on the relevance of the assessment of bats and mustelids.

iii. Provide a clear justification for the requirement of mitigation measures to protect Dundalk Bay SAC and SPA and Strabannan-Braganstown SPA.

iv. No consideration has been given to bird species designated for Dundalk Bay SPA or a reason for scoping them out of the assessment.

The Applicant is requested to review the NIS in the context of the issues raised above and submit a revised NIS to address the issues raised.

3. a. The applicant shall submit a Construction and Environmental Management Plan (CEMP).

b. The applicant shall complete an Article 11 declaration to the EPA to determine if Waste Authorisation is required.

c. Regarding demolition waste from the former GAA facility, the applicant shall provide information outlining the excavation and appropriate recovery of said inert waste to an appropriate authorised facility via an authorised waste collector

Applicant shall contact the Environment Section of the Council to discuss point 3 above.

4. Applicant is requested to review the content of the third-party submissions and provide a comprehensive response to the issues raised.

The submission of the above information will constitute Significant Further Information. In accordance with Article 35 of the Planning and Development Regulations 2001 (as amended), the applicant shall if required,

a. Revise the Site Notice to indicate 'Significant Further Information/Revised Plans, as appropriate'

b. Erect revised Site Notice on site

c. Revise the Press Notice to 'Significant Further Information/Revised Plans, as appropriate'

d. Submit a Copy of the Revised Site Notice and Revised Press Notice to the Planning Authority.

Further information was submitted to the planning authority, which included an addendum report to the EIAR, on the 10th November 2023. The information submitted was considered to constitute significant further information and was readvertised.

The final planners report dated 12th January 2024 considered that having regard to the information submitted with the application and by way of further information, and the assessment of the EIAR and NIS, the policies and objectives of the Monaghan County Development Plan that the proposed development, at this known, viable and indigenous source of gypsum, is acceptable and in accordance with the proper planning and sustainable development of the area subject to compliance with the recommended conditions.

4.2.2. ***Other Technical Reports***

Malone O'Regan Environmental undertook an environmental peer review of the applicants NIS and EIAR on behalf of Monaghan County Council in June 2023. Section 2 of the report notes some limitations in the NIS. Section 20 of the report concludes that the EIAR submitted presents, in the most, a clear understanding of the proposed development, the need for the development, the reasoning for this design and location over alternatives, and the key characteristics of the proposed development under specific topics. However, it was considered that the EIAR had information gaps that required attention to ensure a full understanding of the baseline and potential impacts and thereby justify the mitigation strategy proposed is sufficient. It was recommended that further information be sought in this regard. The consultant's findings are reflected is the planning authorities request for further information.

Environmental Health Officer: Report dated 29th May 2023 raised no concerns regarding the proposed development subject to compliance with the information submitted with the application and the conditions of the existing or future IE Licence.

Environment - Water Section: Report dated 31st May 2023 notes that the proposed open cast mine at Knocknacran West is not within the boundary of the existing EPA licence, therefore, a new licence or licence review by the EPA would be required.

It is important that adequate measures are in place during the construction and operational phases to ensure no impact on receiving surface or ground water. The report recommends that a Construction and Environmental Management Plan (CEMP) be submitted by way of further information.

Report dated 13th December 2023 notes that the existing lagoons have sufficient capacity to treat the capacity of water during the construction and operational phases and that a plan for the maintenance of the lagoons was included with the additional information. There is no objection to the proposed development, subject to a number of conditions.

Environment - Waste Section: Report dated 31st May 2023 recommended that further information be sought regarding (1) an Article 11 declaration to the EPA to determine if Waste Authorisation is required and (2) information outlining the excavation and appropriate recovery of inert waste.

Road Engineers Report: Report dated 11th January 2024 raised no objection subject to conditions.

Chief Fire Officer: Report dated 15th May 2023 raised no objection subject to conditions.

Water Services Section: Report dated 22nd May 2023 raised no objection as the proposed development would not impact on any existing Uisce Eireann assets or sources.

4.2.3. ***Cavan County Council***

The submission from Cavan County Council dated 15th May 2023 notes the following: -

- Considering the nature of open cast mining activities, the development may have the potential to impact on the hydrological and geotechnical conditions beyond the site boundary.
- The requirements of the Water Framework Directive (2000/60/EC) and the Groundwater Directive (2006/118/EC), and associated regulations, are relevant to assessing the impact of the proposed development, particularly in relation to having an effective surface water management system and monitoring for the site.

- It is a requirement of the Water Framework Directive that waters used for the abstraction of drinking water are protected. The proposed development could potentially impact on the Mullantra borehole which is a Drinking Water Source supplying the Kingscourt Public Water Supply Scheme (PWS). It is recommended that Uisce Eireann be notified of the proposed development.
- It is noted that dust, noise and vibration is to be recorded and monitored under the Site's Annual Environmental Reporting (AER) according to the EPA Licencing requirements of the site.

4.3. Prescribed Bodies

Transport Infrastructure Ireland (TII): Both submissions, dated 19th April 2023 and 17th November 2023, state that there is no observation.

An Taisce: The submission to the local authority dated the 9th May 2023 notes that gypsum mining has been carried out in the area for over 80 years and that previous mining excavation has been responsible for subsidence, most notably in the case involving a local GAA pitch in 2018.

It is considered that any new development needs to demonstrate adoption of the precautionary principle in protecting groundwater, in mitigating the impact of any water treatment and surface water runoff and in insuring the protection of local water supply sources. In addition, mitigation measures on traffic movement, noise, dust and other impacts on the local community needs to be properly addressed.

The submission to the appeal dated 5th March 2024 notes that the significance of the appeal site as the only indigenous gypsum supply. The submission states that underground mining in the early 20th century has result in significant subsidence problems. Concerns are raised over the impact of the mine on groundwater and water supply sources. It is considered that the precautionary principle needs to apply in assessing this appeal, to ensure no risk to water. Traffic impact is also a critical consideration. Given the scale and nature of the project particular consideration is required on mitigating the impact of noise and dust on the surrounding area and protection of amenity of the local community.

Environmental Protection Agency (EPA): The submission dated 11th May 2023 notes that the applicant (Saint-Gobain Construction Products (Ireland) Limited) was issued an Industrial Emissions (IE) Licence (Register No: P0519-04) on the 20th December 2021. This licence application was accompanied by an EIAR. Should a licence review application be received by the Agency, the documentation and EIAR would be considered and assessed. In accordance with Section 87(1D)(d) of the EPA Act, a Proposed Determination on a licence application which addresses the proposed development the Agency cannot be issued until a planning decision has been made.

The EPA's submission to the Board dated 21st March 2025 again notes that the applicant (Saint-Gobain Construction Products (Ireland) Limited) was issued an Industrial Emissions (IE) Licence (Register No: P0519-04) on the 20th December 2021. A licence review (Register No: P0519-05) application was received by the EPA on the 15th December 2023. This licence review application was accompanied by an EIAR. It is noted that the EIAR submitted with the licence review application does not appear to be the same EIAR submitted with the planning application / appeal. Should the applicant wish to include the changes proposed in the planning application / appeal as part of the licence review application, the applicant will be required to submit the associated EIAR to the Agency as part of the licence review application.

The submission also notes that all matters to do with emissions to the environment from the activities proposed, the licence review application documentation and EIAR will be considered and assessed by the Agency.

Where the Agency is of the opinion that the activities, as proposed, cannot be carried on, or cannot be effectively regulated under a licence then the Agency cannot grant a licence for such an activity. Should the Agency decide to grant a licence in respect of the activity, as proposed, it will incorporate conditions that will ensure that appropriate National and EU standards are applied, and that Best Available Techniques (BAT) will be used in the carrying on of the activities.

Inland Fisheries Ireland (IFI): The submission dated 15th May 2023 notes that there are a number of watercourses on or close to the site, which are part of the River Glyde catchment, namely: -

- The Corduff Stream, a tributary of the River Bursk, which is located at the northern end of the site.
- The River Bursk, to the east of the site, which receives the licensed discharge from the site.
- An un-named watercourse at the western side of the site, which flows into the Magheracloone River.

All of these watercourse's flow into the River Glyde and associated lakes, which contain valuable fisheries habitat and support salmonid, coarse and other fish species. Both Atlantic salmon and Lamprey species are listed in Annex II of the Habitats Directive.

The WFD Ecological status of the waterbodies in which these watercourses are located (Glyde_020 and Glyde_030) is Good. It is important to ensure that there is no deterioration of existing conditions, in accordance with Article 5 of the EC Environmental Objectives (Surface Waters) Regulations 2009 (S.I. 242).

The following aspects of the proposed development have the potential to impact negatively on aquatic habitats:

a) Stripping of the site at Knocknacran/Drumgoosat

b) Surface water management during construction stages

c) Potential additional loads to the existing on-site surface water treatment facilities

d) Waterbody (to be formed following cessation of mining)

A surface water monitoring programme should be agreed with Monaghan County Council for the watercourses listed above, for the duration on the construction phase.

Daily visual inspections of the sites with regular physio-chemical analysis are also recommended. It is considered that these additional monitoring sites would provide valuable monitoring data and assist in identifying water quality issues on site should they arise during the construction phase.

Department of Housing, Local Government and Heritage: The submission dated 18th May 2023 states that given the scale of the proposed development works and the proximity to Recorded Monuments, it is possible that archaeological material / features

could be impacted and damage. It is recommended that a thorough geophysical survey be carried out over the entire development site in order to detect any subsurface archaeological features / deposits in the area where development is proposed to take place. This should be request by way of further information.

Geoscience Regulation Office (GSRO): The submission dated the 12th May 2023 notes that the gypsum deposit in the Kingscourt area currently represents the only known, viable and indigenous source of this material in Ireland. Gypsum is an essential ingredient in the manufacture of various construction industry products. The development is supported in principle, as it would augment the supply of high-quality gypsum to the construction sector over the next 30-35 years, allow for the restoration of the existing open cast to original ground level and also aid the long-term stability of the area, which in recent years has been affected by a number of subsidence events. However, the proposal would need to demonstrate that there is no significant risk of unnecessary impacts, or impacts which cannot be satisfactorily mitigated, which could outweigh the benefits of the development.

The observations are summarised below:

1. The Closure, Restoration and Aftercare Management Plan (CRAMP) should be updated to include all three-mining operations at Drummond, Knocknacran East and Knocknacran West, to ensure that all elements are assessed and coordinated.

2. It is recommended that stability monitoring of the roads should be continued throughout the life of mining.

3. The proposed development constitutes potential health and safety risks that require careful consideration and mitigation. It is noted that the applicant would refine its operational procedures to identify and mitigate the risks associated with working above mine voids and disturbed ground.

4. It is recommended that further hydrogeological and stability assessments are carried out nearer to closure to assess that assumptions made in the EIAR concerning the stability of underground mining voids remain valid. If future assessments indicate that it is not possible to inhibit water ingress into mine

workings it is considered that backfilling of four-way intersections beneath the two roads should be undertaken.

4.4. Third Party Observations

4.4.1. 27 no third-party observations were received to the original planning application and a further 25 no. observations were received following re-advertising of significant further information. The concerns raised in the submissions are similar to those outlined in the appeal section. below.

5.0 Relevant Planning History

Knocknacran Open Cast Mine

Reg. Ref. 83/461: Permission was granted in 1985 for an opencast gypsum mine.

Reg. Ref. 07/430: Permission was granted in 2007 to extend the extraction area of the existing permitted opencast gypsum from 19.174 ha to 30.694 ha on a total site area of over an area of 54.86 ha and to permit extraction until 2018. An Environmental Impact Statement was submitted with this application and the application relates to an activity for which an integrated pollution license is required.

Reg. Ref. 17/217: Permission was granted in 2017 for the continuation of extraction of gypsum from a permitted open cast mine to 2033 over an area of 54.86 hectares including progressive restoration and all associated site works. This application is accompanied by an Environmental Impact Assessment Report.

Drummond Underground Mine

Reg. Ref. 03/573: Permission was granted in 2004 for an underground gypsum mine, an extension of the period of use of the existing processing plant and additions / alterations to the existing processing plant area for a period of 25 years. The development site had a stated area of 128.9 ha.

Community Sports Facilities

Reg. Ref. 20/365: Permission was granted in 2021 for the construction of a new playing pitch, goalposts, ballstops, dugouts, pitch fencing, single storey dressing

rooms and toilets, parking area, wastewater treatment system, percolation and attenuation areas, boundary fencing, new entrance onto R179 public road, and all associated site works. This development is located within the red line boundary of the appeal site. It is constructed and operational and referred to as Phase 1 in the submitted documentation.

Surrounding Sites

Reg. Ref. 22/23: Permission was granted in 2022 for a community centre within the village of Drumgoosat, c. 50m from a woodland area located within the most northern portion of the site. This applicant was also the applicant on this planning application. The community centre is constructed and operational.

6.0 Policy Context

6.1. Monaghan Development Plan 2019 – 2025

The appeal site is located on unzoned lands, in the open countryside.

Section 4.8 Extractive Industry of the development plan notes *that mineral reserves make an important contribution to the economy, and it is important that they are safeguarded for future use whilst also ensuring that impacts on the environment and communities are acceptable.* It further notes that *mineral extraction can generate environmental capacity problems and applications for mineral extraction must account for issues relating to noise, dust, vibration, visual intrusion, water pollution, traffic generation, etc. An environmental impact statement (EIS) will be required as part of a planning application where certain thresholds are exceeded and in other cases where extraction is likely to have significant effects on the environment as determined by the Planning Authority. The cumulative effects of work in a given area will also be considered when assessing a planning application.*

Knocknacran Gypsum Mine is identified as a Geological site (CGS 10) comprising a *large open-cast gypsum mine, with numerous intersections into old underground mine workings. It is probably the largest man-made excavation in Ireland.*

The appeal site is located in Flood Zone C.

The following polices are considered relevant:

EIP 1 *To require all applications for extractive development to submit the following as part of the planning applications;*

a) Map detailing total site area, area of excavation, any ancillary proposed development and nearest dwelling and/or any other development within 1km of the application site.

b) Description of the aggregate to be extracted, method of extraction, any ancillary processes (crushing etc), equipment to be used, stockpiles, storage of soil and overburden and storage of waste materials.

c) Total and annual tonnage of extracted aggregates, expected life time of the extraction, maximum extent and depth of working and a phasing programme

d) Details of water courses, water table depth and hydrological impacts, natural and cultural heritage impacts, traffic impact and waste management.

e) Assessment of cumulative impact when taken with any other extractive operations in the vicinity.

f) Likely environmental effects, proposed mitigation measures and restoration and after- care proposals.

EIP 2: *To prohibit extractive development within an area of primary or secondary amenity, Special Protection Area (SPA's) , Special Area of Conservation (SAC's), Natural Heritage Area/pNHA (NHA's) Architectural Conservation Area (ACA's) or on or near protected structures unless in exceptional circumstances where the Planning Authority is satisfied that the need for the resource outweighs the environmental impact.*

EIP 3: *To restrict development proposals located in close proximity to existing extractive sites of significant resource potential where such developments would limit future exploitation.*

EIP 4: *To restrict extractive developments that may have a detrimental impact on the natural or built environment or matters of acknowledged public importance including the use of public rights of way*

ERP 1: *To safeguard for future extraction all identified locations of major mineral deposits in the County.*

ERP2: *To promote development involving the extraction of mineral reserves and their associated processes, where the Planning Authority is satisfied that any such development will be carried out in a sustainable manner that does not adversely impact on the environment or on other land uses. Consideration in this regard shall be given to the impact of the development on the local economy.*

SHO 5: *To support and encourage the development of Tier 5 settlements to ensure that local services are sustained in the rural community settlements.*

SHO 6: *To support the viability of dispersed rural communities and seek to encourage the growth of Tier 6 settlements generally in the form of single dwellings.*

CCP 2: *To prepare a Climate Change adaptation strategy for County Monaghan having regard to relevant national guidelines and in co-operation with all relevant stakeholders.*

WPP 3: *To protect known and potential groundwater reserves in the county. In assessing applications for developments, the planning authority will consider the impact on the quality of water reserves and will have regard to the recommended approach in the Groundwater Protection Response Schemes published by GSI. The employment of the methodology identified in the 'Groundwater Protection Scheme Reports for County Monaghan public supply sources' (available at www.gsi.ie) and 'Guidance on the Authorisation of Discharges to Groundwater' (available at www.epa.ie) will be required where appropriate.*

WPP 17: *To contribute towards the protection of existing and potential water resources, and their use by humans and wildlife, including rivers, streams, groundwater and associated habitats and species in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European*

Union (Water Policy) Regulations 2003 (as amended), the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009), the Groundwater Directive 2006/118/EC and the European Communities Environmental Objectives (groundwater) Regulations, 2010 (S.I. No. 9 of 2010) and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same). To also support the application and implementation of a catchment planning and management approach to development and conservation, including the implementation of Sustainable Drainage System techniques (SUDS) for new development

WMP 7: *To support the minimisation of waste creation and promote a practice of reduce, reuse and recycle where possible and to safeguard the environment by seeking to ensure that residual waste is disposed of appropriately.*

6.2. **Draft Monaghan Development Plan 2025 - 2031**

In the interest of clarity, the current development plan that the appeal is likely to be assessed under. This section is provided for information purposes.

The Chief Executives Report on Submissions received on the draft development plan consultation process was published in March 2025 (www.monaghan.ie).

In the draft development plan the appeal site is located on unzoned lands, in the open countryside.

Section 4.9 Extractive Industry of the development plan notes that *gypsum is mined at a site in the County. The critical role minerals have in assisting economic recovery and job creation and the transition to a circular and resource efficient economy, supporting rural development and reducing emissions, is highlighted within The Policy Statement on Mineral Exploration and Mining – Critical Raw Materials for the Circular Economy Transition, published by the Department of the Environment, Climate and Communications in December 2022.* It further notes that *mineral extraction can generate environmental issues for the surrounding area. An Environmental Impact Assessment Report will be required as part of a planning application where certain thresholds are exceeded and in other cases where extraction is likely to have an adverse impact on the environment as determined by the Planning Authority. The cumulative effects of mineral extraction and any ancillary processes in a given area will also be considered when assessing development proposals.*

Knocknacran Gypsum Mine is identified as a Geological site (CGS 10) comprising a large open-cast gypsum mine, with numerous intersections into old underground mine workings. It is probably the largest man-made excavation in Ireland.

The appeal site is located in Flood Zone C.

The following polices are considered relevant:

MEO 1: *To promote development involving the extraction of mineral reserves and their associated processes, where the Planning Authority is satisfied that any such development will be carried out in a sustainable manner that does not adversely impact on the environment or on other land uses. Consideration in this regard shall be given to the impact of the development on the local economy.*

MEO 2: *To safeguard all identified locations of major mineral deposits in the County for future extraction.*

6.3. National Planning Framework – Ireland 2040' (NPF)

The National Planning Framework is a high-level strategic plan for shaping the future growth and development of the county to 2040. The plan sets out 10 no. National Strategic Outcomes.

The NPF states (page 78) that *aggregates and minerals extractive industries are important for the supply of aggregates and construction materials and minerals to a variety of sectors, for both domestic requirements and for export. The planning process will play a key role in realising the potential of the extractive industries sector by identifying and protecting important reserves of aggregates and minerals from development that might prejudice their utilisation.*

Aggregates and minerals extraction will continue to be enabled where this is compatible with the protection of the environment in terms of air and water quality, natural and cultural heritage, the quality of life of residents in the vicinity, and provides for appropriate site rehabilitation.

National Strategic Outcome 9 relates to sustainable management of water, waste and other environmental resources and notes climate change will have significant future effects on the availability of water sources and on the capacity of water bodies

to assimilate wastewater discharges through lower water levels in rivers and lakes in longer and drier summer periods. The impact of climate change on the water cycle and the resultant impact on water services and flooding therefore need to be considered in settlement strategies.

National Policy Objective 23: Facilitate the development of the rural economy through supporting a sustainable and economically efficient agricultural and food sector, together with forestry, fishing and aquaculture, energy and extractive industries, the bio-economy and diversification into alternative on-farm and off-farm activities, while at the same time noting the importance of maintaining and protecting the natural landscape and built heritage which are vital to rural tourism.

6.4. Updated Draft Revised National Planning Framework, November 2024

The Draft Revised NPF sets an approved housing target for the period 2025 to 2030, aiming to deliver a total of 303,000 new homes across Ireland. This plan sets an average of over 50,000 homes per year, with a pathway to achieve 60,000 homes annually in 2030 and thereafter. This represents a critical step towards meeting Ireland's growing housing needs, driven by projected population increases, latent and ongoing demand for housing.

The Draft Revised NPF (page 130) states that aggregates and minerals extractive industries are important for the supply of aggregates and construction materials and minerals to a variety of sectors, for both domestic requirements and for export. The planning process will play a key role in realising the potential of the extractive industries sector by identifying and protecting important reserves of aggregates and minerals from development that might prejudice their utilisation.

Aggregates and minerals extraction will continue to be enabled where this is compatible with the protection of the environment in terms of noise, air and water quality, natural and cultural heritage, the quality of life of residents in the vicinity, and provides for appropriate site rehabilitation particularly with respect to opportunities that may be provided for enhancement or restoration of nature in line with EU policies, such as the Nature Restoration Law, the EU Green Deal and EU Biodiversity Strategy 2020, and legislative instruments.

Critical raw materials are of high economic importance for Europe while being also highly vulnerable to supply disruptions. Critical raw materials are confronted with a growing global demand, driven by the decarbonisation of economies. The Critical Raw Materials Act, one of the three key legislative initiatives of the EU Green Deal and provides for a set of Actions to ensure the EU's access to a secure, diversified, affordable and sustainable supply of critical raw materials.

National Policy Objective 30: Facilitate the development of the rural economy, in a manner consistent with the national climate objective, through supporting a sustainable and economically efficient agricultural and food sector, together with forestry, fishing and aquaculture, energy and extractive industries, the bio-economy and diversification into alternative on-farm and off-farm activities, while at the same time noting the importance of maintaining and protecting biodiversity and the natural landscape and built heritage which are vital to rural tourism.

6.5. Climate Action and Low Carbon Development (Amendment) Act 2021

This Act amends the Climate Action and Low Carbon Development Act 2015. It sets out the national objective of transitioning to a low carbon, climate resilient and environmentally sustainable economy in the period up to 2050. The Act commits us, in law, to a move to a climate resilient and climate neutral economy by 2050. An Bord Pleanála is a relevant body for the purposes of the Climate Act. As a result, the obligation of the Board is to make all decisions in a manner that is consistent with the Climate Act.

6.6. Climate Action Plan, 2024

The Climate Action Pan was first published in June 2019 by the Department of Communications, Climate Action and Environment. The Climate Action Plan 2024 (CAP24) is the third annual update to Ireland's Climate Action Plan 2019. This plan is prepared under the Climate Action and Low Carbon Development (Amendment) Act 2021, and following the introduction, in 2022, of economy-wide carbon budgets and sectoral emissions ceilings.

6.7. Ireland's Long-term Strategy on Greenhouse Gas Emissions Reduction, 2024

This strategy is an update to the 2023 strategy, and the first to be prepared under Ireland's Climate Action and Low Carbon Development Acts 2015 to 2021. It conforms to both EU and national requirements and is consistent with Climate Action Plan 2024. It provides indicative pathways towards achieving carbon neutrality for Ireland by 2050.

The Strategy covers:

- total greenhouse gas emission reductions and enhancements of removals by sinks.
- emission reductions and enhancements of removals in individual sectors, including electricity, industry, transport, the heating and cooling and buildings sector (residential and tertiary), agriculture, waste and land use, land-use change and forestry (LULUCF).
- expected progress on transition to a low greenhouse gas emission economy, including greenhouse gas intensity, CO2 intensity of gross domestic product, related estimates of long-term investment, and strategies for related research, development and innovation.
- the expected socio-economic effect of the decarbonisation measures, including aspects related to macro-economic and social development, health risks and benefits and environmental protection and
- links to other national long-term objectives, planning and other policies and measures, and investment.

6.8. Minerals Development Acts 1940-1999

Mineral exploration and mining are regulated under the Minerals Development Acts 1940 to 1999. This Act provides the definition of minerals, mineral ownership, prospecting licences, State Mining Leases and arbitration.

The Minerals Development Act 2017 was enacted on 26 July 2017 and is due to be commenced. The main purpose of the 2017 Act is to provide for:

a) to provide a modern regulatory regime for exploration and development of state minerals,
b) to provide for regulating in accordance with the principles of social justice the exercise of private rights in respect of minerals and ancillary rights with a view to reconciling their exercise with the exigencies of the common good,
c) to provide for the continued vesting in the Minister for Communications, Energy and Natural Resources the exclusive right of working, selling or otherwise disposing of private minerals which are not in course of development, subject to payment of fair compensation,
d) to provide for preparation and implementation of rehabilitation plans for abandoned mine sites, and
e) to provide for consequential amendments.

6.9. **Policy Statement on Mineral Exploration and Mining – Critical Raw Materials for the Circular Economy Transition, published by the Department of the Environment, Climate and Communications in December 2022.**

The Policy Statement provides a policy framework for future decision making on mineral exploration and mining within the state. The Geoscience Regulation Office (GSRO) has been established as a new division separate to the policy function within the Department of the Environment, Climate and Communications. It is responsible for the regulation, licensing and enforcement roles for mineral and petroleum exploration, production and decommissioning. One of the principles of robust regulation is that a clear separation should exist between policy making and regulatory functions in relation to minerals exploration and mining.

Policy for mineral exploration and mining is to:

- ensure a stable, robust and transparent regulatory framework that supports environmentally sustainable mineral exploration and mining; and
- maximise the contribution that sustainable exploration and mining can make to our society, economic development and the transition to net-zero greenhouse gas emissions through the supply of the raw materials necessary for our sustainable development.

The policy will be implemented in accordance with a set of principles, grouped under five themes. The five themes are of equal importance and are mutually supportive. They are:

A. Robust and Stable Regulation

B. Increasing Awareness and Participation

C. Sustainable Development

D. Building Capacity and Access to Knowledge

E. International Co-operation

6.10. **Mine Waste Directive 2006/21/EC**

The Directive was adopted in 2006 and covers the management of waste resulting from the prospecting, extraction, treatment and storage of mineral resources and working of quarries, which it refers to as 'extractive waste', with the aim to prevent, or reduce as far as possible, the adverse effects from extractive waste management on health and the environment.

6.11. **Assessment and Management of Environmental Noise Directive 2002/49/EC**

This Directive aims to provide a common basis for combating the harmful effects of exposure to environmental noise across the EU. It aims to introduce measures establishing common noise indicators to measure the long-term exposure of humans to environmental noise throughout the day and sleep disturbances. To oblige EU countries to draw up strategic noise maps to serve as a basis for action plans to prevent and reduce noise/ To implement the national action plans and to provide for public information and consultation, especially about the national action plans.

6.12. **Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC)**

The Directive sets out air quality standards for a wide variety of pollutants in order to protect health, vegetation and ecosystems. The Directive identifies how ambient air quality should be monitored, assessed and managed.

6.13. **European Union Water Framework Directive 2000/60/EC (WFD)**

The WFD was adopted in 2000 as a single piece of legislation covering rivers, lakes, groundwater and transitional (estuarine) and coastal waters and includes heavily modified and artificial waterbodies. The overarching aim of the WFD is to prevent further deterioration of and to protect, enhance and restore the status of all bodies of water with the aim of achieving at least 'good' ecological status by 2015 (or where certain derogations have been justified to 2021 or 2027).

6.14. **Our Rural Future – Rural Development Policy 2021-2025**

This policy document provides a framework for the development of rural Ireland. The overall vision is for a *thriving rural Ireland which is integral to our national economic, social, cultural and environmental wellbeing and development, which is built on the interdependence of urban and rural areas, and which recognises the centrality of people, the importance of vibrant and lived-in rural places, and the potential to create quality jobs and sustain our shared environment.* The document sets out 152 no. policy measures to achieve this vision.

6.15. **The Whole of Ireland Circular Economy Strategy 2022-2033**

This strategy was published in December 2021 and updated in February 2022. This is a high-level strategy and a specific aim of the Waste Action Plan for Circular Economy (WAPCE). It aims to provide policy coherence across government. It focusses on shifting away from waste disposal and towards a circular economy.

6.16. **Natural Heritage Designations**

The appeal site is not located within or immediately adjacent to any designated sites.

6.17. **EIA Screening**

Schedule 5, Part 1 of the Planning and Development Regulations 2001, as amended and Section 172(1)(a) of the Planning and Development Act 2000, as amended provides that a mandatory Environmental Impact Assessment (EIA) required for: -

> *19. Quarries and open-cast mining where the surface of the site exceeds 25 hectares.*

Schedule 5, Part 2 of the Planning and Development Regulations 2001, as amended and Section 172(1)(a) of the Planning and Development Act 2000, as amended provides that a sub-threshold Environmental Impact Assessment (EIA) required for: -

> *2(c) All extraction of minerals within the meaning of the Minerals Development Acts, 1940 to 1999*

The proposed development comprises an open cast mine with a surface of c. 54.3ha, which exceeds the threshold of 25ha sets in Class 19. It also comprises the extraction of minerals within the meaning of the Minerals Development Act as set out in Class 2(c).

A mandatory EIA is, therefore, required for the open cast mine development.

The proposed community sports complex does not require a mandatory or sub-threshold EIAR. However, as the mine development does require an EIAR and the community sports complex forms part of the proposed development it is included in the EIAR assessment.

7.0 The Appeal

7.1. Two appeals were received from (1) DK Essential Company Limited by Guarantee and (2) Conan Connolly. Having regard to the differing nature of the appeals they are addressed separately in my report. In the interest of clarity, the Applicants response to each of the appeals is provided below the grounds of the appeal.

7.2. Grounds of Appeal - DK Essential Company Limited by Guarantee

7.2.1. A summary of the relevant planning grounds of the appeal from DK Essential Company Limited by Guarantee are outlined below.

Principle of Development

- The mining industry has continued to expand and develop at the expense of residential properties and agricultural enterprises.
- The proposed development is a material contravention of Section 15.25 the Monaghan County Development Plan which states: '*to restrict extractive*

developments that may have a detrimental impact on the natural or built environment are matters of acknowledged public importance including the use of public rights of way'.

- The development being situated in the midst of a local community and residential houses is contrary to the objectives of the development plan. Safe and adequate distances from residences, schools and other structures is essential.
- There is no experience in Ireland excavating and mining over existing underground mines. The exact location of previous excavations is unknown. The applicant's example of a coal mine in Australia is not comparable.
- It cannot be in the interest of proper planning and sustainable development to continue to apply to increase the development without ever having to carry out any remediation or restoration work.
- The future of our economy is not expanding the extractive industry but reusing, reducing and recycling. The policy of a circular economy is actively pursued by the European Union and gypsum has been shown to be a better product when it is recycled rather than newly extracted.

Health and Safety

- The risk to human life is very real and has been grossly underestimated by the applicant.
- Sink holes, crown holes, subsidence and landslides have all occurred in the immediate vicinity of the site, resulting in 5 no. families having to abandon their homes and relocate.
- Concerns regarding the structural stability of the roads, due to the underground mines.
- There is a lack of monitoring and reporting of the impact of the mine.
- No extraction should take place near or under public roads, due to the risk of damage to members of the public, property and agricultural activity.
- Concerns raised regarding the engineering solutions proposed, which are very experimental.

Environmental Considerations

- The EIAR is inadequate as it does not take account of the defects both historical and potentially encountered in the future on the landscape, biodiversity and human beings.
- The development has been split up into various elements which results in project splitting. Separate applications have been lodged for a sports facility and community centre, which arises from the direct incompetent extraction that occurred in the past.
- Consultation with the community has been inadequate and meaningless.
- No meaningful analysis has been carried out in considering alternatives to gypsum supplies in a more environmentally friendly and sustainable manner.
- The mine operators have been prosecuted and penalised for breaching EPA guidelines on emissions. Prior history of environmental non-compliance is an essential consideration which must be taken into account in any assessment, particularly this project.
- Having regard to the solubility of gypsum there are serious geological and hydrological issues. Vacuums and cavities are being created underground which fill with water and require constant pumping. This results in significant risk and hazards of both flooding and damage of the natural and built environment. Proper mitigation and adaptation in respect of flood risk has not been provided.
- The site discharges to the River Glyde and Lagan, both of which are very significant and important water bodies.
- The result of poor water management has in recent years resulted in sink holes, wide surface cracks and subsidence.
- The existing underground mines are flooded, significantly increasing the need for much larger amount of sulphate contaminated water to discharge into the local river and into the environment.
- Groundwater may have a dissolving effect on gypsum rock, increasing the instability risks of the mine structures.
- No consideration of the Water Framework Directive.

- The existing mining operation has had a very destructive effect on the landscape.
- Local infrastructure is not capable of accommodating the huge volumes of material that would be transported within and around the site and on local road.
- The main entrance off the L4816 is questionable and unsatisfactory having regard to the previous history and development at this location.
- Climate change will have a direct effect on the water discharge from the mine, with a great discharge rate of contaminated water. Higher rainfall or other extreme weather events could cause destructive discharges including higher volumes of polluted water into the water table.
- The extent of greenhouse gas and other emissions from the proposed development is not robust or complete.
- The development is not compatible with the National Climate Action Strategy.
- The proposed development would result in a very significant pollution risk in relation to noise, vibration.
- The proposed development would result in a hazard from explosions.
- The seismic activity and the resulting vibration has no statutory provisions or proper regulation.
- The proposed development would result in a very significant pollution risk in relation to dust.
- All types of pollution and waste generated by this development have not been properly assessed.
- The NIS does not take full account of the very significant impact that this development would have on designated sites due to hydrological connectivity.
- Concerns with the conclusion of the NIS which states that the proposed development would not impact on any designated site.
- For a development of this magnitude with such vast commercial consequences the concept of self-regulation is inappropriate.
- The EPA does not have sufficient resources to be a full-time watchdog of this development.

Other Issues

- Plans and specifications are inadequate for a development of this scale, and they are not in accordance with the requirements of the Planning and Development Act or the associated Regulations.
- Concerns that the further information request was not fully responded to.
- The information submitted does not provide a full and complete record of the mining activity that has occurred over the past 80 years or so.
- Concerns of unauthorised development at the mine. Development cannot proceed until these have been approved.
- The proposed development would negatively impact on property values in the area.

7.3. **Applicants Response to Appeal - DK Essential Company Limited by Guarantee**

7.3.1. Below is a summary of the applicant's response to the appeal from DK Essential Company Limited by Guarantee. It is noted that the submission makes a number of references to the EIAR and Further Information submitted with the application.

Principle of Development

- A mine is a multi-regulatory development, the EPA does not regulate a mine in its entirety or in isolation. In addition to, planning permission, an EPA licence and a mine lease / licence the mine is subject to regular inspections by mine inspectors under the Health and Safety Authority and specific mining safety regulations.
- The detailed design and assessment were not arbitrary. They were considered having regard to the 35-years of experience operating the open case mine in the local area and deployed conservative modelling to the construction, operational and restoration phases.
- The Knocknacran West Open Cast Mine lands are considered brownfield as they contain the former underground Drumgoosat mine and the supporting surface level infrastructure. These lands have been idle since the 2018 subsidence event. The proposed development allows for remediation of the existing Knocknacran open cast mine to close to ground level and the development of agricultural uses, or similar. The long-term plan for

Knocknacran West is for a waterbody and remediation of adjacent lands close to original ground level for agricultural uses and increased biodiversity.

- The proposed development would modify the closure plan for the existing open cast mine, however, in doing so it would return Knocknacran Mine to nearly original ground levels and the former Drumgoosat Mine would be largely removed. The end result would be less evidence of mining in the landscape compared to the existing baseline scenario.
- The proposed development does not contravene the development plan. The overall theme of Section 15.25 is to encourage and permit local extractive developments where they can be carried out in a manner that ensures no environmental damage.
- 4 of the 5 structures to be demolished are unoccupied and are not currently habitable.
- To refuse permission for the only indigenous gypsum mine in the country would have a detrimental impact on the Irish construction industry and would have a knock on effect on the quality and cost of housing.

Health and Safety

- Open cast mining was not a factor in the subsidence event in 2018.
- Open cast mining is not unchartered territory, an open cast mine has been in operation for over 30 years adjacent to the proposed site.
- The technologies and methods proposed are not experimental, they are robust and based on many years of knowledge and risk assessment.
- Major accidents and emergencies are addressed in the EIAR.

Environmental Considerations

- The allegation of environmental destruction is unwarranted and biased.
- The company appeared before the District Court in relation to the subsidence issue in 2018 in relation to 4 no. breaches of its IE licence, where it had exceeded the discharge limits for water. The matter was finalised before the courts in November 2020 where the court acknowledged that there was no environmental impact due to the breach of the licence and applied the

probation act. No conviction was recorded against the company and no penalty was applied.

- The EIAR and NIS are robust, they provide a baseline scenario, the proposed development, the potential effects and significance arising from the proposed development, the potential cumulative effects and any mitigation and monitoring required. The approach is comprehensive and appropriate.
- The proposed development does not comprise project splitting. There were plans to develop a sports complex, prior to the 2018 subsidence. The facility has been operational since 2022. The proposed development is not a replacement of lost facilities it is an enhancement of existing facilities.
- Emissions from the mining activities are all subject to an EPA licence and Annual Environmental Report (AER), which is publicly available. An application was made to the EPA in December 2023 to being the review process of its existing IE licence.
- Gypsum is a mineral not a metal. It is not considered to be a toxic material.
- The AA takes full account of all designated sites. It took a conservative approach in considering the designated sites and provides proposed mitigation.
- The AA recognises the hydrogeological connection and proposes to mitigate for any risks.
- The geology and groundwater in the area are naturally elevated with respect to sulphate. It is not proposed to increase sulphate to be discharged to the River Bursk.
- The appellant has provided no evidence as to how the combination of cavities, an open cast mine and rain creates a flood problem for neighbouring properties.
- The Knocknacran West site is currently dewatered, as dewatering has taken place in the former underground Drumgoosat Mine. Treated water is discharged to the River Bursk under the existing IE licence. The baseline scenario is a dewatered scenario. There are no proposals to change the dewatered state of the site.

- Following the 2018 subsidence event procedures have been put in place for the management of additional volumes of water.
- The existing underground mines are not flooded as there has been a program in place since 2019 to remove and release water.
- The Water Framework Directive is factored into Chapter 8 of the EIAR.
- The appellant has not indicated which waste management and pollution types have not been addressed.
- There would be no change in traffic on the public road.
- The undermining of public roads would not be created or exacerbated by the proposed development.
- The information submitted actively considered climate change and acknowledges that extreme weather events will become more frequent.
- Gypsum is vital if Ireland is to meet its sustainability and climate change goals and reduce reliance on fossil fuels as plaster and plasterboard are key components to new and retrofit lightweight and airtight construction deployed to improve the carbon footprint of buildings.
- Without the proposed development there would be a requirement to import gypsum to Ireland. The need for gypsum would not disappear if the proposed development does not go ahead. Therefore, the carbon footprint from gypsum would increase, with an excess of 200,000 tonnes of CO2.
- Knocknacran West Open Cast Mine would operate its necessary blasting activities with a vibration limit of 7.5mm/s. There are no quarry sites operating to this low level.
- The information submitted as part of the application and by way of further information indicates that the impact of noise and vibration can be mitigated against.
- The applicant has a long track record of engaging with individuals and community representatives. In recent years the applicant has appointed a community liaison officer, a dedicated information service, widespread written and face to face representations of the company's plans and the establishment of a Community Residents Forum.

- The applicant recognises its position in the community and seeks to positively impact it in many diverse ways, ranging from the positive actions of its management and employees in its community engagement program, direct sponsorship and support for individuals and community organisations for many decades, support of school careers programs and less obviously through the advocacy and co-funding of road improvements in the wider area.
- Monitoring would remain throughout the lifetime of the mine.
- A recycling programme is in place at the factory site in Kingscourt. Recycling off-cuts of gypsum products cannot yet exclusively meet the demand and quality required.

Other Issues

- There is a high degree of knowledge about the extent and impacts of these mining areas. Extensive monitoring programmes have been in place for years in relation to the potential impact of the mining activities. The results of which are presented to relevant authorities and have been shared with resident groups and stakeholders.
- At the time of the 2018 subsidence event, on a precautionary basis 5 no. families were requested to move from their home until a full understanding of the risk was established. Engineering examinations indicated that there was no risk to these properties. As of 2024, 4 of the properties were occupied and the remaining property was undergoing renovations. None of the properties have been abandoned.
- Planning permission has been granted in recent years for residential and agricultural uses in the area surrounding the mine site.
- To date there is no evidence of an adverse impact on property values.

7.4. Grounds of Appeal – Conan Connolly

7.4.1. The appeal sets out 4 no. grounds of appeal. The appeal is a lengthy and detailed submission that includes numerous references to Irish and European legal cases. Below is intended as a summary of the relevant planning grounds raised:

Statutory Requirements

- Monaghan County Council failed to consult and / or liaise properly with Cavan County Council regarding the potential to impact on the hydrology and geotechnical conditions beyond the site boundary and health and safety of citizens.
- The proposed development breaches the Governments Policy Statement on Mineral Exploration and Mining, the Whole of Ireland Circular Economy Strategy 2022-2033, the Climate Action Plan, 2024 and Our Rural Future – Rural Development Policy 2021-2025.
- The proposed development undermines NSO 8 and NSO 9 of the National Planning Framework (NPF). The proposed development fails to meet these objectives due to its incompatibility with the protection of the environment in terms of air and water quality, natural and cultural heritage, the quality of life of residents in the vicinity and provide for appropriate site rehabilitation. Failure to comply with the NPF was not addressed by Monaghan County Council.
- The granting of the proposed development would be unlawful with regard to the objectives of the Climate Action Plan which states *that a greater focus needs to be placed on the sourcing of the minerals that are required as inputs to achieve our climate goals and the role Ireland can play in the supply chain for raw materials.*
- The planning authority failed to enable targets for reducing Greenhouse Gas emissions in accordance with the Climate Risk Assessment of the Monaghan County Council Climate Action Plan. Monaghan County Council failed to provide appropriate conditions.
- Permission must be refused on unacceptable environmental grounds.
- The planning authority failed to obtain the necessary information from the EPA in relation to research into the health and safety risks associated with the application following the receipt of an EIAR.
- The planning authority failed to consider the impact of the applicants existing IE licence.

Environmental Considerations

- There is a climate emergency. It is irrational to continue to expand the mine.

- The proposed development would negatively impact on the amenity of the area.
- The proposed development would increase fumes in the area which would adversely affect wildlife, livestock and human health.
- Local residents would be at increased risk of respiratory illness due to the proposed development.
- The impact of noise has not been adequately assessed. The development does not comply with the Noise Directive and associated Environmental Noise Regulations. The proposed development would interfere with the appellants right to life under Article 8 of the European Convention on Human Rights.
- The applicant failed to take the current climate breakdown effects into account. Mining causes damage to water and ecosystems globally.
- Open Cut excavation would cause change and disturbance to geological and hydrological structures with upstream and downstream effects.
- A well associated with the appellants property dried up due to the activities associated with the mine.
- Full and proven viable mitigation measures on groundwater impacts need to be provided by the applicant.
- Water management in the mine is a major challenge for the mine operator. The collapse in 2018 being an obvious example.
- The submitted documentation only addresses surface water discharge to the River Bursk. It does not address the risk of exceedances of limits for minerals in drinking water.
- Groundwater would have a dissolving and eroding effect on gypsum rock, increasing the instability of existing mine structures.
- Regulation and enforcement in Monaghan and Ireland are poor. The EPA has limited resources and is not a full-time watchdog.
- The risk to the River Bursk and Glyde can be mitigated by refusing planning permission.
- The proposed development would not comply with Policy WPP3 and WPP 17 of the Monaghan County development plan.

- The proposed development would adversely impact on the Mulantra borehole, which is a drinking water source supplying the Kingscourt Public Water Supply Scheme.
- Uisce Eireann has not undertaken the necessary investigations to avoid the risk of a deterioration in drinking water due to contamination which is likely to occur.
- The proposed development is not in accordance with WMP 7 of the development plan to support the minimisation of waste.
- An independent risk assessment of the risks to workers of the mine should have been carried out.
- The level of activity proposed is highly dependent on fossil fuels. The 6th Assessment Report and heat maps produced by NASA regarding its GISS Temperature Analysis should be taken into account.
- No works should be carried out until an IE licence is granted.
- The appellant is prejudiced by not having the ability to scrutinise documents to be submitted in the future by way of condition.
- Having regard to the risk to the environment the planning authority should provide for a rigorous weekly monitoring regime.
- The local community / stakeholder groups should be included in the monitoring and aftercare of the site.

Legal Issues

- The property rights of the applicant should be restricted in the interest of the common good.
- Economic considerations must not have primacy over environmental protection.
- Due to health and safety concerns a grant of permission would be in breach of Article 45 of the Constitution.
- The Planning Authority did not take into account the Framework Principles on Human Rights and the Environment, in relation to right to life under Article 2 of the European Convention on Human Rights.

- There is a link between the effects of the application and air pollution. There is an obligation, as per the Stockholm Declaration, the Framework Principles on Human Rights and the Environment, Human Rights Council Resolution 48/13 and the UN General Assembly resolution A/76/L.75, to assess for the purpose of an Environmental Impact Assessment under the EIA Directive and an appropriate assessment under the Habitats Directive the upstream consequences of the operation of the proposed development on human health.
- A decision to grant permission would leave it open to a constitutional challenge as it plainly an unambiguously flies in the face of common sense.
- Rights under Article 8 of the European Convention on Human Rights have been breached as there has been an interference which is sufficiently serious, and the interference complained of directly affects the appellants home, family or private life. The state has failed, or failed sufficiently, in its positive duty to take reasonable and proportionate measures to regulate the mining industry and the pollution it causes generally.
- The pollution caused by the proposed development would interfere with the appellant's Article 8 ECHR rights. This cannot be justified under Article 8(2) when balanced with the economic interests of the applicant or the interest of the community as a whole, nor is it proportionate or within the States margin of appreciation.
- The planning authority failed to demonstrate that it engaged in a balancing exercise between the competing rights of the appellants home and the public rights identified in Article 8(2).
- The planning authority is in breach of the appellants Article 9 ECHR right to freedom of religion as an identified indigenous Irish man, and rights under Articles 10, 29 and 32 of the UN Declaration on the Rights of Indigenous Peoples.
- The applicant seeks to facilitate the removal of the appellant from his family's land.
- The planning authority failed to request sufficient further information from the applicant, especially in relation to community engagement, restoration and

land use in the future, air quality and water usage. If this information is not sought Ireland will not have fulfilled its obligations under Article 8 of the ECHR.

- Ireland is significantly failing in its international obligations to address biodiversity loss. The Board should abide by the recommendations of the Citizens Assembly on Biodiversity Loss in order to come to a rational decision to the proposed development.
- Monaghan County Council's reasoning is inadequate and flawed as it fails to consider issues of human rights.
- The proposed development would be in breach of EU Climate Law by failing to adhere to climate objectives and taken necessary measures at national level to achieve Net Zero by 2050.
- It is considered that by permitting the proposed development the state would fail to properly administer the EU level sectoral controls on greenhouse gases.

Material Contravention

- It is considered that the proposed development materially contravenes the following policies and objectives of the Monaghan County Development Plan:
  - SHO5 which aims to strengthen rural communities.
  - SHO6 to support the viability of rural communities.
  - CCP2 Climate Change adaption

Financial Contribution

- The financial contribution is considered to be a gross underestimation of the cost of restoring the site.
- The security bond is a gross underestimation of the sum required to ensure the site would be fully restored and should remain in force until the restoration phase is completed.
- The security bond relating to the proposed tunnel is insufficient to address the risks and costs involved in such a process. It is unclear how this fee was calculated.

7.5. Applicant Response to Appeal – Conan Connolly

7.5.1. The applicant's response to the appeal by Conan Connolly is summarised below:

- There is no evidence to suggest that the mine has led to a measurable increase in abandoned homes in the community.
- The appellant's house is identified as a receptor within the EIAR and technical assessments carried out for vibration, noise, air quality, population and human health and water. The EIAR concluded that potential effects at this location are not significant.
- The proposed development would be carried out on private lands in the ownership of the applicant and would not restrict the appellants ability to practice their religion, express their culture, enjoy their home or their ability to choose traditional medicines and practice their spirituality on their own private lands.
- The belief of the appellant regarding trespassing and rights associated with land ownership are not supported in any legal basis.

Statutory Requirements

- Monaghan County Council fully consulted with Cavan County Council. Appendix B of the submission provides a copy of the submission from Cavan County Council to the previously withdrawn application Reg. Ref. 22/34.
- All consultation was carried out in accordance with the appropriate legalisation.
- There has been Governmental consideration for this application, there has been a supportive submission from GSRO during the planning process and the development is specifically identified in Government policy.
- National Strategic Outcomes (NSO) and National Policy Objectives (NPO) of the National Planning Framework either do not apply or do not conflict with the proposed development. Appendix C of the applicant's response to the appeal provides a comment on each of the NSO and NPO's referred to in the appeal.
- The appeal fails to consider the context of the mine, as the only source of gypsum within Ireland. The only alternative is imported gypsum which carries a considerable carbon footprint.

- A planning authority only apply planning conditions, the EPA apply conditions which regulate the licenced activity's emissions and the GSRO issue a mine licence on behalf of the Minister.
- There is a very significant volume of commitments and mitigation measures provided within the 4,000-page EIAR that has been submitted with the application.
- There were no changes to the conclusions of the EIAR assessment following the request for further information.

Environmental Considerations

- The appellant does not have regard to the information submitted with the application, including the EIAR.
- The appellant does not give reasons as to why the EIAR and NIS do not meet the required environmental standards. They meet the requirements of the EIA and Habitats Directives.
- Legal advice was taken by the applicant on the topic of project splitting and the proposed application is not considered to be project splitting.
- The woodland area to the north of the mine is being retained this provides a dense screen between the mine and the village of Drumgoosat. The perimeter of the stie along the L4900 would be enhanced with planting.
- The applicant takes health and safety of the public, employees, contractors and suppliers very seriously and maintains a comprehensive Health and Safety Plan. The mines operate under the Safety, Health and Welfare at Work (mines) Regulations.
- The mine operates within the limited of the IE licence.
- Chapter 7 of the EIAR – Lands, Soil and Geology provide an extensive commentary on the impacts of the proposed development. It addresses geotechnical stability. The most recent subsidence event over the former Drumgoosat Mine was recorded on 16th February 2024 where a crown hole, 11m in diameter, was discovered on a routine survey. It is 380m from the nearest residence and 370m from the nearest road.

- The air quality assessment is provided in Chapter 10 of the EIAR concludes that the residual effects are not significant. It is proposed to provide an ambient air monitoring station as part of the proposed development.
- Noise modelling was carried out as part of the EIAR and in response to the further information request.
- The appeal fails to acknowledge that this is a long-established mine. Dewatering has been on-going since the 1950's.
- The appellant's well was surveyed in 2019. It was found to be supplied with water from the Group Water Supply for several years. The well itself was found to be in a state of disuse.
- Over a long period of time groundwater can dissolve and erode gypsum rock. However, the open cast mine would remove the underground structures.
- With reference to Mullantra borehole the submission from Cavan County Council, provided in Appendix B of the submission, states that the proposed development would not have adverse effects in Co. Cavan.
- Uisce Eireann do not service this area.
- There is no extractive waste and chemical processing would not be carried out.
- Chapter 9 of the EIAR and the response to further information provides the context of the proposed development with regard to climate.
- There is a dedicated chapter on biodiversity in the EIAR. An ecologist would be employed during the closure of the mine. There is no conflict with the All-Ireland Pollinator Plan.
- The appellant fails to understand and consider the nature and extent of the development that would take place over an extended timeline and as such the inherent necessity for future surveys to be carried out. A commitment to future surveys is appropriate for such a multi-phased development. These future surveys act as an additional protection in the event of any changes in conditions prior to construction, operation or restoration.
- A comprehensive and detailed monitoring programme for construction, operation and restoration activities have been provided with reference to

regulatory bodies and have and will evolve as conditions and concerns evolve at different times.

Legal Issues

- It is considered that the appellant has misunderstood Article 45 of the Constitution and Articles of the European Convention on Human Rights (ECHR). The requirements of the ECHR are neither challenged or at risk due to the proposed development.
- The appellant does not clarify how the proposed development would affect his rights under Article 9 of the UN Declaration of Rights of Indigenous Peoples (UNDRIP). The applicant is not seeking to impact or change the appellants belief system and will not prohibit concerned parties from expressing their belief system on their own lands and territory. The mine site is on privately owned lands. With reference to Article 26 of the UNDRIP the appellant does not and has not occupied the proposed mine site and has not otherwise used or acquired the mine site land. The right to work minerals (i.e the resource) is vested in the State.
- The history of the site and surrounding area is addressed in Chapter 15 of the EIAR. The appellant is not identifiable in relation to the local placenames on the mine site.
- It is considered that the appellant has misunderstood International and EU Environmental Law.
- The appellant has not considered that the EIAR submitted with the application is evidence of EU law functioning.
- The applicant is aware of their responsibility to support national and international emission targets. Saint-Gobain as a company, is committed to Net Zero Carbon by 2050.
- The planning application has taken full cognisance of relevant local, national and international guidance and legislation requirements.
- Mine closure restoration and aftercare operation are controlled by the EPA through the IE licence, in conjunction with other stakeholders such as county

councils and the GSRO. A costed Closure and Restoration Plan is provided in the EIAR.

Material Contravention

- The proposed development would not materially contravene the Monaghan County Development Plan. Appendix A of the submission provides a response to how the development complies with development plan objectives.

Financial Contributions

- The applicant does not object to a more appropriate fee calculation, accompanied by the basis for any such revision.

7.6. Planning Authority Response

None on file.

7.7. Observations

7.7.1. 5 no. observations were received from Sean Gallagher LL.M., Rebecca McConnon, Fidelma O'Kane, Heinrich Ehbrecht-Engels and Melelina Sharp. I have read all the observations submitted. The observers do not support the proposed development. The concerns raised are similar to those raised in the appeals and will be addressed within my assessment below.

8.0 Assessment

8.1. Having examined the appeal details and all other documentation on file, including all of the submissions received in relation to the appeal, the report of the local authority and inspected the site, and having regard to relevant local / regional / national policies and guidance, I consider that the substantive issues in this appeal to be considered are as follows:

- Principle of Development
- Duration of Permission
- Demolition

- Financial Contribution
- Legal Issues
- Health and Safety / Stability
- Water / Hydrology
- Adequacy of the EIAR
- Adequacy of the AA
- Other Issues

8.2. These matters are addressed in the relevant planning, Environmental Impact Assessment (EIA) and Appropriate Assessment (AA) sections of the report.

9.0 Planning Assessment

9.1. *Principle of Development*

9.1.1. The appeal site is located in a rural area on unzoned lands and outside of any settlement boundary. There is a long-established mine use on the appeal site and adjacent lands. While it is acknowledged that the appeal site is unzoned it is my view that the proposed development consistent with the established uses and should be assessed on its merits.

9.1.2. Section 4.8 of the current development plan notes that mineral reserves are processed at many locations across Monaghan and that they make an important contribution to the economy. It further states that it is important that they are safeguarded for future use whilst also ensuring that impacts on the environment and communities are acceptable. Policy ERP1 aims to safeguard for future extraction all identified locations of major mineral deposits and Policy ERP2 aims to promote development involving the extraction of mineral reserves in a sustainable manner that does not adversely impact on the environment or on other land uses. The policy further states that consideration in this regard shall be given to the impact of the development on the local economy. The impact of the development on the receiving environment is assessed in detail in section 10 of this report. Overall, I am satisfied that subject to

appropriate mitigation measures, the proposed development is in accordance with the provisions of both Policy ERP1 and Policy ERP2 of the development plan.

9.1.3. Section 15.25 of the development plan states that proposals for extractive industry should have regard to relevant legislation and guidance it also sets out policies (EIP 1 EIP 4) for the extractive industry. Concerns are raised by the third parties that the proposed development is a material contravention of Section 15.25 of the development plan.

9.1.4. Policy EIP 1 sets out the information to be provided in an application for extractive development. It is noted that the information listed in Policy EIP 1 was submitted with the application and was considered to be valid by Monaghan County Council.

9.1.5. Policy EIP2 prohibits extractive development in certain areas including areas of primary or secondary amenity, Natura 2000 sites or proposed Natural Heritage Areas. It is noted that the appeal site is not located within or in close proximity to any designated site.

9.1.6. Policy EIP3 restricts development proposals located in close proximity to existing extractive sites of significant resource potential where such developments would limit future exploitation. The proposed development would expand the existing mining operation and is located above the existing underground Drumgoosat mine workings. It would not inhibit the future expansion of a third-party extractive site.

9.1.7. Policy EIP4 restricts extractive developments that may have a detrimental impact on the natural or built environment or matters of acknowledged public importance. There are no known archaeological or cultural heritage features within or within close proximity to the appeal site. An Architectural Heritage Report is attached as Appendix 15.2 of the EIAR indicates that the buildings to be demolished on site have no particular historical or architectural merit. In addition, the appeal site is not located within or adjacent to any designated area or along a scenic route.

9.1.8. While the concerns of the third parties are noted, having regard to the above, I am satisfied that the proposed development would not materially contravene Section 15.25 of the current development plan, which incorporates Policies EIP 1, EIP 2, EIP 3 and EIP 4.

9.1.9. The third parties also raised specific concerns that the proposed development would materially contravene Policies SHO 5, SHO 6 and CCP2 and does not comply with Policies WPP3, WPP17 and WMP7 of the Monaghan County Development Plan 2019-2025.

9.1.10. Policies SHO5 and SHO6 relate to the settlement hierarchy set out in Chapter 2 of the Development Plan. Policy SHO5 aims *to support and encourage the development of Tier 5 settlements to ensure that local services are sustained in the rural community settlements.* Tier 5 settlements are identified as Rural Community Settlement. These settlements are listed in Table 2.2 of the development plan. The proposed development is not located within a Tier 5 settlement. Therefore, it is my opinion that no contravene of Policy SHO5 arises.

9.1.11. Policy SHO6 aims *to support the viability of dispersed rural communities and seek to encourage the growth of Tier 6 settlements generally in the form of single dwellings.* Tier 6 settlements include the rural area. Section 2.3.11 of the development plan notes that any development shall be centred on the focal point of the settlement and shall be subject to the satisfactory provision of infrastructure and services. There is a long-established mine use on the appeal site and adjacent lands. The proposed development also includes the provision of 2 no. playing pitches, with associated facilities, a new building to incorporate reception, meeting / club rooms, sports hall, handball alley, changing rooms and toilets, a viewing gallery, a part covered grandstand and additional parking at the existing Community Sports Complex permitted under Reg. Ref. 20/365. I am satisfied that the provision of the community sport complex would support the viability of dispersed rural communities and no contravene of Policy SHO6 arises.

9.1.12. Policy WPP 3 aims to protect known and potential groundwater reserves in the county and WPP 17 aims to contribute towards the protection of existing and potential water resources. The issue of water is addressed in Section 9 below. The proposed Knocknacran West mine would take place below the water table. The historic and existing mines (Drumgoosat, Knocknacran and Drummond) all occur below the water table and have been dewatered for decades. Inflows to the historic and current mining operations are pumped into the site's water management system and routed to a licenced discharge point on the River Bursk. The EPA Licence for the existing Knocknacran Mine allows for a maximum discharge of 12,240 m^3/day. It is proposed

to retain the existing permitted pumping, treatment and discharge system for the lifetime of the proposed development. Therefore, the discharge would not result in any adverse effect on water quality and in my opinion would be in accordance with the provisions of both WPP 3 and WPP 17.

9.1.13. Policy WMP 7 aims to support the minimisation of waste creation and promote a practice of reduce, reuse and recycle where possible and to safeguard the environment by seeking to ensure that residual waste is disposed of appropriately. The issue of waste is addressed in Section 9 below. Due to the nature of gypsum the processing plant does not generate a waste product. The EIAR notes that some of the products developed at the applicant's factory allow up to 15% of the natural gypsum to be routinely replaced with recovered gypsum. The company has ambitions and an active program of work to replace up to 30% of the natural gypsum in some formulations with recovered material in the coming years. All construction and operational waste would be disposed of appropriate by a licenced contractor. I am satisfied that the proposed development is in accordance with the provisions of Policy WMP 7.

9.1.14. Policy CCP2 aims to prepare a Climate Change adaptation strategy for County Monaghan having regard to relevant national guidelines and in co-operation with all relevant stakeholders. It is my opinion that this policy is not relevant to the proposed development. As outlined above, the impact of the proposed development on climate is further addressed in Section 9 below. Overall, I am satisfied that the proposed development would not have a significant impact.

9.1.15. Concerns are also raised by the third parties that the proposed development is not in accordance with the provisions of national policy including, the Governments Policy Statement on Mineral Exploration and Mining, the Whole of Ireland Circular Economy Strategy 2022-2033, the Climate Action Plan, 2024, Our Rural Future – Rural Development Policy 2021-2025 and the National Planning Framework.

9.1.16. A Policy Statement on Mineral Exploration and Mining – Critical Raw Materials for the Circular Economy Transition was published by the Department of the Environment, Climate and Communications in December 2022. The Policy Statement provides a policy framework for future decision making on mineral exploration and mining within the state. The Geoscience Regulation Office (GSRO) was established as a new

division separate to the policy function within the Department of the Environment, Climate and Communications. The submission from the GSRO raised no concerns in principle to the proposed development, subject to conditions.

9.1.17. Mines are highly regulated. A mine licence is not granted until both planning permission and an IE licence have been approved. Both Knocknacran and Drummond are subject to a Mine Licence and a licence would be required for the proposed Knocknacran West Mine. I am satisfied that the proposed development is in accordance with the provisions of the Policy Statement.

9.1.18. The Climate Action Plan 2024 (CAP24) is the third annual update to Ireland's Climate Action Plan 2019. This plan is prepared under the Climate Action and Low Carbon Development (Amendment) Act 2021, and following the introduction, in 2022, of economy-wide carbon budgets and sectoral emissions ceilings.

9.1.19. As noted in Section 9 below, the proposed extraction rate for the mine represents a continuation of extraction and processing at a similar rate to that currently being achieved at the existing Knocknacran Mine and processing plant. Therefore, the operational Greenhouse Gas (GHG) emissions are estimated to remain in the range 3,000 to 5,000 tpa CO_2.

9.1.20. Therefore, the anticipated GHG emission projections are already considered and accounted for within the EPA's 2020-2040 Emissions Projections published in June 2021. This report forms part of the national EU reporting obligation and an assessment of the Irelands progress towards achieving its emissions reduction targets for 2020 and 2030 as set out under the EU Effort Sharing Regulation. In the absence of the proposed Knocknacran West Mine and following the depletion of the existing Drummond underground Mine, there would be a requirement to import gypsum to Ireland and the carbon footprint from gypsum would increase, with an excess of 200,000 tonnes of CO2. Therefore, I am satisfied that the proposed development is in compliance with the provisions of the Climate Action Plan, 2024.

9.1.21. The Whole of Ireland Circular Economy Strategy 2022-2033 was published in December 2021 and updated in February 2022. This is a high-level strategy and a specific aim of the Waste Action Plan for Circular Economy (WAPCE). It aims to provide policy coherence across government. It focusses on shifting away from waste

disposal and towards a circular economy. Chapter 4 of the EIAR notes that **r**ecycling gypsum products is currently carried out as part of the existing IE Licence (P0519-04) at the applicants manufacturing facility, near Kingscourt in Co. Meath. As noted above, some of the products developed allow up to 15% of the natural gypsum to be routinely replaced with recovered gypsum. The company has ambitions and an active program of work to replace up to 30% of the natural gypsum in some formulations with recovered material in the coming years. The continued development of gypsum recovery technology and practices will be an important step in reducing the reliance of imported gypsum to Ireland and in particular, to the carbon footprint associated with such imports. I am satisfied that the proposed development is in accordance with the provisions of The Whole of Ireland Circular Economy Strategy 2022-2033.

9.1.22. Our Rural Future – Rural Development Policy 2021-2025 was published in 2021 and provides a framework for the development of rural Ireland. The overall vision is for a *thriving rural Ireland which is integral to our national economic, social, cultural and environmental wellbeing and development, which is built on the interdependence of urban and rural areas, and which recognises the centrality of people, the importance of vibrant and lived-in rural places, and the potential to create quality jobs and sustain our shared environment.* The document sets out 152 no. policy measures to achieve the vision. There are no specific policies relating to mining or the extractive industry. However, Chapter 4: Supporting Employment and Careers in Rural Ireland notes that *rural areas support a range of enterprises, from micro-enterprises to large multi-national companies. These enterprises employ hundreds of thousands of people in rural Ireland and contribute significantly to our national economy.*

9.1.23. The existing mine site directly employs 40 no. persons on a full-time basis with additional employment via contractors. The mining activities also support 150 no. jobs at the company's plasterboard factory near Kingscourt. The proposed development would ensure the long term (30 years) retention of these jobs. The information provided in the EIAR, and assessed in Section 9 below, also clearly shows that the proposed development would not have a significant impact on the receiving environment. Therefore, I am satisfied that the proposed development is in accordance with the vision Our Rural Future – Rural Development Policy.

9.1.24. The National Planning Framework is a high-level strategic plan for shaping the future growth and development of the county to 2040. The plan sets out 10 no. National

Strategic Outcomes (NSO). The NPF notes that the extractive industry is important for a variety of sectors and that aggregate and mineral extraction will be supported where it is compatible with the protection of the environment and provides for appropriate site rehabilitation. A third party raised concerns that the proposed development undermines NSO 8 and NSO 9 of the NPF.

9.1.25. NSO 8: Transition to a low carbon and climate resilient society. This objective relates to new energy systems and transmission grids that would be necessary for a more distributed, renewables-focused energy generation system. I agree with the applicant that this is not applicable to the proposed development. The impact of the proposed development on climate is further addressed in Section 9 below and overall, I am satisfied that the proposed development would not have a significant impact.

9.1.26. NSO 9: Sustainable management of water, waste and other environmental resources. This objective relates to conserving and enhancing the quality of these resources. The impact of the development on water and material assets (waste) are addressed in section 9 below. Overall, I am satisfied that subject to appropriate mitigation measure the proposed development would not have a significant impact.

9.1.27. In addition, National Policy Objective 23 of the NPF aims to facilitate the development of the rural economy through supporting a sustainable and economically efficient uses including the extractive industry, while at the same time noting the importance of maintaining and protecting the natural landscape and built heritage which are vital to rural tourism.

9.1.28. In conclusion, I am satisfied that the proposed development is in accordance with the provisions of local and national policy and in particular would support housing targets set out in the Draft Revised National Planning Framework.

9.2. ***Duration of Permission***

9.2.1. It is envisioned that the proposed Knocknacran West mine would replace the existing Knocknacran mine, which it is stated will be exhausted by 2027. Over the lifetime of the proposed Knocknacran West mine it is stated that c. 9 million tonnes of gypsum would be extracted. This would be carried out over 6 no. phases, with a maximum annual extraction rate of between 250,000 and 500,000 tonnes. The existing processing plant would be retained and would continue to process gypsum, prior to

transportation off site. Details of the construction phase (24 months), the 6 no. phases of operation and the restoration phase are detailed in chapter 3 of the EIAR. The first 4 no. phases of the operational phase (c. 15 years) would create a pit in the northern half of the Knocknacran West site and while the final 2 no. phases (c. 15 years) would relocate the extraction area to the southern half of the site. It is noted that in some of the documentation submitted the lifetime of the Knocknacran West Mine is noted as 30+ years and 30-35 years. In the interest of clarity, it is my recommendation that a condition be attached that the lifetime of the mine be a maximum of 30 years.

9.2.2. The restoration phase is referred to as Phase 7 of the development. Condition 18 of the grant of permission requires that recommissioning and restoration of the site shall commence within one year of cessation of extraction on site and shall be completed in accordance with the applicants Closure, Restoration and Aftercare Management Plan (CRAMP). If permission is being contemplated it is recommended that a similar condition be attached.

9.3. ***Demolition***

9.3.1. There are 5 no. houses on the Knocknacran West site. It is proposed to demolish 4 no. houses, 3 no. of which are unoccupied and associated sheds to facilitate the proposed development. Shirley House (Building 4), which is a derelict house, would be retained and enhanced as it provides multiple bat roosting opportunities.

9.3.2. An assessment of the structures on site is provided in Chapter 15 and Appendix 5.2 of the EIAR. Building 1 is a derelict farmhouse built between 1836 and 1897 with an outbuilding. Building 2 is a derelict farmhouse built before 1836. Building 3 is a vacant farmhouse built before 1836 with outbuildings. Building 5 is a bungalow constructed in c. 1981. The buildings to be demolished are not listed on the record of protected structures, the National Inventory of Architectural Heritage (NIAH) and have no architectural special interest. It is also noted that 3 no. of the 4 no. buildings are vacant and derelict.

9.3.3. It is acknowledged that there is a high demand for housing in Ireland. However, as 3 of the 4 no buildings to be demolished and their associated outbuildings / sheds are in a state of disrepair, on balance, I have no objection to their loss to facilitate the proposed development.

9.4. ***Financial Contribution***

9.4.1. The third parties consider the financial contribution to be a gross underestimation of the cost of restoring the site. In response to the appeal the applicant notes that there is no objection to a more appropriate fee calculation, accompanied by the basis for any such revision.

9.4.2. In accordance with Section 48 of the Planning and Development Act, 2000 (as amended) all planning authorities must provide a scheme of Development Contributions and may attach a condition to any grant of permission requiring the payment of a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning authority or that it is intended will be provided or have been provided by or on behalf of the local authority and regardless of other sources of funding.

9.4.3. Condition 1 of the grant of permission requires a financial contribution of €239,560.00 in accordance with the General Development Contribution Scheme 2021-2026. This financial contribution is in accordance with Section 48 of the Planning and Development Act and is not intended to restore / rehabilitate the site upon closure of the mining activities.

9.4.4. A copy of how the financial contribution was calculated is attached to the planner's report dated 12th January 2024. It is noted that a rate of €3,760 per ha of 'extraction of other mineral / materials' was applied to the Knocknacran West site (55ha) resulting in a contribution of €206,800.00. A rate of €630.00 per ha for the restoration of Knocknacran mine (52 ha) was applied in accordance with 'development not coming within any of the foregoing classes'. This resulted in a contribution of €32,760. I agree with the planning authority, that in accordance with the contribution scheme, the community use is exempt. Therefore, resulting in a total financial contribution of €239,560. It is my opinion that this contribution was calculated correctly and that a Section 48 financial contribution condition should be attached to any grant of permission.

9.4.5. The third parties also considered that the security bond was a gross underestimation of the sum required, and it is unclear how this fee was calculated.

9.4.6. Condition 2 requires the payment of €100,000.00 to ensure the satisfactory reinstatement of the R-179 and Condition 3 €540,000 to cover the cost of removing

the cut and cover tunnel under the R179 following the closure of the mine of where the developer has not carried out the specific conditions relating to backfilling the tunnel. Again, the bond is not intended to restore / rehabilitate the site upon closure of the mining activities.

9.4.7. The rate of the bond is set by the planning authority. I am satisfied that the bond / security conditions are appropriate having regard to the nature and scale of the proposed development. If permission is being contemplated it is recommended that a similar condition be attached to ensure the satisfactory completion of the development and to provide for the appropriate rehabilitation of the site.

9.4.8. Condition 19 of the grant of permission requires that the applicant establish a fund, dedicated to providing for the costs of the mine closure and rehabilitation, and that the developer provide security in order to guarantee the availability of the fund in the event of financial failure or any other default. The decommissioning and restoration phases of the mine are addressed in the Closure, Restoration and Aftercare Management Plan (CRAMP) attached as Appendix 3.3 of EIAR. There is an existing CRAMP for the Knocknacran Mine and the underground Drummond Mine. The financial provisions relating to the closure of these mines is addressed in Conditions 10 and 11 of the existing IE Licence. An extract of the existing IE Licence, containing the relevant conditions, is attached as Appendix A of the proposed CRAMP.

9.4.9. It is my opinion that it is inappropriate to attach a condition requiring the applicant to establish such a fund as the financial costs associated with the closure and restoration phase will be addressed in the IE Licence.

9.4.10. It is also my view that the decommissioning and restoration phase of the development form part of the proposed development and that a failure to carry out the proposed development, which includes its closure and restoration, would be subject to enforcement proceedings by Monaghan County Council.

9.4.11. Overall, while the concerns of the third parties are noted it is my opinion that there is no requirement to attach a financial contribution condition relating to the closure and restoration phase of the proposed development, as it falls within the remit of the EPA.

9.5. ***Legal Issues***

9.5.1. The third parties have raised a number of legal issues relating to compliance with national and international law, including the Irish Constitution, the European Convention on Human Rights and the UN Declaration on the Rights of Indigenous Peoples. While these concerns are noted it is my opinion that they are matters that fall outside of the planning code. However, having regard to the provisions of Section 34(13) of the Planning and Development Act it should be noted that a person shall not be entitled solely by reason of a permission to carry out any development.

9.6. ***Other Issues***

Property values

9.6.1. Concerns are raised by the third parties that the proposed development would have a negative impact on property values. It is noted that mining has been carried out in the area for over 100 years. The existing Knocknacran Mine has been in operation since 1989 and the underground Drummond Mine has been operating since 2003. The EIAR notes that since the operation of Knocknacran mine, planning permission has been granted, and a number of residential properties have been constructed in the vicinity of the mine. Section 5.6.4.3 of the EIAR notes that the applicant had land valuations carried out on lands outside of their current ownership, by independent local property professionals, which indicate that land values in the area remain unaffected by the potential development. Having regard to the long-established mining use in the area, including the underground Drumgoosat workings below the proposed Knocknacran West site I am satisfied that the proposed development would not have a significant adverse impact on property values.

EPA IE Licence

9.6.2. The third parties raised concerns that the proposed development should not be granted until the EPA IE licence has been granted. The Knocknacran open cast mine is currently subject to an IE licence (Register No: P0519-04). The submission from the EPA to the Board notes that this licence is currently under review (Register No. P0519-05). However, this review does not include the proposed development.

9.6.3. It is noted that the proposed Knocknacran West site is not within the boundary of the existing licence or the current licence review application. However, it is proposed that

the Knocknacran West mine would be integrated into the existing IE Licence during a licence review process.

9.6.4. As noted in the submission from the EPA to the planning authority in accordance with Section 87(1D)(d) of the EPA Act, a proposed determination on a licence application which addresses the proposed development cannot be issued by the Agency until a planning decision has been made. Therefore, the licence cannot be issued prior to the granting of planning permission.

Plans and Particulars

9.6.5. The third parties raised concerns that the plans and specifications are inadequate for a development of this scale, and they are not in accordance with the requirements of the Planning and Development Act or the associated Regulations. However, they have not identified how the information submitted is not valid. The drawings submitted and the significant volume of information provided with the application clearly identifies the nature and scale of all phases of the proposed development and identifies surrounding sensitive receptors, including residential dwellings. It is noted that the application was considered valid by Monaghan County Council. I am also satisfied that sufficient information has been submitted with the application to allow for a full assessment of all potential impacts arising from the proposed development.

10.0 Environmental Impact Assessment

10.1. Statutory Provisions

10.1.1. Please refer to Section 6.15 above regarding the Statutory Provisions.

10.2. EIA Structure

10.2.1. This section of the report comprises the environmental impact assessment of the proposed development in accordance with Planning and Development Act 2000 (as amended) and the associated Regulations, which incorporate the European directives on environmental impact assessment (Directive 2011/92/EU as amended by 2014/52/EU). Section 171 of the Planning and Development Act, 2000 (as amended) defines EIA as:

> a. consisting of the preparation of an EIAR by the applicant, the carrying out of consultations, the examination of the EIAR and relevant supplementary

information by the Board, the reasoned conclusions of the Board and the integration of the reasoned conclusion into the decision of the Board, and

b. includes an examination, analysis and evaluation, by the Board, that identifies, describes and assesses the likely direct and indirect significant effects of the proposed development on defined environmental parameters and the interaction of these factors, and which includes significant effects arising from the vulnerability of the project to risks of major accidents and/or disasters.

10.2.2. Article 94 of the Planning and Development Regulations, 2001 and associated Schedule 6 set out requirements on the contents of an EIAR.

10.2.3. This EIA section of the report is therefore divided into two sections. The first section assesses compliance with the requirements of Article 94 and Schedule 6 of the Regulations. The second section provides an examination, analysis and evaluation of the development and an assessment of the likely direct and indirect significant effects of it on the following defined environmental parameters, having regard to the EIAR and relevant supplementary information:

- population and human health,
- biodiversity, with particular attention to species and habitats protected under the Habitats Directive and the Birds Directive,
- land, soil, water, air and climate,
- material assets, cultural heritage and the landscape,
- the interaction between the above factors, and
- the vulnerability of the proposed development to risks of major accidents and/or disasters.

10.2.4. The assessment provides a reasoned conclusion and allows for integration of the reasoned conclusions into the Boards decision, should they agree with the recommendation made.

10.3. **Issues Raised in Respect of EIA**

10.3.1. The third parties raised a number of concerns regarding the EIAR. These are addressed under each of the relevant chapters.

10.3.2. The third parties also raised concerns that the proposed development represents project splitting for the purpose of EIAR as separate applications have been lodged for a sports facility and community centre. It is stated that the need for these facilities arose from the subsidence event caused by the mining activity.

10.3.3. The issue of project splitting is addressed Chapter 2 of the EIAR. As outlined in Section 4 above, permission was granted in 2021 (Reg. Ref. 20/365) for the construction of a new playing pitch, goalposts, ballstops, dugouts, pitch fencing, single storey dressing rooms and toilets, parking area, wastewater treatment system, percolation and attenuation areas, boundary fencing, new entrance onto R179 public road, and all associated site works. Permission was granted in 2022 (Reg. Ref. 22/23) for a community centre within the village of Magheracloone, c. 50m from a woodland area located within the most northern portion of the site. It is noted that the applicant was also the applicant on both of these applications. The 2021 application (Reg. Ref. 20/365) provided for replacement facilities of the Magheracloone GAA facility effected by the subsidence event over the old Drumgoosat Mine workings. Having regard to the nature and scale of the community sports facilities and the community centre and by reference to the classes of development in Schedule 5, Part 1 and Part 2, I am satisfied that a mandatory or sub-threshold EIAR is not required for these developments.

10.3.4. The proposed community sports complex does not require a mandatory or sub-come within the scope of EIA. However, as the mine development does require an EIAR and the community sports complex forms part of the proposed development it is included in the EIAR assessment. I agree with the applicant that this ensures that the EIAR is more robust.

10.3.5. I am satisfied that the proposed project does not represent project splitting.

10.4. Compliance with the Requirements of Article 94 and Schedule 6 of the Regulations 2001

10.4.1. Compliance with the requirements of Article 94 and Schedule 6 of the Regulations is assessed below.

Article 94 (a) Information to be contained in an EIAR (Schedule 6, paragraph 1)
A description of the proposed development comprising information on the site, design, size and other relevant features of the proposed development (including the additional information referred to under section 94(b).
The proposed development is comprehensively described in Chapter 3 of the EIAR and depicted in the associated drawings. Information is included on the site, design and size of the proposed development. The EIAR also details the planning history of the mine. I am satisfied that adequate detail has been provided to enable decision making.
A description of the likely significant effects on the environment of the proposed development (including the additional information referred to under section 94(b).
A description of the likely significant effects on the environment are included in each of the technical chapters of the EIAR.
A description of the features, if any, of the proposed development and the measures, if any, envisaged to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment of the development (including the additional information referred to under section 94(b).
These are included in each of the technical chapters of the EIAR and the associated appendices and are brought together in Chapter 19 of the EIAR.
A description of the reasonable alternatives studied by the person or persons who prepared the EIAR, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment (including the additional information referred to under section 94(b).
Chapter 4 of the EIAR considers alternatives for both the mining activity and the community use with regard to location, layout and processes. A do-nothing scenario was also considered. It provides the main reasons for selecting the proposed option, taking into account the effects of the proposed development on the environment I consider, therefore, that the description of alternatives is reasonable, in the context of the proposed development, and satisfactory.
Article 94(b) Additional information, relevant to the specific characteristics of the development and to the environmental features likely to be affected (Schedule 6, Paragraph 2).
A description of the baseline environment and likely evolution in the absence of the development.
A detailed description of the baseline environment is included in each of the technical chapters of the EIAR. I am satisfied this is sufficient to enable the assessment of likely effects and to enable decision making.
A description of the forecasting methods or evidence used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information, and the main uncertainties involved
Difficulties encountered in compiling specified information is addressed in the relevant chapters of the EIAR. A methodology is provided for each chapter.

A description of the expected significant adverse effects on the environment of the proposed development deriving from its vulnerability to risks of major accidents and/or disasters which are relevant to it.
Major Accidents and Natural Disasters are addressed in Chapter 17 of the EIAR and satisfactorily describe the expected significant adverse effects on the environment from the proposed development.
Article 94 (c) A summary of the information in non-technical language.
A non-technical summary of the EIAR is provided by the applicant and satisfactorily describes the likely environmental effects of the development.
Article 94 (d) Sources used for the description and the assessments used in the report
Sources used for the description and assessment of environmental effects are included in each technical chapter of the EIAR.
Article 94 (e) A list of the experts who contributed to the preparation of the report
Experts and relevant qualifications are identified in section 1.3 of the EIAR. Further details are provided in each Chapter of the EIAR on the experts who prepared the technical assessment.

10.5. Consultations

10.5.1. Third parties raised concerns that consultation with the community has been inadequate and meaningless.

10.5.2. The application has been submitted in accordance with the requirements of the Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001 (as amended) in respect of public notices. In addition, the EIAR notes that a public consultation event was carried out on Tuesday 21st and Wednesday 22nd September 2021 from 2pm to 9 pm each day. A flyer was also delivered to c. 800 residents inviting them to the events. It is stated that 198 persons attended the public consultation event. Appendix 2.5 provides a copy of the community information event flyer and Appendix 2.6 is a summary of issues for EIAR raised during the event. Submissions have been received from statutory bodies and third parties and are considered in this report, in advance of decision making.

10.5.3. I am satisfied that appropriate consultations have been carried out and that third parties have had the opportunity to comment on the proposed development advance of decision making.

10.6. **Compliance**

10.6.1. Having regard to the foregoing, I am satisfied that the information contained in the EIAR, and supplementary information provided by the developer is sufficient to comply with article 94 of the Planning and Development Regulations, 2001. Matters of detail are considered in my assessment of likely significant effects, below.

10.7. **Alternatives**

10.7.1. The third parties raised concerns that no meaningful analysis has been carried out in considering alternatives to gypsum supplies in a more environmentally friendly and sustainable manner.

10.7.2. The issue of alternatives is addressed in Chapter 4 of the EIAR. I note that Article 5(1)(d) of the 2014 EIA Directive requires:

"(d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;"

10.7.3. Annex IV of the Directive (Information for the EIAR) provides more detail on 'reasonable alternatives':

"A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects."

10.7.4. As the proposed development incorporates 2 no. distinct elements, in this regard the mine development and the community sports complex, the alternatives chapter has been separated into two sections to enable the comparison of alternatives specific to each activity.

Mine Development

10.7.5. The alternatives were considered with regard to their social, environmental and economic impact. The alternatives considered in the EIAR are:

- Alternative Locations
- Alternative Layout, Design and Processes
- Recycling of Gypsum
- Do Nothing Scenario

Alternative Locations

10.7.6. Alternative locations had regard to the development of a greenfield site in Ireland or relocating the mine to another site abroad. A summary of the assessment of alternative locations is provided in Table 4.2 of the EIAR.

10.7.7. Options for alternative locations for gypsum mining in Ireland are limited as minerals can only be worked where they naturally occur and on lands that are within the ownership of the applicant. At present, the appeal site is the only proven reserve of gypsum in the country. The development of a greenfield site presents a higher financial and environmental costs when compared to the appeal site, which is a well-established mine site. Consideration is also given to the transport requirements to a manufacturing facility or construction of such a facility close to the new greenfield site.

10.7.8. Relocating of mining operations to another existing site outside of Ireland and importing material to be processed at the factory site near Kingscourt was also considered. This would lead to the loss of local gypsum supply and loss of employment, with knock on effects for the Irish construction industry. Sourcing gypsum elsewhere would necessitate larger transport distances and, therefore, increase the carbon footprint of the supply chain for the Irish construction industry. Without the development, the underground workings would remain in place and the risk of further instability would also remain.

Alternative Layout, Design and Processes

10.7.9. Alternative layout, design and processes relating to the processing plant, material handling options, the R179 diversion design, the transfer of gypsum and overburden /

interburden within the site and the size and design of Knocknacran West mine. These alternatives are summarised below.

10.7.10. *Processing plant:* Alternatives consideration include whether a new plant would be constructed at the Knocknacran West Mine or whether the proposed development would utilise the existing processing plant at the Knocknacran Mine. Economically it is significantly less costly to reuse the existing processing plant and construct a transfer system between the two sites. A new plant on the Knocknacran West Mine site would sterilise the underlying gypsum reserve. The relocated plant would also be closer to the village of Drumgoosat. Retaining the processing plant at its current location is considered the best option.

10.7.11. *Materials Handling Options:* The appeal site is divided by the R179 and there is currently no direct vehicular link between Knocknacran West mine site and Knocknacran mine site. Alternatives considered include hauling the material from Knocknacran West to Knocknacran by a tunnel, bridge or by relocating the regional road and negating the need for a tunnel or bridge system to traverse the road.

10.7.12. A Cut-and-Cover tunnel was considered the best option as would not create significant disruption to the existing road network, does not require permanent land-take and is wholly on lands within the ownership of the applicant. During the operational phase the tunnel would also be visually unobtrusive.

10.7.13. *R179 Diversion Design*: Two options for the diversion of the R179 was considered during the project development stage. The first diversion option considered was for a design speed of 85 kmph which would allow the diversion to maintain the existing speed limit of 80 kmph for the R179. The second option considered was a design speed of 60 kmph. The 60 kmph diversion design was considered the most environmentally acceptable option as is it safeguards the integrity of the extensometers, which continuously measure ground stability along R179, and offers the least amount of impact on the existing road network and surrounding infrastructure.

10.7.14. *Transfer System:* Consideration was given to the design of the transfer system for both gypsum and overburden / interburden between the two sites. A combined of truck and conveyor system was selected due to the financial cost, increased traffic

movements, associated emissions and use of carbon associated with a truck only system.

10.7.15. *Size of the Extraction Area:* Initially, the design of the mine was based on optimising gypsum recovery within the landholding. Following discussions with the local community and Monaghan County Council the proposed footprint was considered the most appropriate.

10.7.16. In terms of layout, design and processes, the proposed development seeks to make best use of existing infrastructure, which would represent the least amount of disruption to local communities, the environment and financial cost.

Recycling of Gypsum

10.7.17. Consideration was also given to recycling of recovered gypsum as an alternative to mining of raw gypsum. Recycling gypsum products is currently carried out as part of the existing IE Licence(P0519-04) at the applicants manufacturing facility. Some of the products developed so far allow up to 15% of the natural gypsum to be routinely replaced with recovered gypsum. The company has ambitions and an active program of work to replace up to 30% of the natural gypsum in some formulations with recovered material in the coming years. The continued development of gypsum recovery technology and practices will be an important step in reducing the reliance of imported gypsum to Ireland and in particular, to the carbon footprint associated with such imports. However, it is considered that 100% of natural gypsum cannot currently be replaced by recovered materials.

Do Nothing Scenario

10.7.18. Knocknacran Mine would be restored as outlined in the existing permitted restoration plan, which was permitted under Reg. Ref 17/217. This allows for the reinstatement of agricultural land at the site and for the creation of a lake within the former open-cast area. After final restoration of the mines there would be a direct loss jobs at the mine and the applicants off site factory.

10.7.19. The underground Drumgoosat mine workings would remain with an inherent risk of further subsidence.

Conclusion

10.7.20. In my opinion, there are 2 no. realistic alternatives. In this regard, 'do nothing' or permit the proposed development. In the 'do nothing' scenario the proposed Knocknacran mine site would be restored when gypsum reserves have been depleted and the remaining gypsum in the Knocknacran West site would remain in situ. This would lead to the loss of local gypsum supply and loss of employment, with knock on effects for the Irish construction industry. Sourcing gypsum elsewhere would result in a greater environmental and financial cost, due to longer transport distances. Without the development, the underground workings would remain in place and the risk of further instability would also remain.

10.7.21. With regard to the proposed development, the applicant has demonstrated that the gypsum reserves can been safely extracted by way of open cast mining methods. The appeal site represents the most suitable option, given its potential to sustain local and regional employment, its proven environmental management practices and its potential to provide long-term enhancement to ground conditions and biodiversity in the area. On a wider scale it also reduces environmental and financial carbon costs associated with the importation of gypsum. I am satisfied that the applicant has adequately considered the alternatives from an environmental perspective.

Community Sports Complex

10.7.22. The alternatives were considered with regard to their social, environmental and economic impact. The alternatives considered in the EIAR relating to the community sports complex are:

- Alternative Location
- Do Nothing Scenario

Alternative Location

10.7.23. Alternative potential locations were discussed with community stakeholders and the proposed location was the agreed preferred option. An alternative location on another greenfield site, away from the site of the Phase 1 development (Reg. Reg. 20/365) was considered to be less favourable, as it would create two separate Community Sports Complex sites and would have less of a positive impact on the local community.

The acquisition of a greenfield site would also require more investment of resources, including time needed for investigation to determine its suitability for development.

'Do Nothing' Scenario

10.7.24. Prior to the 2018 subsidence event, the applicant had already given a commitment to the local community to provide a replacement facility to enable the development of Knocknacran West.

Conclusion

10.7.25. The proposed development is considered to be the most favourable alternative as it provides a Community Sports Complex in close proximity to the site of the original facility and on lands which have no underground workings.

10.7.26. While the concerns of the third party are noted I am satisfied that the EIAR clearly and sufficiently outlines the reasonable alternatives that were considered, including a 'do nothing' alternative, and sets out the reasons for selecting the chosen option, based on consideration of the environmental effects. In the prevailing circumstances the overall approach of the applicant is considered reasonable.

10.7.27. The consideration of alternatives is an information requirement of Annex IV of the EIA Directive, and the single most effective means of avoiding significant environmental effects. Having regard to this requirement and its purpose (i.e. avoidance of significant environmental effects) and noting the permitted facility on the site, I am satisfied that the consideration of alternatives that were studied by the applicant is adequate.

10.8. Assessment of Likely Significant Effects

10.8.1. This section of the report sets out an assessment of the likely environmental effects of the proposed development under the following headings, as set out Section 171A of the Planning and Development Act 2000, as amended:

- Population and human health.
- Biodiversity, with particular attention to the species and habitats protected under the Habitats and Birds Directives (Directive 92/43/EEC and Directive 2009/147/EC respectively).

- Land, soil, water, air and climate.
- Material assets, cultural heritage and the landscape.
- The interaction between these factors.
- The vulnerability of the proposed development to risks of major accidents and/or disasters.

10.8.2. In accordance with section 171A of the Act, this assessment includes an examination, analysis and evaluation of the application documents, including the EIAR, the associated drawings, documents / appendices and the submissions received, and identifies, describes and assesses the likely direct and indirect significant effects, including cumulative effects, of the development on the environmental parameters set out in the Regulations and the interaction of these. Each topic section is, therefore, structured under the following headings:

- Issues raised in the appeal.
- Examination of the EIAR.
- Analysis, Evaluation and Assessment: Direct and Indirect effects.
- Conclusion.

10.9. Population and Human Health

Issues Raised

10.9.1. The third parties raised serious concerns regarding health and safety risks at the mine site. It is noted that sinkholes, crown holes, subsidence and landslides have all occurred in the immediate vicinity of the site due to the underground mines and raised concerns regarding the structural stability of the roads. It is considered that the EIAR is inadequate as it does not take account of the defects both historical and potentially encountered in the future on the human beings. The submission from An Taisce notes that underground mining in the early 20th century has result in significant subsidence problems.

10.9.2. The third parties also consider that an independent risk assessment of the risks to workers of the mine should have been carried out.

Examination of the EIAR

Context

10.9.3. Chapter 4 of the EIAR addresses Population and Human Health, with regard to potential impacts on population, socio-economic status, amenity facilities, human health and health and safety. Environmental issues with the potential to impact on population and human health, such as accidents and disasters, air, dust and odour, noise, traffic, landscape quality and water quality are addressed separately in the relevant chapters of the EIAR and the relevant sections of this report. Chapter 4 outlines the legislative and policy context, assessment methodology, the baseline human environment, key characteristics of the proposed development, potential effects and mitigation and management.

10.9.4. The following Appendices are attached to Chapter 5:

- Evaluation of the Relevance of Solastalgia in the context of the proposed development.

10.9.5. The planning authority raised some concerns regarding the information provided in Chapter 5 – Population and Human Health of the EIAR and request that 3 no. items of further information be sought with regard to the (1) the impact of the proposed development on climate (2) provide support for the proposed development with regard to European and National Legislation, plans, programmes, and policies and demonstrate how the development meets Ireland's economic, social and environmental goals and (3) provide details of consultations with the public.

10.9.6. In response to the request for further information the applicant notes that (1) climate is addressed in Chapter 9 of the EIAR. (2) The information provided in the EIAR is in accordance with the EPA Guidance. The National Planning Framework 2040 and the Northern and Western Regional Spatial and Economic Strategy 2020-2032 are discussed in the applicants Planning Compliance and Consistency Statement. (3) Details of public consultation are provided in Section 2.3.2 of the EIAR. The planning authority considered that this item of further information was adequately addressed by the applicant.

Baseline

10.9.7. The proposed development is located within a rural area, with a linear pattern of low-density residential development along the surrounding road network. To the west the site is immediately bound by a petrol station and convenience store fronting onto the R179. Drummond Underground Mine extends laterally beneath the site to the south, and there is an opencast Clay Pit, c. 1.5 km to the south of the appeal site. The nearest settlement is the village of Magheracloone c. 50m north-west of the northern boundary of the appeal site.

10.9.8. The existing mine is located within the Enagh Electoral District (ED), which had a stated population of 696 in 2022. Table 5.8 of the EIAR indicates that Enagh ED experienced a limited population increase of 1.9% (13 no. persons) between 2016 – 2022. This compares to a population increase of 7.6% for the State and 5.7% for Monaghan during the same period.

10.9.9. Within 1km of the appeal site there are c. 150 no. residential properties and 18 no. non-residential uses, including agricultural, commercial, industrial, educational and recreational.

10.9.10. The EIAR notes that the existing mine site directly employs 40 no. persons on a full-time basis with additional employment via contractors. The mining activities also supports 150 no. jobs at the company's plasterboard factory. Activities at both the mine and plasterboard factory generate significant indirect employment in the wider area.

10.9.11. The former Magheracloone Mitchells Gaelic Football Club was situated on the Knocknacran West site prior the subsidence of September 2018. Following the subsidence event, the facilities at the site were demolished and the site was remediated to grassland. A community sports facility was granted permission (Reg. Ref. 20/365) in 2021 for a new playing pitch, dressing rooms, waste-water treatment system, water attenuation, entrance from R179 and associated site works on lands to the south-east of the R179. This community facility is operational.

10.9.12. Based on available 2016 CSO data, Table 5.16 of the EIAR provides a comparison of general health between Enagh, Monaghan and the State. The information indicates that there is a slightly higher percentage of persons in Enagh ED (88.2%) who classify themselves as being in Good or Very Good health when compared to Monaghan

(87.6%) and the State (87%). The percentage of persons who classified themselves as being in 'Bad' or 'Very Bad' health was also slightly lower in Enagh ED (0.7%) when compared to Monaghan (1.3%) and the State (1.6%).

10.9.13. The applicant is committed to health and safety at their existing mine operations and prioritise the health and safety of its staff and all stakeholders who may be affected directly and indirectly by the site's existing operations.

10.9.14. The EIAR notes that there was a lack of complete census data from the interim period of 2016 to the time of writing, which means that the latest population and demographic trends are slightly outdated. It is stated that no other particular difficulties were encountered in the preparation of this chapter of the EIAR.

Potential Effects

10.9.15. The EIAR identifies the potential for a range of environmental effects on Population and Human Health. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 1 below. Minor effects are not identified, except where there is potential for significant impact interactions, cumulative effects or where concerns have been expressed by parties to the application.

Table 1: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	Knocknacran Mine would be restored as outlined in the existing permitted restoration plan, which was permitted under Reg. Ref 17/217. This allows for the reinstatement of agricultural land at the site and for the creation of a lake within the former open-cast area. After final restoration of the mines there would be a loss of c. 150 direct jobs. The underground Drumgoosat mine would remain with an inherent risk of further subsidence.
Construction	Demolition of an occupied house. The existing household would be relocated to a neighbouring townland. Demolition of structures which contain asbestos. Temporary diversion of the R179 for c. 6 -9 months.

	Temporary and short-term noise, vibration, dust and nuisance during the construction phase. Risk of subsidence Potential for accidental fuel or leaks from machinery impacting on underlying soils, subsoils, bedrock and groundwater. The construction phase poses potential risk to the health and safety of the public and livestock that could stray into the working area. There is potential for construction related hazards or injuries. Construction workers would contribute positively towards the local economy.
Operation	Continued direct and indirect employment. Provide gypsum to the Irish construction industry. Nuisance from noise, vibration, dust, disruption to views and potential environmental emissions. Potential for accidental fuel or leaks from machinery impacting on underlying soils, subsoils, bedrock and groundwater. Decrease the hazard and perceived risk of future subsidence at the old mine workings at Drumgoosat Mine, which pass under the R179 and LP4900. Potential to cause structural failure and collapse of the open pit. Potential to cause sink holes. Potential risk to health and safety of the public and livestock that could stray into the site and also from blast related activity. There is potential for work related hazards or injuries. Subsidence event occurring beneath a public road or beneath lands overlying the mine workings
Decommissioning and Restoration	Ceasing the extraction activities onsite would result in a loss of extractive industry related jobs. There would be a short-term increase in construction related jobs during decommissioning of the plant site and refurbishment for future use.

	Nuisance from noise, dust, disruption to views and potential environmental emissions during the physical closure works. Provide areas of increased biodiversity and amenity
Cumulative	No significant effects envisioned.

Mitigation

10.9.16. It is considered that there will be no adverse impact on local residents or on the local environment subject to mitigation measures, which are currently employed at the existing mine and would be extended to cover the Knocknacran West mine, and appropriate monitoring measures. Chapter 5 of EIAR notes that potential impacts to human health relating to subsidence, water quality, air quality, noise and vibration, traffic and visual impact and relevant mitigation measures are set out in Chapters 7 (Land, Soils and Geology), Chapter 8 (Water), Chapter 9 (Climate), Chapter 10 (Air Quality), Chapter 11 (Noise), Chapter 13 (Landscape and Visual Impact) and Chapter 14 (Traffic and Transport) of the EIAR and addressed below.

10.9.17. It is noted that as part of the EPA's Licencing process the proposed development would be required to regularly update their assessments on environmental liabilities for the overall site.

Residual Impacts

10.9.18. Subject to appropriate mitigation measures, design standards and adherence to operational infrastructure management plan residual impacts are not considered to be significant in terms of the effect on human beings.

10.9.19. Beneficial effects are identified are the provision of a Community Sports Complex and the removal of underground mine workings.

Analysis, Evaluation and Assessment: Direct and Indirect Effects

10.9.20. I have examined, analysed and evaluated Chapter 4 of the EIAR, and all of the associated documentation, including the applicant's response to the further information request, and submissions on file in respect of population and human health and Health and Safety. I am satisfied that the information submitted in the EIAR adequately demonstrates an understanding of the potential risks, impacts and

provides suitably comprehensive range of mitigation and monitoring measures to reduce any potential impacts.

10.9.21. It is noted that the third parties raised a number of concerns regarding the potential for subsidence due to the proposed development and the associated risk to human health. In the interest of clarity and to avoid repetition, the issue of subsidence and risk to workers and the local population are addressed below in Section 10.25 below.

10.9.22. The existing Knocknacran mine and the adjacent underground Drummond mine are the only indigenous gypsum mines in the country, and both are within the ownership of the applicant. The proposed development would replace mining at Knocknacran Mine, which it is stated would be exhausted by 2027. Drummond Mine is currently permitted to continue extraction until 2032. Therefore, in the absence of the proposed development there would be no indigenous source of gypsum within the island of Ireland after 2032. Gypsum related materials include plaster and plasterboard, cement manufacture, soil conditioner, pottery, glass and metal moulds, medical casts, dental plaster moulds.

10.9.23. The EIAR notes that the existing mine site directly employs 40 no. persons on a full-time basis with additional employment via contractors. The mining activities also supports 150 no. jobs at the company's plasterboard factory. Having regard to the information submitted, it is my opinion that if the known gypsum resource within the appeal site remained in-situ, and the only viable indigenous gypsum supply is depleted at the existing Knocknacran Mine and Drummond Mine, this would result in a direct negative impact on the employees of the mine sites and an indirect negative impact on employment at the applicants plaster and plasterboard factory near Kingscourt, Co. Cavan and the Irish construction industry.

10.9.24. Having regard to the existing mine operation on the site and the temporary nature of the construction phase, it is my opinion the impact to the population and to the local economy from the proposed development would be neutral.

10.9.25. The potential for direct, indirect and cumulative impacts on human health from noise and vibration, air quality (dust), traffic and water quality during the construction and operation phases are addressed in the relevant chapters of the EIAR. I have assessed

these relevant chapters. I am satisfied that these effects can be avoided, managed and mitigated by measures that form part of the proposed scheme and that are currently implemented in the existing mine.

10.9.26. It is noted that the applicant submitted an evaluation of the relevance of Solastalgia in the context of the proposed development, which is attached as Appendix 5.1. The applicant notes this concern raised by Monaghan County Council on a previous application. Solastalgia is defined as a recognition of distress within an individual or at a community level resulting from the loss of a sense of place. The report concludes that engagement with the community is a key cornerstone when it comes to addressing potential solastalgia and makes recommendations to alleviate potential effects. These include continued communication with the local community on the progress of the development and land rehabilitation plans, how the company complies with environmental regulations and mitigation measures that will reduce noise pollution, dust, and enhance the areas visual amenity. The applicant states that they are committed to on-going communication with the local community and relevant stakeholders. While not a statutory requirement, having regard to the nature and scale of the proposed development on-going communication with the local community is encouraged and welcomed.

Conclusion

10.9.27. I consider that the overall impact on population and human health during the construction and operational phase would be neutral / imperceptible impact due to the location of the proposed development in a rural area, remote from population centres and the established mine use on the site. It is considered that the ceasing the extraction activities, during the restoration phase, would result in a loss of extractive industry related jobs and a loss of an indigenous supply of gypsum to the Irish construction industry, which would have a negative impact.

10.9.28. The potential for significant effects on human health from noise and vibration, air quality (dust) and water quality during the construction and operational phases can be avoided, managed and mitigated by measures that form part of the proposed scheme

10.9.29. Serious risks to human health and safety are not envisaged as the mining activity would continue to be managed in accordance with all applicable legislation and

guidelines, including Safety, Health and Welfare at Work (Quarry) regulations 2008. The issue of subsidence and risk to workers and the local population are addressed below in Section 9.24 vulnerability of the proposed development to risks of major accidents and disasters.

10.10. Biodiversity

Issues Raised

10.10.1. The submissions from third parties raised concerns that the EIAR is inadequate as it does not take account the impact of existing and future mining on biodiversity.

Examination of the EIAR

Context

10.10.2. Chapter 6 of the EIAR addresses biodiversity. It describes the flora and fauna present at the site. The chapter outlines the legislative and policy context, assessment methodology, the baseline ecological environment, key characteristics of the proposed development, potential effects and mitigation and management. A Natura Impact Statement was prepared as standalone document. To avoid any repetition the potential impact on the designated sites is addressed in Section 10 below.

10.10.3. The assessment methodology included a desktop study of available data. The following surveys were also carried out: -

- Walkover surveys were carried out in July 2018, May 2019, August 2021 and July 2022.
- A Phase 1 habitat and flora assessment in August 2021 and an updated Phase 1 habitat and flora assessment in July 2022.
- A hedgerow survey appraisal in June 2022.
- Bat survey work began in 2019 and continued to 2022.
- Bird surveys were carried out between June and August 2022
- Wildlife Acoustic detectors were deployed for 2 nights in July 2022 and for 7 nights in August 2022.
- Reptile survey between June and September 2022.

- Aquatic surveys were carried out at 2 no. locations in September 2022.

10.10.4. The EIAR notes that no particular difficulties were encountered in the preparation of this chapter of the EIAR.

10.10.5. The following Appendices are attached to Chapter 6:

- Appendix 6.1: Knocknacran West Project Habitat Survey August 2021
- Appendix 6.2: Knocknacran West Mine Project Ecology Surveys 2022
- Appendix 6.3: Knocknacran West Hedgerow Survey
- Appendix 6.4: Tree Protection Management Plan
- Appendix 6.5: Knocknacran West Project Ecology Surveys 2021
- Appendix 6.6: Aquatic Baseline Report for the Corduff Stream, Knocknacran West Project, Co. Monaghan
- Appendix 6.7: Proposed Habitat Management Plan - Knocknacran West Project
- Appendix 6.8: Landscape Plan - Boundary Treatment Plan Community Sports Complex
- Appendix 6.9: Landscape Management Plan Knocknacran West Site
- Appendix 6.10: Environmental Management Plan

10.10.6. The planning authority raised some concerns regarding the information provided in Chapter 6 - Biodiversity of the EIAR and request that 3 no. items of further information be sought with regard to the (1) Clarity is required in relation to the survey effort and methodologies for fauna used to information the assessment. (2) Mitigation needs to be evidence based and further information on the baseline is required with regard to the extent of vegetation clearance, type of vegetation and the importance of such vegetation. (3) Reliance on future surveys is not an appropriate approach to inform the planning authority of potential impacts.

10.10.7. In response to the request for further information the applicant notes that (1) an addendum report is provided to be attached to the EIAR. Table 1: Baseline Ecological Surveys and Relevant Guidance of the Addendum tabulates the survey data previously included in the EIAR. (2) This information is provided in Section 6.4.3,

Figures 6.25, 6.29, and 6.30 and Appendix 6.4 of the EIAR. (3) There is no reliance on future surveys to define baseline. The planning authority considered that this item of further information was adequately addressed by the applicant.

Baseline

10.10.8. *Habitats:* The appeal site lies in a rural area. The area to the south-east of the R179 comprises the existing and operational Knocknacran Mine with associated processing plant and the existing Sports Complex. The habitats supported on this portion of the site are classified as extensive areas of active mines and quarries (ED4) buildings and artificial surfaces (BL3), recolonising bare ground (ED3), artificial lakes ponds (FL8), scrub (WS1) and young mixed broadleaved woodland plantations established as screen planting (WD1). These habitats are of local importance with a lower ecological value.

10.10.9. The lands to the north-west of the R179 comprise the area above the existing underground Drummond mine workings. This portion of the site supports extensive areas of unmanaged pastoral lands, including recolonised (ED3) to dry semi-natural grassland (GS2) and extensive scrub (WS1). These habitats are of local importance with a lower ecological value. Theses pastoral lands also contain pockets of unmanaged hedgerows (WL1) with some treelines (WL2), woodlands (WN2 and WN6) and drainage channels (FWS) which are habitats of local importance with a higher ecological value.

10.10.10. Tree management and protection plan attached as Appendix 6.4 to the EIAR. It is noted that the majority of trees within the appeal site are Category C (low quality / value).

10.10.11. The habitats and vegetation that occur within the site are generally considered to be of low botanical value. However, the lands to the northwest of the R179 contain semi-improved or unmanaged habitats that in the short to medium term may provide suitable refuge and foraging habitat for a range of breeding avifauna, mammals (volant and non-volant) and invertebrates.

10.10.12. *Mammals:* A badger sett was identified within the Knocknacran West site. Evidence of badger was also noted from dung recorded within the site. A pine marten was recorded

via a camera. There is also suitable habitat for Irish hare, stoat, hedgehog, red squirrel, pygmy shew, fox and rabbit with the site.

10.10.13. *Bats:* The site provides some suitable foraging / commuting habitat for bats. Bat activity was recorded at the roadside hedgerows and treelines. Trees located within the northern section of the site are of a size and age that could support features of bat roosting potential. In the southern portion of the site trees are relatively young, with little or no bat roosting potential. Bat roosting was also confirmed in 4 buildings on site. Table 6.9 of the EIAR provides a list of bat species recorded during the site surveys, including Daubernton's Bat, Whiskered Bat, Natterer's Bat, Leisler's Bat, Nathusius Pipistrelle, Common Pipistrelle, Soprano Pipistrelle and Brown Long-eared Bat.

10.10.14. *Birds:* The site includes habitats and features of value to birds including a number of watercourses, quarry faces, woodlands, bare and recolonising ground (including wildflowers) and accessible buildings. Table 6.11 of the EIAR lists the 49 bird species recorded during the surveys. These are generally common species. However, 7 no. species (Kestrel, Lapwing, Meadow Pipit, Stock Dove, Barn Owl, Grey Wagtail and Swift) are listed on the BoCCI Red List and 11 no. species (Coot, Goldcrest, House Martin, Lesser Black-Blacked Gull, Linnet, Mallard, Sand Martin, Spotted Flycatcher, Starling, Swallow and Willow Warbler) are listed on the BoCCI amber-listed. Of particular note was a breeding pair of Lapwing (2019) and a barn owl roost was located in a rafter in the derelict metal roof extension adjoining a derelict house (referred to as B2 by the applicant) and a large all white barn owl was observed (2021). During the surveys Kestrels were also observed, and it's considered very likely that they nest within the site. The quarry faces also proposed suitable habitat for Sand Martin, Peregrine Falcon, Stock Doves and Swifts and the surface water lagoons provide suitable habitat for wetland waterbirds including Coot and Mallard.

10.10.15. *Amphibians:* The Common Frog was frequently observed, particularly near drains and in wet grassland habitats. There was no evidence of common lizard on the site.

10.10.16. *Fish:* The pond and drainage ditches are not considered suitable to support any significant aquatic fauna. European eel, roach and perch were recorded at the mine water discharge point at the River Bursk.

10.10.17. *Invasive species:* Japanese knotweed was identified at one location within the site, within an area of c. 10sqm.

Potential Effects

10.10.18. The EIAR identifies the potential for a range of environmental effects on Biodiversity. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 2 below. Minor effects are not identified, except where there is potential for significant impact interactions, cumulative effects or where concerns have been expressed by parties to the application.

Table 2: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	Upon closure of the mine the Knocknacran open cast mine would be restored to provide grassland and a lake, and the plant site would be retained for future light industrial usage. The Knocknacran West site and the Community Sports facility would not be constructed.
Construction	Permanent loss of foraging and commuting habitat. Dust deposition and subsequent changes to habitat composition Permanent loss of bat roosts and barn owl roost potential. Disturbance to habitats and species through noise, increased human presence and traffic. Change to water quality via silts and hydrocarbons from construction plant and machinery could enter the drainage flow paths and ditches.
Operation	Permanent loss of habitat. Modification and change in habitat composition. Disturbance to habitats and species through noise, traffic, and blasting. Individual species mortality. Potential direct and indirect impacts on water quality and quantity to receiving waters and groundwater.

Decommissioning and Restoration	Potential effects as a consequence of restoration and closure would generally be positive. Three distinct habitats would be created, open water, shoreline / washland and open ground.
Cumulative	No significant effects envisioned.

Mitigation

10.10.19. Mitigation and management measures are set out in Section 6.7 of the EIAR. It is stated that the avoidance of negative effects is embedded in the design of the proposed development, including the provision of screening berms and other screening measures prior to the operational phase and the retention of hedgerows and trees, where possible. Other notable measures are:

- All works would be undertaken in accordance with the conditions set by the EPA IE Licence.
- Compliance with relevant legislation and guidelines and adherence to best practice
- Any demolition of buildings with potential to support nesting birds would be undertaken outside of nesting season (March – August). Any vegetation clearance within nesting season a nesting bird check would be carried out by a suitably qualified ecologist. Nest boxes provided on suitable trees at the periphery of the site.
- A pre-construction badger survey.
- Shirley house would be solely retained for use by bats. Provision of a bespoke bat roost structure in the north of the site and the provision of bat boxes.
- Japanese knotweed would be dealt with by an appropriately qualified contractor.
- Compliance with the Environmental Mitigation Plan (EMP) attached as Appendix 6.10 and the Habitat Management Pla (HMP) attached as Appendix 6.7.
- Compliance with a final Construction Management Plan (CMP).

- The proposed CRAMP proposes that aftercare monitoring and reporting would take place on a yearly basis, or as otherwise agreed with the EPA.

Residual Effects

10.10.20. Subject to adherence to appropriate mitigation measures, design standards and operational infrastructure management plans, it is considered that any residual effects would be minor and not significant in the long term.

Analysis, Evaluation and Assessment: Direct and Indirect Effects

10.10.21. I have examined, analysed and evaluated the information provided in Chapter 6 and all the associated documents, including the applicant's response to the further information request, and submissions on file in respect of biodiversity. I am satisfied that the information submitted in the EIAR adequately demonstrates an understanding of the potential impacts and provides suitably comprehensive range of mitigation and monitoring measures in Sections 6.7 and 6.8 to reduce any potential impacts.

10.10.22. *Habitat:* In the short to medium term the proposed development would result in the loss of some locally important and higher ecological value habitat, including unmanaged hedgerows (WL1) with some treelines (WL2), woodlands (WN2 and WN6) and drainage channels (FWS).

10.10.23. With regard to the Knocknacran West site, Figures 6.29 and 6.30 indicate that there is an existing c. 3.5km of unmanaged hedgerow / treeline surrounding the site's boundary and c. 2.5km of hedgerow and c. 293m of treeline within the site. The c. 3.5km perimeter hedgerow / treeline would be maintained and bolstered during the construction and operational phases. An additional c. 3km perimeter berm would also be constructed surrounding the proposed mining area. This would be planted with native woodland mix. Over the lifetime of the Knocknacran West mine the hedgerows and treelines within the site would be lost. As the Knocknacran West site is being excavated the Knocknacran site would be restored. This would result in an additional c. 1.8km of hedgerow and c. 712m of treeline within this portion of the site.

10.10.24. Table 6.15 of the EIAR provides a breakdown of habitat change following restoration. It is noted that in the long term the proposed development would result in an increase in higher value habitats including hedgerows (+ c.963sqm), woodlands (+ c.43,694sqm), artificial lakes and ponds (+ c. 250,998sqm), drainage ditches (+

c.256m) and a decrease in lower value ecological habitats including active quarries and mines (- c. 475,386sqm). There would be no overall change to treelines, screening berms (planted with a mixed of native woodland) and recolonising bare ground. There would also be an increase in grass and scrub land (+ c. 180,704sqm).

10.10.25. Having regard to the present condition of the site, with no special concentrations of flora or fauna, I am satisfied that the long-term impact of the proposed development on habitats would not be significant.

10.10.26. *Mammals:* The short to medium term loss of habitat would result in some reduced foraging opportunities for mammals. However, similar habitats are widely available in the surrounding rural landscape and the long term the restoration phase is likely to create replacement habitats for common mammalian species. While the loss of habitat may affect some common mammalian species, I am satisfied that the impact would not be significant.

10.10.27. Badgers are common and widespread in agricultural habitats across Ireland. Habitats suitable for foraging and sett building are present on the site. The EIAR notes that a main and an outlier sett were identified within the Knocknacran West site. The exact details of the setts are not disclosed. However, it is noted that they are within the proposed excavation area. Signs of badger were also evident within the site, including latrines, paw prints, snuffle holes and hair. Further details of the mammal surveys carried out are provided in Appendix 6.2: Knocknacran West Mine Project Ecological Surveys 2022 and includes photos of the setts and night cameras captured imagines of the badgers.

10.10.28. Main setts are of the greatest conservation importance and are where breeding typically occurs. Outlier setts typically comprise of one to two holes and may be found some distance away from the main sett and are not usually linked to it by any obvious paths. The type and level of use of outlier badger setts is variable and they may be used sporadically or seasonally. Badgers are mobile species, and activity can change over time. The EIAR recommends that that pre-construction badger surveys are undertaken prior to site clearance works, in order to identify the extent of use by badgers at the time of the works. The EIAR notes that the applicant has engaged with the NPWS regarding the relocation of the onsite badger setts to ensure for the timely

and safe relocation of the animals to take place. It is also proposed to enhance existing badger habitat in the northern section of the Knocknacran West site, that would not be affected by the excavation works.

10.10.29. While the potential presence of badgers on the appeal site is noted, having regard to the availability of similar alternative habitat surrounding the proposed extraction areas and the applicant's engagement with the NPWS, I am satisfied that this issue could be addressed by way of condition.

10.10.30. Given the nature and characteristics of the appeal site I am satisfied that the impact on terrestrial mammals would not be significant.

10.10.31. *Bats:* The trees and hedgerows adjoining the site are likely use by commuting and foraging bats and roosting potential was recorded within a number of buildings on site. The proposed development would result in the short to medium term loss of bat foraging habitat and the permanent loss of 4 no. structures with identified bat roosts (non-maternity), which would have an adverse effect on local bat populations. The EIAR notes that a derogation licence has been granted by the NPWS for the demolition of buildings / structures which may support bat roosts. To mitigate against any negative impact, it is proposed to retain and enhance 'Shirley House', which is a derelict house that provides multiple bat roosting opportunities. A bespoke block-built roost would also be provided at the site's northern boundary. Additional mitigation measures include the provision of bat boxes, sensitive lighting and additional planting. While it is noted that some foraging and roosting areas would be lost the short to medium term, I am satisfied that subject to adherence to mitigation measures the overall long-term impact of the proposed development on the local bat population would not be significant.

10.10.32. *Birds:* The appeal site provides suitable nesting, foraging and commuting habitat for a variety of bird species. The bird surveys observed breeding Lapwing within the site and a Barn Owl roost. The EIAR notes that it is also likely that Kestrels, Stock Doves Peregrine Falcon and Swifts are potentially nesting within the site. Barn Owl, Lapwing, Kestrel, Stock Dove and Swifts are listed on the BoCCI Red List. Sand Martin, Coot and Mallard which is listed on the BoCCI amber list are also considered likely to nest / roost within the site.

10.10.33. It is acknowledged that the proposed development would result in the short-term loss of suitable bird foraging, shelter and nesting habitat. To mitigate against this loss, it is proposed that any demolition of buildings with potential to support nesting birds would be undertaken outside of nesting season (March – August). Any vegetation clearance within nesting season a nesting bird check would be carried out by a suitably qualified ecologist. Nest boxes provided on suitable trees at the periphery of the site to ensure replacement nesting opportunities are immediately available.

10.10.34. With regard to the Barn Owl roost the EIAR notes a pre-construction survey would be carried out and, if required, there would be consultation with the Regulatory Authority regarding the provision of a barn owl derogation licence and a mitigation strategy would be put in place, including the provision of alternative nesting habitat as appropriate. While the potential loss of a Barn Owl roost is noted I am satisfied that subject to appropriate mitigation the impact on the local population would not be significant.

10.10.35. In the long term, during the restoration phase, habitats would be replaced with habitats of higher ecological value and the proposed waterbody, within the void of the Knocknacran West site, would allow for the creation of areas of shallow water that would support the development of habitat, including a shallow water littoral zone. The reinstated Corduff Stream would also provide habitat for wading birds and wildfowl.

10.10.36. The appeal site is not identified as an ex-situ site for any protected bird. The impact of the proposed development on qualifying interests of any designated sites is addressed below in Section 10.

10.10.37. Overall, subject to adherence to the proposed mitigation measures I am satisfied that the proposed scheme would not have a significant impact on the local conservation status of any of the bird species associated with the site.

10.10.38. *Other Species:* From the information submitted I am satisfied that the proposal would not have a significant impact on any other species recorded within the site. No mitigation measures are required.

10.10.39. *Invasive Species:* Japanese knotweed is confirmed within the Knocknacran West site. Treatment of the species is currently on-going, and the area has been fenced off with appropriate signage. The EIAR notes that any invasive species would be removed

from the site and disposed of appropriately, subject to an appropriate method statement. Invasive species would be dealt with by a qualified contractor. It is also noted that measures would be implemented throughout site works to prevent the spread of any invasive non-native species. I am satisfied that this issue could be addressed by way of condition.

Conclusion

10.10.40. Having regard to the present condition of the site, which includes an active mine with associated processing plant, with no special concentrations of flora or fauna, I am satisfied that the potential for effects on biodiversity during the construction and operational phases can be avoided, managed and mitigated by measures that form part of the proposed scheme and at there is no potential for cumulative effects**,** given the absence of permitted or planned construction activity in the vicinity of the site.

10.11. **Land, Soil, Water, Air and Climate**

10.11.1. The format of my assessment follows the headings as set out in the Planning and Development Act, 2000 (as amended). Having regard to the information provided in the applicants EIAR the following sub-headings are used:

- Land, Soils and Geology
- Water
- Climate
- Air Quality
- Noise
- Vibration

10.12. **Lands, Soils and Geology**

Issues Raised

10.12.1. The third parties raised serious concerns regarding the stability of the surrounding area due to underground mine workings and the impact that the proposed development could have on subsidence. The submissions from An Taisce and Geoscience Regulation Office (GSRO) also notes the subsidence issues in the area over Drumgoosat underground mine. The GSRO recommend that further

hydrogeological and stability assessments are carried out nearer to closure to assess that assumptions made in the EIAR concerning the stability of underground mining voids remain valid. If future assessments indicate that it is not possible to inhibit water ingress into mine workings it is considered that backfilling of four-way intersections beneath the two roads should be undertaken. It is noted that the third parties raised concerns regarding surveys being carried out after permission has been granted.

Examination of the EIAR

Context

10.12.2. Chapter 7 addresses the impact on Land, Soils and Geology and considers any direct or indirect effects on these resources arising from the proposed development. The chapter outlines the legislative and policy context, the methodology used, sources of information and the assessment criteria.

10.12.3. The EIAR notes that no particular difficulties were encountered in the preparation of this chapter of the EIAR.

10.12.4. The following Appendices are attached to Chapter 7: -

- Appendix 7.1: Community Sports Complex Site Borehole Logs – 2021
- Appendix 7.2: Subsidence at the former Underground Gypsum Mines (Drumgill & Drumgoosat) near Kingscourt, Co. Cavan, Ireland - SRK - May 1999
- Appendix 7.3: Check Survey and Geotechnical Inspections at Drumgoosat Disused Mines - SRK - March 2002 Appendix
- 7.4: Drumgoosat Subsidence Event - Technical Report - SRK - October 2018 Appendix
- 7.5: Independent Review of Investigation into Collapse Workings at Drumgoosat - WAI - December 2018
- Appendix 7.6: December 2018 Crown Hole - SRK - April 2019
- Appendix 7.7: Drumgoosat Underground Mine - Investigation & Analysis of mine Stability below the R179 - SRK – April 2020

- Appendix 7.8: Drumgoosat Monitoring R179 Trigger Action Response Plan (TARP) - SRK July 2020
- Appendix 7.9: Drumgoosat Monitoring L4900 Trigger Action Response Plan (TARP) - SRK August 2019
- Appendix 7.10: Independent Review of the Stability Report on the Drumgoosat Underground Mine Workings below and adjacent to the R179 Carrickmacross to Kingscourt Road, Co. Monaghan - August 2021
- Appendix 7.11: Review of Geotechnical Reports on Ground Stability related to the R179 and L4900 Roads overlying the Knocknacran West (Drumgoosat) Gypsum Deposit, Co. Monaghan - Golder - September 2021
- Appendix 7.12: Knocknacran West Pit Slope Stability Assessment – Golder - September 2019
- Appendix 7.13: Knocknacran West Mine Assessment, Ireland - SRK - November 2019
- Appendix 7.14: Impact of Construction and Mining Vibration - SRK - July 2022
- Appendix 7.15: Long Term Mine Stability - SRK - July - 2022
- Appendix 7.16: Quarrying through Voids - SRK - July 2022
- Appendix 7.17: Procedure for mining in the vicinity of suspected voids & unstable ground (underground mine workings) - SGMI - August 2022
- Appendix 7.18: Roof Beam Stability and Kinematics - SRK - July 2022
- Appendix 7.19: Permanent Solution to Existing Mine workings that go under the Existing Public Road Network - SLR - September 2022

Baseline

10.12.5. *Land:* The surrounding area is undulating and characterised by agricultural uses. The site has a maximum height of c. 70m OD. The lowest point is the Knocknacran open-cast mine floor, c. 0 m OD. Historical mapping indicates numerous pits and quarries within a 2km radius of the site with a historic quarry (1975-1995) indicated over the current location of the processing plant.

10.12.6. *Soils:* The Irish Soil Information System (by Teagasc and the EPA) indicates that the areas immediately surrounding the existing Knocknacran mine and associated processing plant consist of 'Urban' ground. The EIAR notes that while the mapping shows the existing open cast mine as 'Urban' ground, in reality it is exposed gypsum, mudstones or dolerite sands. The majority of the remaining area within the site boundary and much of the surrounding area are of the Kilrush Association, which is a fine loamy drift with siliceous stones or river alluvium.

10.12.7. *Subsoil:* Subsoil mapping (by Teagasc and the EPA) indicates that the existing Knocknacran mine and processing plant consists of 'Made Ground'. The remaining areas are mapped as a mixture of bedrock at surface, sandstone and shale till of Devonian/Carboniferous age or gravelly undifferentiated alluvium. The Knocknacran West site consists primarily of sandstone and shale till with some undifferentiated alluvium and bedrock at surface near the village of Drumgoosat. The depth of overburden across the application site where it has not been stripped or re-worked is variable in thickness, reflecting the nature of the drumlin landscape.

10.12.8. Due to the nature of the works carried out on the site, soils and sub-soils may no longer be original. In some areas, such as the eastern side of the Sports Complex site, the soils were replaced as part of the phased restoration works. These soils are a mixture of weathered dolerites, glacial till and the Upper Mudstone and Middle Mudstone Members of the Kingscourt Gypsum Formation which occurs onsite as a soft red clay.

10.12.9. *Geology:* The site is located in the Kingscourt Outlier, formed by Carboniferous and Permo-Triassic rocks. It predominantly consists of red-brown mudstones and sandy mudstones, within which are two distinct gypsum units. The sequence within this outlier is shown in Figures 7.9 and 7.12 of the EIAR.

10.12.10. The gypsum deposits underlying the mine site have been subject to extensive underground mining in the past. Underground extraction occurred in both the upper and lower gypsum units. However, it was predominantly in the Lower Unit, with a room and pillar mining method was employed. This method comprises mining of rooms or tunnels c. 10 m wide and 6 m high, leaving pillars c. 12 m square in plan dimension. At least c. 1m of gypsum was left in the roof and floor to isolate weak mudstone above and below the gypsum from the loads caused by excavation.

10.12.11. The decommissioned Drumgoosat underground mine extends to a maximum depth of c. 83 m OD. Underground workings of the Drumgoosat mine extend under the majority of the Knocknacran West site, with some workings extending under the R179 and L4900 and under the footprints for the proposed Temporary Diversion Road and Tunnel. The gypsum associated with the underground workings to the south of the R179 has been excavated during mining of the Knocknacran Open-Cast Mine.

10.12.12. *Subsidence:* The Knocknacran West site has had several crown hole / sinkhole events over the Drumgoosat underground mine workings. Figure 7.17 of the EIAR shows the locations of known sinkholes / crown holes and Appendix 7.6 December 2018 Crown hole provides cross sections of the underground workings indicating the mines stability. The stability of the Drumgoosat Mine has been independently studied over its lifetime, on behalf of the Department of Communications, Climate Action and Environment (EMD). Reports in 1999 and 2002 are attached as Appendices 7.2 to 7.3.

10.12.13. The Appropriate Assessment Screening Report notes that there have been 2 no. subsidence events. In this regard, an occurrence over the period of the 1980's to the 1990's causing a broad, slowly subsiding bowl centred around the L4900, and the other in September 2018. Which is highlighted by the third parties and in the documentation submitted with the application / appeal.

10.12.14. In the summer of 2018, a high volume of groundwater was intersected in the Drummond Underground Mine. This inflow of groundwater was associated with a fault structure. The water was pumped to the decommissioned Drumgoosat Mine workings for storage, prior to discharge to the River Bursk during periods of high flow. Although excess water was routinely pumped and stored in the Drumgoosat workings, the volume of water being stored in the summer of 2018 reached a greater height / level in the underground workings than had historically occurred. This resulted in the subsidence event taking in September 2018.

10.12.15. Following the subsidence event, assessments were undertaken by the applicant to ascertain the causes and the current and future stability of the existing underground workings beneath the site. The report concluded that 3 no. unique conditions interacted to result in the subsidence event, these are summarised as (1) 12 m high pillars at this location compared to 6 m high pillars elsewhere; (2) water levels rising

and submerging the 12 m high pillars, and (3) a thin gypsum floor beam. This report is attached as Appendix 7.4 of the EIAR. The report concluded that the risk of future mine instability was very low, as water is no longer stored in the underground mine workings.

10.12.16. A review of the reports completed by the applicant between 1999-2018 was carried out on behalf of the Department of Communications, Climate Action and Environment (DCCAE). An independent analysis of the pillars below the September 2018 subsidence event and at several locations below the L4900 and R179 roadways was also carried out on behalf of the Department. This report is attached as Appendix 7.5 of the EIAR. The report also concluded that the risk of future mine instability was very low.

10.12.17. The EIAR notes historically there are no instances of instability along the public road. A Trigger Action Response Plan (TARP) associated with the monitoring of gypsum roof beam stability at various locations along the R179 is provided in Appendix 7.8 of the EIAR and a TARP for the monitoring along the L4900 road is provided in Appendix 7.9 of the EIAR. The purpose of the TARP for both the L4900 and the R179 is to provide an early warning of failure of the gypsum roof beams and the potential migration of instability to surface that may affect the stability of the roads and the safety of road users.

10.12.18. *Geological Heritage:* The GSI notes that MN010 (Knocknacran Gypsum Mine) 'is a large open-cast gypsum mine, with numerous intersections into old underground mine workings. It is probably the largest man- made excavation in Ireland'.

Potential Effects

10.12.19. The EIAR identifies the potential for a range of environmental effects on Land, Soil and Geology. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 3 below. Minor effects are not identified, except where there is potential for significant impact interactions, cumulative effects or where concerns have been expressed by parties to the application.

Table 3: Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	Upon closure of the mine the Knocknacran open cast mine would be restored to provide grassland and a lake, and the plant site would be retained for future light industrial usage. The Knocknacran West site and the Community Sports facility would not be constructed.
Construction	Potential pollution of soil and subsoil from accidental leaks or spills Loss of shallow layer of soil to accommodate the sports complex development and revised access arrangements, underground tunnel and temporary road realignment. Removed soil would be reused within the site. Loss of bedrock to facilitate the underground tunnel. Subsidence event due to construction activity
Operation	Loss of soil, subsoil and bedrock layers. Restoring the Knocknacran Mine to near original ground levels would have an impact on the site as a locally important geological site (site code MN010), as the existing open cast would be filled during the restoration process. Extraction of gypsum resource is considered to be beneficial. Change in underground mine stability / potential subsidence event. Impact on worker health and safety from instability within the open cast mine.
Decommissioning and Restoration	Potential dissolution of in-situ gypsum in the Upper and Lower Units surrounding the Knocknacran open cast mine, including beneath the roads.
Cumulative	No significant effects envisioned.

Mitigation

10.12.20. Mitigation measures to avoid, reduce or offset any potential adverse impacts on water are outlined in Section 7.7 of the EIAR. Many of the mitigation measures are

embedded in the design and based on current best practice guidelines. Notable measures during the operational phase include:

- Works will be undertaken in line with any conditions set by the IE licence and the provisional CRAMP.
- Geotechnical assessments will be conducted on a regular basis. The current slope angles are designed to ensure that the risk of slope failure is effectively eliminated by using a suitable safety factor.
- During mining of Knocknacran West, where underground workings are exposed (which would remain in situ) the opportunity and practicalities of accessing the workings to carryout support work to ensure continued ground stability under the roadways where the mine workings occur will be assessed.
- On-going Geotechnical monitoring by means of extensometers will continue throughout the life of the mine along the R179 and L4900.

Residual Effects

10.12.21. The extraction of gypsum is an important industrial mineral resource both locally, regionally and nationally. The gypsum extracted would be used as raw materials in the construction industry. This is considered an acceptable use of the resource.

10.12.22. The removal of the underground workings beneath the site would improve the stability of the site over the long-term and would allow for an inspection of remaining exposed pillars outside the site boundary.

10.12.23. Following the cessation of mining, the dewatering pumps would be turned off and the water-table would return to its pre-mining levels. There is no expected residual impact due to dewatering operations once the mine has closed and the pre-mining situation reinstated. Mitigation measures would be utilised to minimise the risk from mining related slope failure or subsidence through careful management and planning. Continuous monitoring will be undertaken of ground stability throughout the life of the proposed mine.

Analysis, Evaluation and Assessment: Direct and Indirect Effects

10.12.24. I have examined, analysed and evaluated the information provided in Chapter 7 and all the associated documents, including the applicant's response to the further

information request, and submissions on file in respect of Land, Soil and Geology. I am satisfied that the information submitted in the EIAR adequately demonstrates an understanding of the potential impacts and provides suitably comprehensive range of mitigation and monitoring measures in Section 7.7 and 7.8 of the EIAR to reduce any potential impacts within the appeal site.

10.12.25. As the proposed extraction would occur below the water table there is some overlap between this Land, Soil and Geology with Water. In the interest of clarity this assessment is focused on the impact on Land, Soil and Geology and the impact on Water is addressed below in Section 10.14.

10.12.26. *Land:* The EIAR notes that gypsum mining has occurred in the area since the 1800's. The appeal site has a total stated area of c 140.4 ha and is divided by the R179. The area to the southeast of the R179 comprises the existing Knocknacran Open-Cast Mine (c. 51.5ha.), the existing Knocknacran Processing Plant (c. 24.6 ha) which also serves the underground Drummond Mine (outside of the red line boundary of the appeal site) and the existing phase 1 Community Sports Complex (c. 8.6 ha). The area to the northwest of the R179 comprises an area of unmanaged pastoral land, areas of scrub and woodland, 5 no. dwellings, 4 no. of which are unoccupied and the former underground Drumgoosat mine. A portion of this site, which previously accommodated a GAA ground, was subject to subsidence in September 2018. The red line boundary of the appeal site also includes a part of the R179 regional road (c. 1.4 ha) to allow for improvement works.

10.12.27. The approved restoration plan (Reg. 17/217) would result in the existing Knocknacran mine site being returned to agricultural use and a lake. The proposed development would revise the previously approved restoration plan and result in the Knocknacran mine site (51.5ha) being returned to original ground levels for agricultural use. This would be achieved by reusing c. 28.5m tonnes of overburden and interburden, primarily mudstone and dolerite rock from the Knocknacran West site. Material would be transported via the proposed cut and cover tunnel under the R179. Upon cessation of mining the conveyor would be removed and areas remediated and restored to agricultural land. The Knocknacran West Mine site would be restored to agricultural land, woodland and a lake.

10.12.28. It is proposed that the processing plant would be partially dismantled and, if possible, a suitable light industrial use would be sought for this section of the site. This would be subject to planning permission.

10.12.29. The proposed open cast mine would result in the removal of significant areas of hazard associated with the former underground Drumgoosat mine workings and would allow for the implementation of works to prevent water movement through the site. In the long term and subject to further assessments, it is also proposed to backfill the old mine tunnels beneath the public road, if safe to do so.

10.12.30. Having regard to the historic gypsum mines in the area I am satisfied that the proposed development would not have a significant impact on land use and would have a positive benefit by further reducing risk of subsidence associated with the former underground Drumgoosat mine.

10.12.31. *Soils and Subsoils:* The proposed development of Knocknacran West Mine would result in the removal of natural soils and subsoils. These would be reused in perimeter screening berms or in the restoration of mining areas. The construction of the additional facilities at the Sports Complex would also result in limited disturbance to natural soils and subsoils. However, this would be restricted to the shallow upper soil layer and any soil removed will remain onsite and reused in landscaping.

10.12.32. The soils and subsoils have no special designation and are not locally important. As the soils and subsoils would remain on site for reuse, I am satisfied that the impact on soils and subsoils, subject to appropriate mitigation, would not be significant.

10.12.33. *Geology:* Gypsum in a mineral generally found in sedimentary rock formations. The removal of gypsum over the lifetime of the proposed development would result in the loss of a natural resource. The loss of the natural resource is acknowledged. However, the gypsum resource is considered to be a geological asset, which has positive impact on the Irish Construction Industry, and I am satisfied that the loss of this natural resource would not have a significant negative effect on the environment.

10.12.34. Restoring the existing Knocknacran Mine to near original ground levels would have a negative impact on the sites status as a locally important geological site (site code MN010). However, it is noted that gypsum is a partially water-soluble mineral and, therefore, it is not proposed to retain any areas of exposed gypsum during the

restoration phase. Extensive records of the Knocknacran existing mine have been made over its lifetime. The EIAR notes that over the lifetime of the Knocknacran West Mine site access requests from interested geological stakeholders (e.g. the Geological Survey of Ireland) would be facilitated to allow for geological features to be recorded, prior to extraction and/or backfilling of the mine. The void of the Knocknacran West Open-Cast would form a lake, with seasonally variable water level. Therefore, some areas of the former open cast could potentially remain visible at times.

10.12.35. The loss of the locally important geological site is noted. However, this would be partially compensated for by the proposed Knocknacran West Mine. In the long term, having regard to the water-soluble nature of gypsum, it is not recommended to retain any exposed gypsum due to potential impacts on stability. This is considered reasonable.

10.12.36. The third parties also raised concerns that the cut and cover tunnel under the R179 would cause a change and disturbance to geological structures with upstream and downstream effects. The tunnel would be located c. 32m above the underlying gypsum pillars. The construction of the tunnel would require earthworks to remove the soil, subsoil and bedrock down to the depth of the base of the tunnel which is c. 38 m OD. The bedrock unit the tunnel will be located in is the Upper Mudstone Member of the Kingscourt Gypsum Formation. The tunnel construction area is stated as c. 940 m2. Material excavated will be reused onsite to either cover the tunnel or in screening berms on the site. I am satisfied that the impact of the construction of the tunnel under the R179 would not be significant on soils, subsoils or geology.

10.12.37. *Instability Risk:* The third parties raised serious concerns regarding the stability of the surrounding area due to underground mine workings and the impact that the proposed development could have on subsidence. The submissions from An Taisce and Geoscience Regulation Office (GSRO) also notes the subsidence issues in the area over Drumgoosat underground mine.

10.12.38. As noted above, there was a significant subsidence event on the Knocknacran West site in 2018. This event was the result of 3 no. unique conditions which interacted to result in the subsidence event, these are (1) 12 m high pillars at this location compared to 6 m high pillars elsewhere (2) water levels rising and submerging the 12 m high

pillars, and (3) a thin gypsum floor beam. As water is no longer stored in the underground mine workings a subsidence event of this scale is highly unlikely to occur again.

10.12.39. A significant amount of data regarding the current stability of the former underground workings of the Drumgoosat mine is submitted with the appeal. The information submitted indicates that the requirements for a crown hole to develop are a shallow mining depth (less than 50m), the presence of dolerite and glacial till above the underground workings and a very thin gypsum roof beam (less than 1m). All of the data indicates that that the risk of future crown hole development / subsidence event in the is very low. I am satisfied that this information is evidence based and robust. While the risk of a crown hole is low. However, due to the very localised nature of conditions that could lead to a crown hole it is proposed that, with or without the proposed development, the TARP (Trigger Action Response Plan) along the R179 and L4900 would remain in place as an early warning system and to ensure additional mitigation could offset an event. This is considered an appropriate response to the potential risk.

10.12.40. Modelling carried out and attached in Appendix 7.13 indicates that the impact of the excavation of the Knocknacran West open cast mine and the construction phase, including the cut and cover tunnel would not affect the stability of the underground workings. It is stated that the modelling demonstrates that displacements of the room roofs (beams) due to the proposed excavation works are upwards, due to the elastic rebound of the rock after removal of material. As some of the overlying sediment weight is removed it results in less weight and pressure on the roof. This allows the roof to rebound upwards slightly, it does not indicate that the roof has thinned or that there is space created for sediment to fall downwards. Having regard to the information submitted I am satisfied that the roof beam of the existing underground workings would not fail with less weight and pressure on it.

10.12.41. The proposed Knocknacran West Mine would be developed on a phased basis. It is proposed that more detailed geotechnical data would be obtained from the open-cast pit walls / benches to reaffirm the overall slope stability of the excavation, as it progresses throughout its lifetime. This approach would allow for modifications to be made as variations in ground condition are encountered. Having regard to the mines

location above underground workings, it is my opinion this is a reasonable approach and would have a positive impact on worker health and safety. A proposed Standard Operating Procedure (SOP) for mining in the vicinity of suspected voids and unstable ground is provided in Appendix 7.17.

10.12.42. As the excavation progresses sections of the underground workings would be exposed. It is proposed that further assessments would be carried out to determine the practicalities of accessing the workings to carryout backfilling to provide long-term assurance of ground stability under the roadways where the mine workings occur. It is stated that this would be discussed and agreed with the relevant Authorities and plans will be put in place. The third parties raised concerns regarding future assessments and potential works that do not form part of the application. In response to the appeal the applicant states that given the nature and extent of the proposed development, that would take place over an extended timeline, there is an inherent necessity for future surveys to be carried out. I agree with the applicant that the future surveys would act as an additional protection to the surrounding environment and that a commitment to future surveys is appropriate for such a multi-phased development.

10.12.43. It is also noted that the submission from the GSRO recommend that further hydrogeological and stability assessments be carried out nearer to closure of the mine to assess that assumptions made in the EIAR, concerning the assumptions made regarding the stability of the underground mining voids and states that if future assessments indicate that it is not possible to inhibit water ingress into mine workings it is considered that backfilling of four-way intersections beneath the two roads should be undertaken.

10.12.44. The EIAR notes that it is proposed to backfill the Knocknacran West Mine, with stripped low permeability mudstone placed against the southern and eastern walls of the open-cast and along the northern and western walls where gypsum is exposed. This would result in the in-situ gypsum in the Upper and Lower Units surrounding the open-cast including beneath the roads becoming hydraulically isolated from any active water flow pathways and, therefore, minimising the potential for any future settlement. In addition, four-way junctions associated with the historical underground workings under the R179 and L4900 will be backfilled to ensure the long-term stability of the historical workings. The location of the underground workings under the R179 and

L4900 are known and the proposed methodology for backfilling is provided in Appendix 7.19. It is stated that where backfill cannot be done safely it is recommended that extensometers be retained and agreed with the planning authority. I am satisfied that future monitoring programme and stability surveys proposed as part of the development are appropriate and reasonable given the nature and scale of the proposed development.

10.12.45. The restoration phase of the development would be followed by a period of monitoring to demonstrate that the closure works have been successful. This phase would be controlled by the EPA through the IE Licence.

Conclusion

10.12.46. The history of subsidence relating to the underground Drumgoosat workings and the concerns of the third parties are noted. The applicant has submitted a significant volume of information regarding the causes of the significant subsidence event in 2018 and the impact of the proposed Knocknacran West mine on the stability of the old underground workings. Having regard to the information provided I am satisfied that the likelihood of an event of this level is highly unlikely.

10.12.47. Notwithstanding this, due to the underground workings there is potential for localised crown holes to develop. The proposed development of Knocknacran West mine would significantly reduce the risk of subsidence / crown holes, as it would remove the majority of the underground workings and backfill (remediate) the underground workings under the R179 and the L4900. Therefore, it is my opinion that this would have a permanent positive impact on the surrounding environment.

10.12.48. It is also noted that the TARP would be retained for the lifetime of the mine operation to provide an early warning of failure of the gypsum roof beams and the potential migration of instability to the surface that may affect the stability of the R179 and the L4900 and the safety of road users.

10.12.49. Overall, I am satisfied that the potential for significant effects on Land, Soils and Geology during the construction, operational and restoration phases can be avoided, managed and mitigated by measures that form part of the proposed scheme and at

there is no potential for cumulative effects**,** given the absence of permitted or planned construction activity in the vicinity of the site.

10.13. **Water**

Issues Raised

10.13.1. The third parties raised a number of concerns regarding hydrology. These are summarised below: -

- Poor water management has resulted in sink holes, wide surface cracks and subsidence.
- The existing underground mines are flooded, significantly increasing the need for much larger amount of sulphate contaminated water to discharge into the local river and into the environment.
- Groundwater may have a dissolving effect on gypsum rock, increasing the instability risks of the mine structures.
- No consideration of the Water Framework Directive.
- Open Cut excavation would cause change and disturbance to geological and hydrological structures with upstream and downstream effects.
- The proposed development may have the potential to impact on the hydrological and geotechnical conditions beyond the site boundary.
- Activities associated with the mine have resulted in wells drying up.
- Full and proven viable mitigation measures on groundwater impacts need to be provided by the applicant.
- The submitted documentation only addresses surface water discharge to the River Bursk. It does not address the risk of exceedances of limits for minerals in drinking water.
- The proposed development would adversely impact on the Mulantra borehole, which is a drinking water source supplying the Kingscourt Public Water Supply Scheme.
- Uisce Eireann has not undertaken the necessary investigations to avoid the risk of a deterioration in drinking water due to contamination which is likely to occur.

- Concerns regarding flood risk.

10.13.2. The submission from An Taisce raised concerns the impact of the mine activity on groundwater and water supply sources and states that to ensure there is no risk to water the precautionary principle needs to apply.

10.13.3. The submission from Inland Fisheries Ireland (IFI) notes that there are a number of watercourses on or within close proximity to the site. These watercourse's flow into the River Glyde and associated lakes, which contain valuable fisheries habitat and support salmonid, coarse and other fish species. It is noted that the proposed development has the potential to impact negatively on aquatic habitats and that a surface water monitoring programme should be agreed with Monaghan County Council for the watercourses, for the duration on the construction phase. Daily visual inspections of the sites with regular physio-chemical analysis are also recommended. It is considered that these additional monitoring sites would provide valuable monitoring data and assist in identifying water quality issues on site should they arise during the construction phase.

10.13.4. The submission from Geoscience Regulation Office (GSRO) recommended that further hydrogeological and stability assessments be carried out nearer to the closure and restoration phase to assess that assumptions made in the EIAR concerning the stability of underground mining voids remain valid.

Examination of the EIAR

Context

10.13.5. Chapter 8 addresses the impact on Water and considers any direct or indirect effects on this resource arising from the proposed development. The chapter outlines the legislative and policy context, the baseline environment, the key characteristics of the proposed development, the potential effects, methodology used and sources of information.

10.13.6. The EIAR notes that no particular difficulties were encountered in the preparation of this chapter of the EIAR.

10.13.7. The following Appendices are attached to Chapter 8: -

- Appendix 8.1: Magheracloone/Lagan (Lagan) and Corduff Stream Hydrology, Piteau, September 2022
- Appendix 8.2: Aquatic baseline report for the Corduff Stream, Knocknacran West Project, Co. Monaghan, Triturus, October 2022
- Appendix 8.3: Surface Water Quality Data
- Appendix 8.4: Mine Site - Groundwater Hydrochemistry Data Appendix 8.5: Site Water Balance (2016 - 2021)
- Appendix 8.6: Inrush Inflow SOP (Standard Operating Procedure) for Underground Mine Workings
- Appendix 8.7: Knocknacran West Pit Lake Model and Restoration Plan, Piteau, December 2021
- Appendix 8.8: Hydrogeology Study of the Drumgoosat Workings, Piteau, May 2021

10.13.8. The planning authority raised some concerns regarding the information provided in Chapter 8 – Water of the EIAR and request that 2 no. items of further information be sought with regard to the (1) cumulative effects of specific impacts within each construction phase and (2) does not describe the worst-case scenarios in the event that the identified mitigation measures fail.

10.13.9. In response to the request for further information the applicant notes that (1) Section 8.10.1 of Chapter 8 considers and discusses cumulative effects within each phase of the development. (2) The worst-case scenarios are addressed in Chapter 17, which is dedicated to Major Accidents and Disasters. The planning authority considered that these items of further information were adequately addressed by the applicant.

Baseline

10.13.10. *Surface and Groundwater:* The Corduff Stream rises in the northern section of the proposed Knocknacran West mine site. It flows in a north-east direction to Lough Fea and ultimately to the River Gylde via the River Bursk. The River Bursk is located to the east of the appeal site in an artificially straightened channel and the River Glyde is located to the south of the appeal site. The Magheracloone Stream is located to the west of the appeal site. This stream flows to the River Gylde. The River Gylde flows in

an easterly direction and is joined by the River Dee before discharging to the Irish Sea at Dundalk Bay.

10.13.11. The River Glyde is also known are the River Lagan and that the River Bursk is also known as the River Rahans. These names are interchangeable in the documentation submitted. However, in the interest of clarity my report refers to these watercourses as the River Glyde and the River Bursk.

10.13.12. The vast majority of the appeal site sits within a 'poor' bedrock aquifer unit. The western side of the Knocknacran West Mine site sits within a 'Locally Important Aquifer – bedrock which is generally moderately productive'. Another Locally Important bedrock aquifer unit occurs to the east of the discharge point at the River Bursk.

10.13.13. The appeal site occurs within the Louth Groundwater Basin (GWB) which is characterized by 'poorly productive bedrock' and sites within the Neagh Basin River Basin District.

10.13.14. The EIAR notes that despite the evidence of local karstification in the gypsum. The Kingscourt Gypsum Formation gypsum and mudstone members restricts the flow of water between aquifer units due to their low permeability. Notwithstanding this, in the summer of 2018, a high volume of groundwater associated with a fault structure was intersected in the Drummond Underground Mine.

10.13.15. The principal sources of inflow into the existing Knocknacran open-cast mine are from direct precipitation and runoff from the sloped earthworks. There is some minor groundwater seepage. All inflows to the historic and current mining operations (Drumgoosat, Knocknacran and Drummond) are pumped into the site water management system located within the appeal site. The lagoons are settlement lagoons, there is no chemical treatment carried out at the site. Water is discharged to the River Bursk. The IE licence states that a maximum of 12,240 m^3/day can be discharged. The discharge of mine water is automatically adjusted depending on the available flow and assimilative capacity in the receiving river to ensure that water quality standards are not breached.

10.13.16. Previously during the summer months, when the flow was low in the River Bursk, excess water was stored in the Drumgoosat Underground mine. Since the subsidence event in September 2018, water is no longer pumped to the Drumgoosat workings. To aid with the long-term stability of the underground workings water levels in

Drumgoosat have been reduced in a controlled manner by a dewatering borehole. The EPA licence was reviewed to allow for additional discharge volumes and, if required, the sump of the Knocknacran Open-Cast Mine is also temporarily used for water storage.

10.13.17. Surface water run-off from the majority of the Knocknacran West site drains to the Corduff Stream with the remaining portion draining to the drainage systems on the R179 and the L4900 and the Magheracloone Stream. Any water that enters the Knocknacran site, the processing plant or the sports complex site is pumped into the sites existing water management system.

10.13.18. *Water Supply:* There are 3 no. public water supply schemes (PWS) within 7 km of the appeal site. These are Carrickmacross PWS, Kingscourt Mullantra PWS and Kingscourt Descart PWS. There are also 3 no. group water schemes (GWS) withing 10km of the appeal site. The closest private water supply scheme to the appeal site is the Magheracloone GWS, which supplies water to c. 1,200 connections. It is supplied from Greaghlone Lough, c. 4 km north of Drumgoosat Village. Properties in the vicinity of the appeal site, which do not have private supplies (wells), are connected to the Magheracloone GWS water supply network. The appeal site is located within a separate hydrogeological block and does not have any hydrological connection with Greaghlone Lough.

10.13.19. There are 43 no. registered wells within 3km of the appeal site, of these 6 are used for public water supply. The applicant undertook a survey in September 2019 of 22 third-party wells (and springs) within 500 m of the appeal site. These wells are shown on Figure 8.9 of the EIAR. Of these 15 are listed as being in use, however, none are monitored regularly. Table 8.8 of the EIAR outlines the water levels recorded in the wells during the survey.

10.13.20. *Wastewater:* The appeal site is not connected to the public network. The existing Knocknacran and Drummond mines site's office area have independent septic tank systems with a design capacity of c. 10 PE. There is an existing wastewater treatment system for the Community Sports Complex approved under Reg. Ref. 20/365 has a design capacity of 46 PE.

10.13.21. *Flood Risk:* The appeal site is not located within an area at risk of flooding. There are 4 no. existing settlement ponds / lagoon which would continue to be used for the proposed development. The lagoons have capacity for a 100-year flood event.

10.13.22. *Water Framework Directive:* The River Glyde and River Bursk were classified as having 'good' status for the 2016-2021 monitoring period, under the WFD (EPA, 2023). Monitoring carried out by the EPA, indicates that the Magheracloone Stream is classified as having a 'poor' status in 2020. The applicant undertook a review of the Corduff Stream (Appendix 8.2) which indicates that this is a *small, heavily modified lowland stream but retaining some semi-natural characteristics including swift flowing water and coarse substrata locally*. The sampling indicates that the watercourse is classified as having 'poor' status under the WFD.

10.13.23. The data available indicates that there is no deterioration in the Q value of the River Glyde downstream of the mine water discharge point. Therefore, the discharge does not result in any adverse effect on water quality.

Potential Effects

10.13.24. The EIAR identifies the potential for a range of environmental effects on Water. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 4 below. Minor effects are not identified, except where there is potential for significant impact interactions, cumulative effects or where concerns have been expressed by parties to the application

Table 4: Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	Continued pumping of the sump until final restoration is complete. The Knocknacran open cast mine would then be restored in accordance with the existing restoration plan approved under Reg. Reg. 17/217.
Construction	Accidental leaks or spills could infiltrate groundwater Potential pollutants from the wastewater treatment system Potential impact on the hydrogeological regime of flows or quality.

Operation	Accidental leaks or spills could infiltrate groundwater It is not expected that the proposed extraction and restoration activities at Knocknacran and Knocknacran West mines will have an impact on any of the water supply system The placement of low permeability backfill (mudstone) within the existing Knocknacran open-cast mine would have the positive benefit of reducing any hydraulic connection in the gypsum strata and effectively isolating the Drumgoosat / Knocknacran West mining areas from the Drummond Mine to the south. The proposed Knocknacran West Open-Cast Mine would cause a reduction in the localised surface water drainage area, therefore, the potential risk of flooding to surrounding areas will become marginally reduced.
Decommissioning and Restoration	Upon eventual completion of mining and placement of backfill, the dewatering pumps in Knocknacran West open-cast and the dewatering well would be permanently shut down and the water levels within the open-cast void would start to rise. The lake would have an eventual outflow point to the Corduff stream.
Cumulative	No significant effects envisioned.

Mitigation

10.13.25. Mitigation measures to avoid, reduce or offset any potential adverse impacts on water are outlined in Section 8.7 of the EIAR. Many of the mitigation measures are embedded in the design and based on current best practice guidelines. Notable measures during the operational phase include:

- Works would be undertaken in line with any conditions set by the IE licence
- Groundwater levels within the gypsum strata would be managed by pumping from an existing monitoring well to the north of the existing Drumgoosat Well. The well would continue to dewater the full area of the proposed Knocknacran West open cast, so the future area of mining influence will not increase. The

well would continue to be pumped as necessary, with the existing Drumgoosat well subsequently abandoned.

- As the new Knocknacran West open-cast is progressively excavated, a sump on the floor of the excavation would be used to manage surface water and any minor residual groundwater inflow to the workings, in much the same way as the sump in the current Knocknacran open-cast excavation does.

- A protective berm will be placed around the perimeter of the proposed Knocknacran West excavation to exclude surface water runoff.

- Existing groundwater wells would be continuously monitored on site during mining operations and for a period following cessation of mining.

- Backfill material (in the form of stripped mudstone) would be placed against the pit slopes of the Knocknacran West open cast to help provide further hydraulic isolation of the gypsum strata that remain below the R179 and L4900 roads.

- Areas identified with current or potential future surface settlement above the historic Drumgoosat workings would be stripped and an incorporated into the Knocknacran West open cast.

- The current mine water management system would be maintained throughout the entire period of mining and until such time as full restoration of the entire Site has been completed.

- An on-going programme of regular cleaning and maintenance would be carried out for the sump(s), attenuation ponds and other on-site water management facilities

- Hydrogeological assessments would be carried out closer to mine closure phase to assess the assumptions made regarding stability.

- Prepare and submit an integrated closure plan / CRAMP which includes all the operations; Drummond, Knocknacran East and Knocknacran West to ensure that all planned closure operations are coordinated.

Residual Effects

10.13.26. Following cessation of mining activities the pump(s) would be shut down and an open waterbody would form, rising to between c. 38m OD - 39m OD. Post-closure groundwater levels are expected to be very slightly higher than pre-mining due to the recharge that occurs to the surface of open water.

10.13.27. The groundwater flow system around Knocknacran West would be similar to pre-mining, with slow discharge occurring across the boundaries of the hydrogeological block. Any potential minor groundwater flow to the south would be interrupted due to the low permeability backfill placed in the existing Knocknacran open cast. This is considered to be a positive benefit and not significant.

Analysis, Evaluation and Assessment: Direct and Indirect Effects

10.13.28. I have examined, analysed and evaluated the information provided in Chapter 8 and all the associated documents, including the applicant's response to the further information request, and submissions on file in respect of Water. I am satisfied that the information submitted in the EIAR adequately demonstrates an understanding of the potential impacts and provides suitably comprehensive range of mitigation and monitoring measures in Section 8.7 and 8.8 to reduce any potential impacts within the appeal site.

10.13.29. *Water Management / Stability:* The third parties have raised serious concerns that the management of water within the site resulted in subsidence events, sink holes and wide surface cracks. As noted above, the significant subsidence in 2018 was the result of 3 no. unique conditions interacting. These are summarised as (1) 12 m high pillars at this location compared to 6 m high pillars elsewhere; (2) water levels rising and submerging the 12 m high pillars, and (3) a thin gypsum floor beam.

10.13.30. Since 2018 water is no longer pumped into the underground Drumgoosat mine workings for storage. Water levels in Drumgoosat mine have been reduced in a controlled manner by a dewatering borehole located on the Knocknacran site. While the Drummond Mine and the proposed Knocknacran Mine West occur within the same gypsum deposit the mines are not hydrologically connected, and it is not proposed to

pump water between the mines. Therefore, high water levels no longer occur within the old Drumgoosat workings.

10.13.31. The proposed Knocknacran West mine would take place below the water table. The historic and existing mines (Drumgoosat, Knocknacran and Drummond) all occur below the water table and have been dewatered for decades. The EIAR notes that the principal sources of inflow into the existing Knocknacran open-cast mine are from direct precipitation and runoff from the sloped earthworks with some minor groundwater seepage. Inflows to the historic and current mining operations are pumped into the site's water management system and routed to a licenced discharge point on the River Bursk. The EPA Licence for the existing Knocknacran Mine allows for a maximum discharge of 12,240 m^3/day. It is proposed to retain the existing permitted pumping, treatment and discharge system for the lifetime of the proposed development.

10.13.32. The water balance indicates there would be c. 350m3 - 450 m3 /day of water pumped from the Knocknacran West excavation over the operational period of the mine to the water management system. However, over this same period flows from the Knocknacran Open-Cast Mine and the Drumgoosat borehole would be omitted. This scenario considers that the Drummond Mine would continue to be operational over the lifetime of the Knocknacran West Mine. The overall change to the water balance would be a decrease of c 125 - 275 m3 /day from existing conditions.

10.13.33. The third-party concerns regarding stability in the area are noted. However, having regard to the detailed information submitted with this appeal and the on-going monitoring of stability in the area surrounding the mine I am satisfied that the current and proposed water management regime within the appeal site would not increase the risk of subsidence, as water is no longer stored in the underground Drumgoosat mine workings, and that the proposed development would remove the risk of further subsidence above the underground Drumgoosat mine.

10.13.34. The third parties also raised concerns that the storage of water results in significant risk and hazards of both flooding and damage of the natural and built environment and that proper mitigation and adaptation in respect of flood risk has not been provided. As noted above, water is no longer stored in the underground workings of Drumgoosat

mine and as the appeal site is not located in a flood risk area, I am satisfied that there is no requirement to submit a Flood Risk Assessment.

10.13.35. The third parties also raised concerns that as the existing underground mines are flooded, there would be a significant increase the need for much larger amount of sulphate contaminated water to discharge into the local river and into the environment. As noted above, the Drumgoosat workings were dewatered in a controlled manner subsequent to the subsidence event in 2018 and are no longer flooded.

10.13.36. An EPA licence review was granted in 2021 for IE Licence (P0519-04) to increase the emission limit value (ELV) for sulphate and conductivity in discharges to water from mining operations. The IE licence limits discharge from the site to 12,240 m3 /day to the River Bursk. It also limits sulphate discharge to 625 mg/l (daily average), 500 mg/l (monthly average), and 400 mg/l (annual average) when measured 70m downstream of the discharge point (CP-1).

10.13.37. Gypsum is composed of calcium sulphate and water and as such any groundwater / surface water run off that comes in contact with gypsum is naturally elevated with respect to sulphate and calcium. The proposed discharge from the site to the River Bursk would be in accordance with all the Exceedance Limit Values (ELVs) as set out in IE Licence, including sulphate. I am satisfied that the proposed development would not result in an increase in the volume of water or sulphate discharged from the site and would be in accordance with the limits set by the IE Licence.

10.13.38. The third parties raised concern that groundwater may have a dissolving effect on gypsum rock, therefore, increasing the instability risks of the mine structures. Appendix 8.8: Hydrogeology Study of the Drumgoosat Workings of the EIAR addressed the potential for gypsum dissolution by groundwater to reduce the long-term stability of the mine workings. The modelling indicates that the actual rate of gypsum dissolution from the underground workings can be expected to be very low because the water is already saturated with gypsum, and most gypsum exposed underground and within the pillars is likely to be strongly crystalline and would demonstrate a low rate of water exchange at the reactive surface. Therefore, the potential for gypsum dissolution to effect stability in the underground workings is considered to be low. The report

recommends that annual water monitoring take place to confirm the gypsum saturation.

10.13.39. The third parties also raised concerns that the cut and cover tunnel under the R179 would cause a change and disturbance to hydrology with upstream and downstream effects. The tunnel would be located c. 32m above the underlying gypsum pillars. The depth of the base of the tunnel would be c. 38 m OD. The tunnel would not interact with any ground water flow path and, therefore, I am satisfied that it would not have any upstream or downstream effects on any watercourse within the vicinity of the appeal site.

10.13.40. *Drinking Water:* The third parties raised concerns that the proposed discharges from the mine development could increase the risk of exceedance of limits for minerals in drinking water.

10.13.41. The River Bursk flows to the River Glyde. Water is abstracted from the River Glyde at Tallanstown Water Treatment Plant and Reservoirs (Scheme Code 2100PUB1005) c. 21km downstream of the discharge point. The EPA's Drinking Water Audit Report 2018 for the Tallanstown WWTP and Reservoir is available on the EPA's website (www.EPA.ie). The report notes that Irish Water initiated a programme of raw and final water monitoring on in October 2018 in response to an increase in the discharge from the Saint Gobain mine licensed facility. The monitoring found 1 no. exceedance of the aluminium parametric value and 4 no. exceedances of the manganese parametric value in the final treated water, as well as general increases in the levels of these parameters in both raw and treated water. Sulphate levels are also elevated above previous results, although they were still compliant with the parametric value. The report further notes that *at the time of the audit, the source of these elevated levels of manganese, aluminium and sulphate could not be attributed directly to the increased discharge from Saint Gobain, although the timing coincided with increased discharge from the mine dewatering activity.*

10.13.42. Surface water monitoring is regularly carried out at 3 no. locations on the Bursk River in accordance with the mines IE licence. Exceedance Limit Values (ELVs) as set out in IE Licence are a maximum flow of 12,240 m3 /day at the outfall from the holding tank to the River Bursk (MSE-1); electrical conductivity of 1,370 µS/cm at 20oC (daily

average) 70m downstream of the discharge point (CP-1) and sulphate limits of 625 mg/l (daily average), 500 mg/l (monthly average), and 400 mg/l (annual average) 70m downstream of the discharge point (CP-1).

10.13.43. The EIAR also notes sampling points and can include monitoring of dissolved oxygen, suspended solids, settleable solids, electrical conductivity, pH, temperature, sulphate, barium, nitrate, ammonia, BOD, COD, total phosphorus, mineral oil, manganese, chloride and total metals. Appendix 8.3 provides the analytical data for surface monitoring points, associated with the mine water management system, for 2012 to 2023 inclusive. Monitoring results reported minor exceedances in some years, usually in the summer months (June and July). The predominant parameter of concern by the third parties is sulphate. It is noted that the geology and groundwater in the area are naturally elevated with respect to sulphate. Figure 8.5 indicates that exceedances of sulphate were recorded 70m downstream of the discharge point (CP-1) in January 2019 and July 2020. The EIAR notes that these excesses are attributed to recommissioning following periods of maintenance and the 2018 Drummond inflow.

10.13.44. Figure 8.6 indicates that suspended solids values measured at the discharge point (MSE-1) have been greater on 6 no. occasions between January 2012 and January 2023. The EIAR notes that the mine was 95% compliant with the discharge limit of 25 mg/l over this period.

10.13.45. The discharges from the site would continue to be controlled by the limits set in the IE licence, and overall, I am satisfied that the proposed development would not result in a negative impact on drinking water.

10.13.46. The third parties and the submission from Cavan County Council note that proposed development could potentially impact on the Mullantra borehole which is a Drinking Water Source supplying the Kingscourt Public Water Supply Scheme (PWS). Cavan County Council recommended that Uisce Eireann be notified of the proposed development. There are 3 no. public water supply schemes (PWS) within 7 km of the appeal site. These are Carrickmacross PWS, Kingscourt Mullantra PWS and Kingscourt Descart PWS. The information provided in the EIAR, in particular in Section 8.4.5.2 indicates that the boreholes, which abstract water for these public schemes, are isolated from the mining areas and, therefore, the mine workings do not affect

water levels within the wells. As the proposed development would not impact on these public water supply schemes, I am satisfied that there is no requirement to consult with Uisce Eireann.

10.13.47. *Private Water Supply:* Concerns have been raised by the third parties that the activities associated with the mine have resulted in wells drying up. There are 43 no. registered wells within 3km of the appeal site. There are 3 no. wells that are in use, are located within 500m of the site. These wells are numbered 6, 7 and 8 in the EIAR. The EIAR notes that the strata to be mined by the proposed development is already dewatered by the Drumgoosat mine. Therefore, I am satisfied that the proposed development would not create any additional bedrock drawdown which would impact on the water supply for local wells. The applicant also proposed, subject to third party agreement, to add these wells to the monitoring plan for the proposed development.

10.13.48. *Water Framework Directive:* The third parties raised concerns that there was no consideration of the Water Framework Directive. The submission from IFI notes that the WFD Ecological status of the waterbodies (Glyde_020 and Glyde_030) surrounding the sites is Good and that it is important to ensure that there is no deterioration of existing conditions.

10.13.49. The submission from Cavan County Council notes the requirements of the Water Framework Directive (2000/60/EC) and the Groundwater Directive (2006/118/EC), and associated regulations, and considers that these are relevant to assessing the impact of the proposed development, particularly in relation to having an effective surface water management system and monitoring for the site.

10.13.50. I have assessed the proposed development having regard to the information provided in Chapter 8 of the EIAR and publicly available information on www.catchments.ie when considering the objectives as set out in Article 4 of the Water Framework Directive to protect and, where necessary, restore surface & ground waterbodies in order to reach good status (meaning both good chemical and good ecological), and to prevent deterioration.

Surface Water – Quality

10.13.51. It is noted that the WFD and status of the watercourses surrounding the site is addressed in Chapter 8 and the associated appendices of the EIAR. From the EPA mapping available on www.catachments.ie it appears that Glyde_20 relates to the Magheracloone Stream to the west of the appeal site and Glyde_30 relates to the River Bursk and River Glyde to the east of the appeal site. The water status of the surrounding surface waters is 'Good' for the period 2016-2021.

10.13.52. The EPA's website (www.EPA.ie) states that 2 no. sites were sampled on the Magheracloone in 2020. These are noted in the EIAR as Magheracloone Stream and Cormey Bridge. Cormey Bridge had a Q value of 4 in 2020 and achieved 'good' status which was consistent with previous sampling carried out since 1990. The Magheracloone Stream had a Q value of 3 and achieved 'poor' status in 2020. This is the first year that sampling was carried out at this location. The EPA's website notes that the habitat was quite poor in this stretch of river with slow flow and turbid conditions. The threat to the Magheracloone Stream has been attributed to impacts from agriculture.

10.13.53. As noted above surface water monitoring is regularly carried out at 3 no. locations on the Bursk River in accordance with the mines IE licence. Based on the most recently recorded Q values, it appears that there is no deterioration in the Q value of the river downstream of the mine water discharge point. Therefore, the discharge is not creating impacts to biological water quality and that the existing operation is having no adverse effect on the quality of the receiving water. It is not proposed to amend the discharge limits of the IE licence as part of the proposed development. Therefore, the discharge during the operational phase would not result in any adverse effect on surface water quality.

10.13.54. Following closure and restoration of the mine a pit lake would form on the Knocknacran West site. This proposed lake is located at the head of the Corduff catchment, therefore, discharge from the pit would be the primary water source in the upper catchment of the stream. The available data indicates that the Corduff is currently elevated (no assimilative capacity) for ammonia and phosphate. Both of which are considered to be related to agricultural practices. The post-closure lake is predicted to have parameters broadly similar to current conditions, with the exception of sulphate

which is expected to have a discharge of between 200 and 250mg/L. This is due to naturally occurring sulphate at this location. It is noted that the expected level of sulphate is significantly below the ELV currently set by the EPA's IE Licence, in this regard 625 mg/l (daily average), 500 mg/l (monthly average), and 400 mg/l (annual average). Therefore, I am satisfied that the discharge following the closure of the proposed development would not result in any adverse effect on surface water quality.

Surface Water – Quantity

10.13.55. The majority of the Knocknacran West site is drained by the Corduff Stream, which flows to Lough Fea and ultimately to the River Gylde via the River Bursk. The total catchment area of the Corduff Stream to Lough Fea is c. 6.1 km2, with a drainage area of c. 0.45 km2 captured by the proposed Knocknacran West site. The EIAR notes that the drainage area potentially affected by the proposed development is relatively small compared with the overall catchment down to Lough Fea, particularly when considering that some of the surface water run-off is already captured by the naturally occurring local topographic depressions and the historical mine workings. Surface water flow monitoring in the Magheracloone Stream show that indicate that flow on the Magheracloone Stream low and significantly reduced between July and August. The results of the monitoring indicate that flow almost ceased at 1 no. location.

10.13.56. A minor part of the Knocknacran West site is drained to the Magheracloone Stream, which is located to the west of the appeal site and flows to the River Gylde. The drainage area potential impact by the proposed development is minimal. The flow monitoring results show that the majority of the summer flow occurs downstream of the planned Knocknacran West mine site, and that the appeal site currently contributes little (if any) stream flow.

10.13.57. Having regard to the information submitted, which indicates that the potentially effected catchment area is minimal, and the monitored flows were recorded as low I am satisfied that the proposed development would not have a significant impact on surface water quantity in the surrounding watercourses during the operational phase.

10.13.58. Following the closure of the mining activity a lake would form on the Knocknacran West site. The predicted area of the water body is c. 25 ha. It is proposed that the lake would eventually discharge via an outflow to the Corduff stream. The modelling

provided in Appendix 8.8 indicates that the lake would marginally increase the catchment of the Corduff stream by c. 11 ha. The estimated average annual outflow from the lake is within the range of 500-700 m3/d (5.8–8.1 L/s). The modelling indicates that in the summer the flow would be almost zero, and the lake would have a negligible impact as there is already virtually no flow in the Corduff stream. The modelling indicates that in the winter, the lake would provide a sustained and steady outflow to the Corduff Stream. However, it is unlikely that flow would exceed c. 1,000 m3/d (11.6 L/s) in wettest months in this area of the catchment. Having regard to the information provided I am satisfied that the proposed development would not have a significant impact on the quantity of water in the surrounding watercourses after the closure of the mine.

Groundwater – Quality

10.13.59. The EPA mapping indicates that status of groundwater (Carrickmacross) is 'Not at Risk'. The EIAR notes that groundwater flow ingot the site is low as the the Kingscourt Gypsum Formation, gypsum and mudstone members, restricts the flow of water between aquifer units due to their low permeability. Any groundwater that enters the site pumped into the site's water management system and routed to a licenced discharge point on the River Bursk. Overall, I am satisfied that the proposed development can be eliminated from further assessment as there is no conceivable risk to the quality of groundwater to the proposed development during the operational phase.

Groundwater - Quantity

10.13.60. The proposed Knocknacran West mine would occur below the water table. The existing Drumgoosat underground mine is also below the water table and the mine has been dewatered for decades.

10.13.61. Expected groundwater inflows to the proposed Knocknacran West site would vary seasonally between 10 and 300 m3 /d, with an average inflow rate of about 100 m3 /d. Most of this water would enter the workings from the gypsum strata from the east (up-dip) side of the excavation. The predicted rate of groundwater inflow is less than the reported groundwater inflow during the previous operation of the Drumgoosat underground mine, which was reported to vary seasonally between 20 m^3/d in

September to 870 m³/d in March. The EIAR notes that no new groundwater impacts are anticipated in the excavation of the proposed Knocknacran West Open-Cast Mine

10.13.62. Having regard to the information provided I am satisfied that the proposed development would have a negligible impact on the quantity of groundwater during the operational phase of the development.

10.13.63. Upon closure, the dewatering pumps in Knocknacran West open-cast, the dewatering well and the sump would be permanently shut down and the water levels within the open-cast void will rise to form a lake. Groundwater levels in the Kingscourt Gypsum strata that surround the open-cast mine would rise at approximately the same rate as the waterbody within the final void. The EIAR notes that the amount of groundwater storage is small and would not materially affect the rate of rise in the water level in the void. The presence of low permeability backfill material (mudstone) would isolate the open waterbody from much of the surrounding groundwater system. Conditions in the groundwater levels upgradient of the mine are expected to remain the same as present. Having regard to the information provided I am satisfied that the proposed development would have a negligible impact on the quantity of groundwater following the closure of the mine.

WFD Conclusion

10.13.64. In conclusion, I am satisfied that the proposed development would not result in a risk of deterioration on any water body, rivers, lakes, groundwaters, transitional and coastal, either on a temporary or permanent basis or otherwise jeopardise any water body in reaching its WFD objectives and consequently can be excluded from further assessment.

Conclusion

10.13.65. The history of subsidence relating to the storage of water in the underground Drumgoosat workings and the concerns of the third parties in this regard are acknowledged. The applicant has submitted a significant volume of information regarding the causes of the subsidence event in 2018 and I am satisfied that as water

is no longer stored in the underground workings the likelihood of an event of this scale occurring again is very low.

10.13.66. The discharges from the site would continue to be controlled by the limits set in the IE licence and I am satisfied that the proposed development would not result in a negative impact on water quality in the River Bursk.

10.13.67. I am also satisfied that the proposed development would not impact on water supply to surrounding private wells, public water supply or group water supply schemes or increase the risk of flooding within or adjacent to the site.

10.13.68. Overall, I am satisfied that the potential for effects on water during the construction, operational and restoration phases can be avoided, managed and mitigated by measures that form part of the proposed scheme and at there is no potential for cumulative effects**,** given the absence of permitted or planned construction activity in the vicinity of the site.

10.14. **Climate**

Issues Raised

10.14.1. The third parties have raised concerns regarding the impact of the proposed development on climate change. These are summarised below: -

- There is a climate emergency. It is irrational to continue to expand the mine.
- The applicant failed to take the current climate breakdown effects into account.
- Climate change has the potential for higher volumes of polluted water from the mine to be discharged into ground and surface waters.
- The extent of greenhouse gas and other emissions from the proposed development is not robust or complete.
- The level of activity proposed is highly dependent on fossil fuels.

Examination of the EIAR

Context

10.14.2. Chapter 9 addresses the impact on Climate and considers any direct or indirect effects on this resource arising from the proposed development. The chapter outlines the

legislative and policy context, the baseline environment, the key characteristics of the proposed development, the potential effects, methodology used and sources of information.

The following Appendices are attached to Chapter 9: -

- Appendix 9.1: Saint-Gobain Climate Policy Documents
- Appendix 9.2: Saint-Gobain Renewable Energy Certificate

10.14.3. The planning authority raised some concerns regarding the information provided in Chapter 9 – Climate of the EIAR and request that 7 no. items of further information be sought with regard to the following:

(1) Significant gaps in methodology, study boundaries, quantification of emissions and basis for the assessment of significance.

(2) The basic methodology in the European Commission, Climate Change and Major Projects 2016, has not been followed.

(3) No explanation of the relationship between temperature extreme and water discharge levels, likelihood of this occurring or magnitude/significance of the consequence.

(4) The assessment does not qualify GHG emissions from any of the scope 1 phases, although the data required to calculate is presented. This is a significant gap in the assessment.

(5) There is no justification as to why a 30% reduction in diesel fuel consumption is included in the calculation from phase 4 mine development onwards

(6) Use of the term microclimate should be clarified as typically it refers to shading and wind tunnelling effects, which have not been discussed at all in the chapter. It should be clarified if the conclusion refers to GHG emissions and related climate impacts or microclimate.

(7) Carbon release during soil stripping and CO2 sequestered during restoration is mentioned in residual effects. However, this potential effect is not discussed in any of the previous sections. It is recommended that a full mass balance for carbon is provided.

10.14.4. In response to the request for further information the applicant notes the following: -

(1) Clarification was sought from the Planning Authority regarding the requested information. Additional commentary with respect to the proposed development and its relationship with various GHG emission targets, such are the national Carbon Budget is provided in the Addendum report to the EIAR. This information is an elaboration of text in the EIAR, there are no changes to the dataset or impact assessment required.

(2) The proposed development is not a major project. Chapter 9 assesses the vulnerability of the development to climate change and its impact on climate change, in accordance with the EIA Directive.

(3) Temperature extremes are referred to in the context of climate change and the proposed development in Section 9.3.2. Sections 8.6.4.7 and 8.6.6.3 of chapter 8 (water) assess the effect of climate change on mine water discharge levels within wet or dry periods.

(4) Clarification was sought from the Planning Authority regarding the requested information. The GHG emission factors for the Scope 1 phases of the are presented in the addendum report. This is an elaboration of the calculation process provided in the EIAR, no changes to the dataset or impact assessment are required.

(5) The addendum report notes that a 30% reduction in future fuel efficiency was chosen in line with the targets set for Ireland's reduction of non-Emissions Trading Scheme category emissions by 30% by 2030.This is an elaboration of the rationale for choosing the 30% used in the EIAR for fuel reduction, no changes to the dataset or impact assessment is required.

(6) Microclimate is the weather in a particular small area (ca. 1-2 km of the site). The term is being used to indicate no difference between local or global climate due to the development.

(7) Potential emissions have been assessed qualitatively. It is not practicable based on the level of available information and data to quantify the potential emission related to soil stripping, as specific details and the number of soil stripping campaigns have not yet been designed at this stage - the detail and number of stripping campaigns will depend on how operational and market

conditions vary over the life of the project. Sequestration is considered in Sections 9.6.4, 9.6.7 and 9.9.2 of the EIAR.

10.14.5. The planning authority considered that this item of further information was adequately addressed by the applicant.

Baseline

10.14.6. The climate in the surrounding area is temperate maritime which is typical of the Irish context. The Knocknacran Mine site has an active weather station (Met Éireann station 'Kingscourt (Drummond)') which has been recording precipitation at the mine site since 1990. Recorded monthly precipitation at the station between the period Jan 2012 – December 2022 is provided in Table 9.4. Multiple meteorological parameters, including air temperature, rainfall, grass temperature, wind speed and highest wind gusts are recorded at Ballyhaise, Co. Cavan, c. 40 km west of the site. The recorded climate information is summarised in Table 9.5 of the EIAR for the period between January 2012 and December 2023. As expected, there are seasonal variations.

Potential Effects

10.14.7. The EIAR identifies the potential for a range of environmental effects on Water. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 5 below. Minor effects are not identified, except where there is potential for significant impact interactions, cumulative effects or where concerns have been expressed by parties to the application

Table 5: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	No changes to climate vulnerabilities or climate change emissions at the site compared to current operations. Without the proposed Mine Development, the Irish building industry would be reliant on the importation of gypsum or gypsum products from abroad, which would have an associated carbon cost and climate implications.
Construction	CO2 would be emitted from vehicle exhausts during the construction phase Embodied energy used in building materials

	Carbon release from soils will occur during the stripping on the Knocknacran West Mine site.
Operation	CO2 would be emitted from vehicle exhausts during the operational phase CO2 impact from electrical consumption Carbon emissions from overburden and interburden stripping on the Knocknacran West site Emissions from processing plant Indirect emissions from final product uses, e.g. discarded waste, plasterboard. GHG emissions are estimated to remain at approximately 5,000 to 6,000 tpa CO2e, which is likely to be consistent with the current emissions from the existing mine.
Decommissioning and Restoration	CO2 would be emitted from vehicle exhausts during the restoration phase CO2 impact from electrical consumption
Cumulative	No significant effects envisioned.

Mitigation

10.14.8. As CO2 is a key gas linked to climate change standard mitigation measures would be put in place to ensure that environmentally sustainable practices are promoted and incorporated into the construction and operational life of the development.

10.14.9. The mining activities undertaken are operated by SGMI, who is committed to responsible operation and a focusing on optimizing energy consumption and reducing greenhouse gas emissions during its manufacturing processes and end use of its product. SGMI have pledged to create net-zero carbon emissions by no later than 2050 and their investment in Research and Development allows them to create innovative technologies which are used to minimise the negative impacts of construction and manufacturing processes on the climate. Energy consumption is optimised, and greenhouse gas emissions are reduced in the company's operations

by buying 100% green energy. Appendix 9.2 contains the company's latest certificates which confirm that all of the electricity it used in 2020 was sourced from 100% renewable energy.

10.14.10. The end-use product, which is produced from the gypsum on the site, is used in technology that is designed to be innovative and increase the energy efficiency of new builds and increase the thermal renovation of the current building stock that contribute to the reduction of CO2 emissions. Within three months, the insulation solutions compensate for the CO2 emissions linked to their production. Further details relating to Saint-Gobain's climate change policy are included in Appendix 9.1.

Residual Impacts

10.14.11. Carbon would be released from soils during the stripping on the Knocknacran West Mine site. However, in the long term (>60 years), post restoration there would be a permanent effect of carbon sequestration, resulting in a positive effect on the microclimate.

Analysis, Evaluation and Assessment: Direct and Indirect Effects

10.14.12. I have examined, analysed and evaluated Chapter 9 of the EIAR and all of the associated documentation, including the applicant's response to the further information request, and submissions on file in respect of Climate. I am satisfied that the information submitted in the EIAR adequately demonstrates an understanding of the potential risks, impacts and provides suitably comprehensive range of mitigation and monitoring measures to reduce any potential impacts on climate.

10.14.13. The third parties consider that as there is a climate emergency it is irrational to continue to expand the mine. As noted in the Alternatives section above the appeal site is the only proven reserve of gypsum in the country. The proposed development would replace mining at Knocknacran Open-Cast Mine which will be exhausted by 2027. Drummond Mine is currently permitted to continue extraction until 2032. Therefore, in the absence of the proposed development there would be no indigenous source of gypsum in Ireland after 2032. Sourcing gypsum, post 2032, would necessitate larger transport distances and increase the carbon footprint of gypsum.

10.14.14. There is potential for greenhouse gases (GHG) generated by the proposed development to impact on climate. The EIAR states the operational GHG emissions are estimated to remain in the range 3,000 to 5,000 tpa CO2e, which is consistent with the current emissions from the mine. It is noted that this figure excludes emissions relating to electricity usage as the applicant is committed to all electricity being sourced from certified CO2 neutral sources. This is in accordance with corporate policy and having regard to the information provided is considered a reasonable approach.

10.14.15. The EPA's GHG Emissions Projections 2020-2024 states that emissions from Industrial Processes include process emissions from mineral, chemical, metal industries, non-energy products and solvents. Emissions are projected to increase by 29% between 2020 and 2030 to 2.6 Mt CO2 eq. The majority of emissions come from cement and lime industries and the projections are based on growth forecasts from the cement industry. The EIAR notes that the estimated annual emissions relating to the proposed development are c. 0.01% (construction phase) and 0.2% (operational phase) and 0.1% (restoration phase) of the whole mineral industry sector. The EIAR also notes that the gypsum component of the mineral industry sector is reported to be 2 to 2.5% of the total GHG emissions for the minerals industry.

10.14.16. The proposed development would replace the existing Knocknacran mine. Therefore, I agree with the EIAR that the potential greenhouse gas emission projections generated by the proposed development are already considered and accounted for within the EPA's 2020-2040 Emissions Projections and that the potential for additional greenhouse gas emissions are imperceptible and not significant.

10.14.17. The third parties raised concerns that the extent of greenhouse gas and other emissions from the proposed development is not robust or complete. The EIAR notes that the assessment of GHG emissions required some assumptions regarding the quantification of emissions from the site as current GHG emissions are reported collectively for the existing mine and a separate processing facility. Therefore, there were some difficulties defining the emissions from each source. Having regard to the nature of the development and the available information, this is considered a reasonable approach, and I am satisfied that the information used is acceptable to provide a baseline for the EIAR.

10.14.18. The third parties raised concerns that the EIAR failed to take the current climate breakdown effects into account and that climate change has the potential to increase the volumes of polluted water discharged from the mine.

10.14.19. Chapter 9 address how the proposed development could potentially interact with a changing climate and whether it could result in a significant effect on the environment. Section 9.3.2 of the EIAR considers the most applicable climate variables to be an increase in precipitation effecting ground water, pluvial and fluvial flooding, temperature extremes and extreme wind events. The EIAR notes that climate change has the potential to have knock on effects on mine water discharge rates. It is noted that the proposed development has been designed to allow for water management / storage. It further states that good site management in terms of groundwater monitoring and the management of site excavations and surface waters during very extreme flooding events are incorporated into the design and operation of the future mine site. It is also noted that the discharge of water from the mine is controlled under an IE licence and that there are no proposals to increase the current permissible volume.

10.14.20. I am satisfied that the EIAR adequately addresses the impact of climate change on proposed development, and I agree with the EIAR that the vulnerability of the proposed development to climate change is not significant.

Conclusion

10.14.21. Having regard to the current activities on site and the applicants proven commitment to all electricity being sourced from certified CO2 neutral sources I am satisfied that the potential for effects on climate during the construction and operational phases can be avoided, managed and mitigated by measures that form part of the proposed scheme and at there is no potential for cumulative effects**,** given the absence of permitted or planned construction activity in the vicinity of the site.

10.15. **Air Quality**

Issues Raised

10.15.1. The third parties raised concerns that the proposed development would result in a very significant pollution risk in relation to dust and that an increase in fumes in the area which would adversely affect wildlife, livestock and human health.

Examination of the EIAR

Context

10.15.1. Chapter 10 addresses the impact on Air Quality and considers any direct or indirect effects on this resource arising from the proposed development. The chapter outlines the legislative and policy context, the baseline environment, the key characteristics of the proposed development, the potential effects, methodology used and sources of information.

10.15.2. EIAR notes that during COVID 19, some primary monitoring was impacted during lockdowns as collection of diffusion tubes could not be facilitated. Validation sampling was then carried out post-COVID 19.

10.15.3. The following Appendices are attached to Chapter 10: -

- Appendix 10.1: Construction Dust Assessment
- Appendix 10.2: Mineral Dust Assessment

10.15.4. The planning authority raised some concerns regarding the information provided in Chapter 10 – Air Quality of the EIAR and request that 7 no. items of further information be sought with regard to the following: -

(1) Clarification on whether the dust related complaints correspond to reported elevations of baseline dust records would be beneficial in assessing this history.

(2) Clarity is requested from the baseline PM10 to be supplied in 24 hour averages and to be presented against the AQS of annual AQS (of 40µg/m3) or 24 hour AQS of 50µg/m3.

(3) The dust magnitude for each individual activity should be determined for all parts of the development together.

(4) It appears that the two arguably most significant dust sources are not assessed at all: overburden stripping and phased restoration.

(5) Although comprehensive mitigation measures are proposed in Chapter 10, given the lack of assessment, it is difficult to ascertain whether these measures are sufficient.

(6) The residual effects section must also provide a clear assessment as to whether these effects are intermittent or continuous, cover construction, operation and adverse phases, adverse or positive, significant or not significant.

(7) Appendix 10.2, Mineral Dust Assessment was reviewed, in light of the Chapter 10 dust risk assessment, the pathway effectiveness, assessment is lacking sufficient detail. There is no information on the number of hours for relevant wind speed or direction, or the relevant degrees in which a receptor fails therefore it is very difficult to discern if the assessment of pathway effectiveness is adequate. Further details are required to adequately address this effect on the environment.

10.15.5. In response to the request for further information the applicant notes the following: -

(1) The addendum report notes that a single dust complaint was received over the 11-year dust baseline period. Over this same period more than 500 dust measurements were recorded. This information is provided in Section 10.4.5 of the EIAR.

(2) Clarification was sought from the planning authority regarding this item. The addendum report provides 24-hour averages for baseline PM10. The 2 no. Zone C locations were included as they are the only local EPA monitoring sites, apart from a single Zone D location. The EIAR which includes both the Zone C and D calculates an average baseline value. The assessment is not impacted by the inclusion or exclusion of Zone C baseline sites or the representation of the PM10 data as 24-hour averages.

(3) In combination effects of the various construction activities, which may occur simultaneously, are addressed in Section 10.4.2.3 of Appendix 10.1.

(4) Section 10.6.4.1 of the EIAR lists stripping of subsoil and overburden and the phased restoration as potential sources of emissions to air. A Mineral Dust

Assessment is also attached as Appendix 10.2. Relevant information is also provided in Chapter 3 of the EIAR regarding the phased restoration of the site. In addition, an addendum is provided with all relevant information.

(5) A robust assessment has been carried out. The dataset presented in the EIAR of 11 years of dust control and monitoring at the existing mine site reports over 500 monitoring events where the vast majority of results are in compliance with statutory limits.

(6) The terms “intermittent” and “continuous” are referred to in Table 3.5 of the EIA Guidance as part of a checklist for information which can be used to describe likely significant effects. Residual effects are provided in Sections 10.9.1 and 10.9.2 of the EIAR for both the Community Sports Complex and the Mine Development during construction, operation and restoration.

(7) Clarification was sought from the planning authority regarding this item. An Addendum is provided which tabulates the graphic Windrose data provided in the EIAR.

10.15.6. The planning authority considered that this item of further information was adequately addressed by the applicant.

Baseline

10.15.7. Dust generation rates depend on the site activity, particle size, the moisture content of the material and weather conditions. Dust emissions dramatically reduce where rainfall has occurred, due to the cohesion created between dust particles and water and the removal of suspended dust from the air.

10.15.8. The appeal site is located at an existing gypsum mine site with associated processing plant and a community sports facility. There are 12 no. residential properties (sensitive receptors) within 100m of the appeal site and c. 110 no. within 500m of the site.

10.15.9. There are 9 no. former and existing dust locations with the site that are associated with the IE licence requirements. These are indicated on Figure 10.9 of the EIAR. The EPA sets a dust deposition environmental value limit (EVL) of 350mg per square metre per day (averaged over a continuous period of 30 days). Dust monitoring, carried out between January 2012 and August 2021, is presented as time series graphs in Figures

10.10 – 10.15 of the EIAR. During this 9.5 year period the EPA's EVL was exceeded on 26 no. occasions. The EIAR notes that the exceedances are generally accounted for by high concentrations of organic matter, not associated with mining activities. Additional ambient air quality monitoring was undertaken for background total particulates, PM10 and PM2.5 at a location along the R179 in August and September 2021 in support of the proposed development. The results are summarised in Table 10.14 of the EIAR and indicate ambient particulate monitoring are below the set limit values.

10.15.10. The response to the request for information notes that there has been a single dust complaint received (in 2017) over an 11-year period (January 2012 – December 2022). This complaint occurred at a time when there was an issue with the onsite wheelwash and dirt on the public road. The applicant notes that in this instance the wheelwash was fixed and the public road cleaned.

10.15.11. Ambient air monitoring for background total particulates, PM_{10} and $PM_{2.5}$, was undertaken by the applicant in August / September 2021. The average values obtained for PM_{10} was clarified in the further information response as a minimum of 0.9 µg/m³, an average of 4.6µg/m³ and a maximum of 32.0 µg/m³ which are all below the limit values of 50µg/m³ in a 24-hour period and a standard of 40µg/m³ in a calendar year for PM_{10}. $PM_{2.5}$ is a sub-fraction of PM_{10} and therefore, its concentration would be lower than PM10. The EIAR notes that the average value obtained for PM2.5 was 3.7µg/m³ which is below the recommended standard of 25µg/m³ in a calendar year, as set out in the CAFE Directive 2008/50/EC and the Air Quality Standards Regulations, 2011.

10.15.12. Monitoring of ambient nitrogen dioxide (NO2) was undertaken at 7 no. locations in 2019 / 2020 and again in 2022. The monitoring locations are indicated on Figure 10.16 of the EIAR. The results are presented in Table 10.16, as both annual and hourly averages. The Air Quality Standard (AQS) limit values are 200µg/m³ in a 1-hour period and a standard of 40µg/m³ in a calendar year for NO2 for the protection of Human Health and a standard of 30µg/m³ in a calendar year for the protection of ecosystems, as set out in the CAFE Directive 2008/50/EC and the Air Quality Standards Regulations, 2011. Monitoring for the site indicates an average of 6.0 µg/m3. No exceedance of the recommended limit values were recorded. The highest concentration of NO2 was recorded adjacent to the R179 and is attributed to traffic.

The EPA also monitor annual average NO2 for the surrounding area. The EPA data indicates an average of 10.7 µg/m3, which is slightly higher than the site-specific information provided by the applicant.

Potential Effects

10.15.13. The EIAR identifies the potential for a range of environmental effects on Air Quality. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 6 below. Minor effects are not identified, except where there is potential for significant impact interactions, cumulative effects or where concerns have been expressed by parties to the application

Table 6: Summary of Potential Effects

Project Phase	**Potential Direct, Indirect and Cumulative Effects**
Do Nothing	Air quality levels would remain at the current baseline on the Knocknacran West site. The Knocknacran West site and the community sports complex would not be developed.
Construction	Potential for dust from construction traffic, earthworks and demolition works.
Operation	Potential for dust generation from excavation works, processing plant and transportation of goods. Wind erosion at dump areas and exposed faces.
Decommissioning and Restoration	Potential for dust during movement of restoration materials and demolition of processing plant.
Cumulative	No significant effects envisioned.

Mitigation

10.15.14. Embedded design mitigation includes planting and screening berms around the perimeter of the development site. The proposed works would also be carried out in accordance with relevant legislation and best practice guidelines. Dust monitoring would continue to be undertaken, and the works would be carried out in accordance with IE licence.

Residual Impacts

10.15.15. Subject to adherence to appropriate mitigation measures residual impacts are not considered to be significant.

Analysis, Evaluation and Assessment: Direct and Indirect Effects

10.15.16. I have examined, analysed and evaluated Chapter 10 of the EIAR and all of the associated documentation, including the applicant's response to the further information request, and submissions on file in respect of air quality. I am satisfied that the information submitted in the EIAR adequately demonstrates an understanding of the potential risks, impacts and provides suitably comprehensive range of mitigation and monitoring measures to reduce any potential impacts on air quality.

10.15.17. The third parties raised concerns that the proposed development would result in a very significant pollution risk in relation to dust. Having regard to the data available from ongoing monitoring at the existing mine site associated with the IE licence requirements and the additional monitoring carried out in support of the proposed development, I am satisfied that the activities during the operational phase are unlikely to generate a significant level of nuisance / visible dust. Earthworks during the construction phase are a potential source of dust. Potential sources of dust from the operational phase include dust from excavation, vehicular movements and the processing plant. I am satisfied that, subject to the continued implementation of mitigation measures to supress dust, the impact of nuisance / visible dust on sensitive receptors is not significant during the construction or operational phase. In the longer term, the restoration phase would result in the covering and seeding of exposed, un-vegetated soil surfaces therefore reducing the potential for dust.

10.15.18. The third parties also raised concerns that an increase in fumes in the area would adversely affect wildlife, livestock and human health. PM_{10} and $PM_{2.5}$ comprise very small particulate matter which have the potential to affect human health.

10.15.19. As noted above, monitoring of ambient nitrogen dioxide (NO2) was undertaken at 7 no. locations in 2019 / 2020 and again in 2022. Monitoring for the site indicates an average of 6.0 µg/m3, which is significantly below the Air Quality Standard (AQS) limit value of 200µg/m³ in a 1-hour period and a standard of 40µg/m³ in a calendar year for NO2 for the protection of Human Health and the standard of 30µg/m³ in a calendar

year for the protection of ecosystems, as set out in the CAFE Directive 2008/50/EC and the Air Quality Standards Regulations, 2011.

10.15.20. It is noted that the data available from the EPA National Ambient Air Quality Monitoring Network for the surrounding area, which is provided in Table 10.18 of the EIAR, indicates an average of 10.7 µg/m3 for the surrounding area, which is slightly higher than the site-specific information provided by the applicant. Both values are within the limit value and no exceedance of the recommended limit values have been recorded.

10.15.21. The applicant's assessment combines the EPA's monitored background value, which is higher than the site-specific value, with the predicted environmental concentration generated by the proposed development during both the construction, operational and restoration phases. Having regard to the data available from monitoring at the existing mine site and the EPA data for the wider area, I am satisfied that the activities during the construction, operational and restoration phases are unlikely to have a significant impact on NO_2, PM_{10} or $PM_{2.5}$ annual mean levels. Therefore, I am satisfied that the proposed development would not have a significant impact on human health or biodiversity.

10.15.22. It is noted that the existing and proposed activities on site do not omit an odour and no concerns regarding odour have been raised by the planning authority or any third party.

Conclusion

10.15.23. While the concerns of the third parties are noted, having regard to the available data relating to air quality within and surrounding the appeal site I am satisfied that the potential for effects on air quality during the construction, operational and restoration phases can be avoided, managed and mitigated by measures that form part of the proposed scheme and at there is no potential for cumulative effects, given the absence of permitted or planned construction activity in the vicinity of the site.

10.16. **Noise**

Issues Raised

10.16.1. The third parties raised concerns that the impact of noise has not been adequately assessed by the applicant and that the proposed development would result in a very significant pollution risk in relation to noise

Examination of the EIAR

Context

10.16.2. Chapter 11 addresses noise. The chapter outlines the legislative and policy context, the baseline environment, the key characteristics of the proposed development, the potential effects, methodology used and sources of information. The EIAR notes that no particular difficulties were encountered in the preparation of this chapter of the EIAR. An additional noise assessment and response which reiterates the findings of the EIAR was submitted by way of Further Information.

10.16.3. The following Appendices are attached to Chapter 11: -

- Appendix 11.1: SLM Calibration Certificates
- Appendix 11.2: Monitoring Data, Photographs and Notes
- Appendix 11.3: Modelling Results
- Appendix 11.4: Drumgoosat National School Technical Assessment

10.16.4. The planning authority raised some concerns regarding the information provided in Chapter 11 – Noise of the EIAR and request that 3 no. items of further information be sought with regard to the (1) the use of LAR,T for night time compliance limits, (2) no impact assessment provided in relation to the likely predicted change at sensitive receptors and (3) the associated appendices to Chapter 11 are unclear and difficult to follow.

10.16.5. In response to the request for further information the applicant notes the following:

(1) This was a typo, it has been corrected in an attached addendum and should read as LAeQ,T.

(2) Clarification was south from the planning authority with regard to this item. Section 11.2.2 of the EIAR discusses guidance. It is then appropriate that noise levels modelled from the proposed development are assessed against the fixed limits defined in the existing IE Licence and the limits described in NG4 guidance for EPA licenced sites. BS4142 is not required or appropriate to apply, the appropriate guidance (NG4) has been applied and followed in the EIAR. An Institute of Environmental Management and Assessment (IEMA) assessment was carried out to provide additional characterisation of ambient change at the

receptors, beyond guidance requirements. This assessment is attached as Appendix A of the addendum report.

(3) Clarification was south from the planning authority with regard to this item. To provide clarity, a reformatted version of Appendix 11.2 of the EIAR is attached to this addendum as Appendix B.

10.16.6. The planning authority considered that this item of further information was adequately addressed by the applicant.

Baseline

10.16.7. The proposed development is located within a rural area. Baseline noise comprises typical agricultural activities, traffic, including traffic related noise form the adjacent petrol station and shop, and noise from the existing mine.

10.16.8. The existing facility is subject to an EPA Industrial Emissions Licence (P0519-04) which limits daytime (07:00 to 19:00) noise to 55 $dB_{LAr, T}$, evening (19:00 to 23:00) noise to 50 dB $_{LAr,T}$ and night-time (23:00 to 07:00) noise to 45 dB $_{LAeq, T.}$ These values are set in accordance with relevant guidelines and best practice. As part of the conditions of the licence monthly daytime noise monitoring is carried out at 3 no. locations, in close proximity to the nearest noise sensitive receptors. The EIAR notes that there were no breaches in the 55 dB(A) daytime limit between 2017 - 2023.

Potential Effects

10.16.9. The EIAR modelled predicted the worst-case scenario for noise generated by the proposed development. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 7 below. Minor effects are not identified, except where there is potential for significant impact interactions, cumulative effects or where concerns have been expressed by parties to the application.

Table 7: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	Noise levels would remain at the current baseline on the Knocknacran West site. The Knocknacran West site and the community sports complex would not be developed.

Construction	Construction of screening berms Demolition of houses / structures Temporary Road diversion and provision of cut and cover tunnel Construction of new vehicular entrance. Stripping of overburden by mechanic means Construction traffic and machinery.
Operation	Stripping of overburden by mechanic means Extraction of gypsum, including blasting Processing plant Haul truck movements
Decommissioning and Restoration	Demolition of plant Haul truck movements
Cumulative	No significant effects envisioned.

Mitigation

10.16.10. Noise mitigation measures are embedded in the design of the proposed development including the provision of perimeter screening berms and planting and the retention of woodland area to the north to provide a buffer between the mine site and receptors in the village. The mine would continue to be operated in accordance with IE licence. All works would also be carried out in accordance with relevant planning conditions, legislation and best practice guidance. Additional mitigation measures include scheduling of particularly noisy works to more acceptable times of day by avoiding evenings and early mornings and a noise monitoring programme would continue to be maintained at the existing mine monitoring locations.

Residual Impacts

10.16.11. Subject to adherence to appropriate mitigation measures, appropriate design standards and operational infrastructure management plans, it is considered that any effects from the proposed development would not be significant.

Analysis, Evaluation and Assessment: Direct and Indirect Effects

10.16.12. I have examined, analysed and evaluated Chapter 11 of the EIAR and all of the associated documentation, including the applicant's response to the further information request, and submissions on file in respect of noise. I am satisfied that the information submitted in the EIAR adequately demonstrates an understanding of the potential risks, impacts and provides suitably comprehensive range of mitigation and monitoring measures to reduce any potential impacts on surrounding sensitive noise receptors.

10.16.13. The third parties raised concerns that the impact of noise has not been adequately assessed by the applicant and that the proposed development would result in a very significant pollution risk in relation to noise.

10.16.14. Section 11.2 of the EIAR sets out the legislative and policy context of the proposed development. I am satisfied that the noise assessment has been undertaken in accordance with appropriate guidelines and provides a robust and evidence baseline for the assessment.

10.16.15. The existing Knocknacran Mine and associated processing plant are subject to an IE Licence. It is not proposed to amend the existing IE licence noise levels for the proposed development and there are no proposals to amend the existing working hours. The information submitted in the EIAR notes that there have been no recorded breaches in the maximum limit of 55 dB(A) for daytime noise at the existing site.

10.16.16. To ascertain ambient noise levels within 450m of the site boundary, 5 no. additional noise locations were monitored in September 2021 and March 2023. The results of the monitoring indicate that all surrounding sensitive noise receptors (SNR) fall within Category A (of the ABC method outlined in BS5228). Category A values are appropriate when ambient noise levels are less than daytime noise limits of 65dB and evening and weekend limits of 55dB.

10.16.17. The worst-case noise levels are modelled in the EIAR as Phase 1, Phase 4, Phase 5, Phase 6 and Phase 7 of the Knocknacran West open cast mine. Phases 1, 4, 5 and 6 are operational mining phases while Phase 7 is the restoration phase. These phases

include the shallowest and nearest surface activities, which have the most potential for noise generation at NSRs.

10.16.18. It is proposed that the operating and maintenance hours for the Knocknacran West Open Cast Mine would be the same as the existing Knocknacran Mine, in this regard between 08.00 and 20.00 Monday to Saturday only. The transportation of gypsum from the processing plant off site would continue to be between the hours of 06.00 and 21.00 Monday to Saturday. The EIAR also notes that blasting of the gypsum is expected to continue to take place once every 2 to 4 weeks. Given the proximity of the site to Drumgoosat National School blasting takes place after 4pm. No activity takes place outside these hours or on Sundays or public holidays.

10.16.19. The information provided in Section 11.6 of the EIAR indicates that noise generated by the proposed development would not exceed the recommended daytime or evening / weekend targets at the nearest NSR. I am satisfied that the proposed impact from noise would not be significant.

Conclusion

10.16.20. While the concerns of the third parties are noted, having regard to the available data relating to noise within and surrounding the appeal site and to I am satisfied that the potential for harmful noise during the construction and operational phases can be avoided, managed and mitigated by measures that form part of the proposed scheme and at there is no potential for cumulative effects, given the absence of permitted or planned construction activity in the vicinity of the site.

10.17. **Vibration**

Issues Raised

10.17.1. The third parties raised concerns that the proposed development would result in a very significant pollution risk in relation to vibration and notes that seismic activity and the resulting vibration has no statutory provisions or proper regulation.

Examination of the EIAR

Context

10.17.2. Chapter 12 considers potential vibration impacts associated with the proposed development. The assessment identifies appropriate evaluation criteria, considers potential sources of vibration and specifies mitigation measures to control vibration at sensitive receptors. The EIAR notes that no particular difficulties were encountered in the preparation of this chapter of the EIAR.

10.17.3. The planning authority raised some concerns regarding the information provided in Chapter 12 – Vibration of the EIAR and request that 2 no. items of further information be sought with regard to (1) Clarification on the source of the magnitude scale and (2) the chapter presents human response to vibration but does not develop this through the impact assessment or otherwise address such. As these values are more intrinsic to the human perception, it is warranted for an assessment of the likely impact of the proposed development on such to be assessed.

10.17.4. In response to the request for further information the applicant notes that (1) Section 12.2.2 of the EIAR explains BS6472 and its appropriateness in the context of the development proposed. (2) The proposed development continues the activity of open-cast mining that has taken place at the existing adjacent Knocknacran mine for more than 30 years. It is acknowledged that human perception to blasts can be sensitive, and the EIAR has considered the human response to vibration. It notes that BS6472 provides guidance on magnitudes of vibration that are acceptable with respect to human response for up to three blast vibration events per day. The proposed development expects blasting activity occurring less than once per fortnight. The derived impact magnitude criteria used in the impact assessment are derived from BS6472's satisfactory magnitudes criteria with respect to human response.

10.17.5. The planning authority considered that this item of further information was adequately addressed by the applicant.

Baseline

10.17.6. The EPAs Guidelines on Environmental Management in the Extractive Industry set also set out recommendations with regard to vibration at the nearest sensitive location. In this regard, it is recommended that the following be adopted:

- Ground-borne vibration: Peak particle velocity = 12 mm/s, measured in any of the three mutually orthogonal directions at the receiving location (for vibration with a frequency of less than 40 Hz).
- Air overpressure: 125 dB (linear maximum peak value), with a 95% confidence limit.

10.17.7. Ground vibration and air overpressure are monitored for each blasting event at both the Drummond and Knocknacran mines in accordance with the sites IE Licence (P0519-04). Monitoring locations are identified in Figure 12.3 of the EIAR. The results for blasting events at 3 no. locations, carried out between January 2012 and October 2022 are shown Table 12.6 of the EIAR. It is noted that between 2012 and 2014 blasting took place on the eastern side of the open cast. There was no blasting between August 2014 and March 2018. From April 2018 onwards blasting took place on the western side of the open cast. The information provided in Table 12.6 of the EIAR indicates that during the 84 no. recorded blast events there was no exceedances in peak particle velocity. Two exceedances (130 dB and 127.6 dB) above the limit of 125 dB in air overpressure were measured at location MS1 during blast events on 30th July 2018 and 31st August 2018. This indicates a 97.7% compliance over a c. 6.5 year monitoring period for location MS1.

10.17.8. Additional monitoring is carried out by the applicant at 6 no. locations outside of the site boundary, at Vibration Sensitive Receptors (VSR). The information provided in Tables 12.7 and 12.8 indicate that no exceedances in peak particle velocity or air overpressure have been recorded at these VSR's.

10.17.9. The EIAR notes that following on from a third-party complaint regarding vibration impacts the EPA carried out independent monitoring of 4 no. blasts in 2019. Table 12.9 of the EIAR provides a summary of the results of the EPA monitoring and provides

a comparison to the applicants monitoring of the same blasts. It is noted that no exceedances in peak particle velocity or air overpressure were recorded.

Potential Effects

10.17.10. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 8 below. Minor effects are not identified, except where there is potential for significant impact interactions, cumulative effects or where concerns have been expressed by parties to the application.

Table 8: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	Vibration from blasting would remain at the current baseline on the Knocknacran site. The Knocknacran West site and the community sports complex would not be developed.
Construction	No significant off-site vibration is anticipated associated with surface works during the construction phase.
Operation	Blasting would be carried out by trained personnel to ensure these limits are adhered to. All blasting on the would comply with the Safety, Health and Welfare at Work (Quarries) Regulations 2008. The impact is considered to be negligible.
Decommissioning and Restoration	No blasting would occur during this phase of the development.
Cumulative	No significant effects envisioned.

Mitigation

10.17.11. Mitigation measures are not considered necessary for the construction or restoration phase. Section 12.7 4 of the EIAR sets out mitigation measures for the operational phase of the EIAR. Mitigation measures are embedded in the design of the development and would comply with relevant legislation and best practices guidelines. Specific mitigation measures include: -

- A minimum separation distance of 100m from the nearest third-party residence.

- All blasts will be initiated by electronic detonation system.
- The optimum blast ratio will be maintained and the maximum amount of explosive on any one delay and the maximum instantaneous charge is optimised so that the ground vibration levels are kept below those specified.
- Explosive charges are properly and adequately confined by using a sufficient quantity of stemming.
- Adequate confinement of all charges by means of accurate face survey and the subsequent judicious placement of explosives.
- No blasting will be carried out on Sundays or public holidays.
- No exposed detonating fuse will be used in blasting.
- Notice of blasting times will continue to be given as currently practiced.
- Blasting is to be carried out by professionally trained blast engineers.

Residual Impacts

10.17.12. Subject to adherence to mitigation measures, it is considered that there would be neutral residual vibration effects in the area, after blasting is completed.

Analysis, Evaluation and Assessment: Direct and Indirect Effects

10.17.13. I have examined, analysed and evaluated Chapter 12 of the EIAR and all of the associated documentation, including the applicant's response to the further information request, and submissions on file in respect of vibration. I am satisfied that the information submitted in the EIAR adequately demonstrates an understanding of the potential risks, impacts and provides suitably comprehensive range of mitigation and monitoring measures to reduce any potential impacts on surrounding sensitive noise receptors.

10.17.14. The third parties raised concerns that the proposed development would result in a very significant pollution risk in relation to vibration.

10.17.15. Vibrations impacts are likely to occur during the construction phase as a result of ground preparation / excavation works and plant and machinery movements. The NRA Guidelines note that there are two separate considerations for vibration during the construction phase, that which affects human comfort and that which affects cosmetic

or structural damage to buildings. The magnitude of vibration is expressed in terms of Peak Particle Velocity (PPV) in millimetres per second (mm/s). The Guidelines note that in the case of nominally continuous sources of vibration such as traffic, vibration is perceptible at around 0.5mm/s and may become disturbing or annoying at higher magnitudes. To avoid the risk of cosmetic damage to buildings, the Guidelines suggest that vibration levels should be limited to 8mm/s at frequencies of less than 10Hz, to 12.5mm/s for frequencies of 10 to 50Hz, and to 20mm/s at frequencies of 50Hz and above. It is acknowledged that vibration in relation to construction sites may result in temporary and short-term disturbance. However, these impacts are unlikely to propagate beyond the construction site boundary. I am satisfied that subject to implementation of best practice control measures no significant impacts to the structural integrity of any adjacent building are predicted during the construction phase.

10.17.16. Blasting has the potential to generate ground and air borne vibrations. The EPA's Quarry Guidelines note that the levels of vibration caused by blasting are well below those which can cause structural damage to properties. Nonetheless, vibration transmitted through the ground and pressure waves through the air ("air overpressure") can shake buildings and people and may cause nuisance.

10.17.17. The EIAR notes that blasting takes place every 2-4 weeks at the existing Knocknacran site. Blasting operations generally take place Monday to Saturday, after 4pm (after school hours). Prior to blasting a notice is given by the sounding of an audible siren for a minimum period of one minute. It is proposed that blasting operations at the proposed Knocknacran West site would be similar to those currently undertaken.

10.17.18. The existing Knocknacran Mine is subject to an IE Licence**.** It is not proposed to change the licence limits relating to blasting. The information submitted with the EIAR indicates that there are no recorded incidence of ground-borne vibration exceeding the environmental limit of peak particle velocity of 12 mm/s between 2012 and 2022. The environmental limit of air overpressure (125 dB) was exceeded on 2 no. recorded occasions on in July (130 dB) and August 2018 (127.6 dB) at 1 no. location (MS1) within the site. There are no exceedances recorded outside of the site boundary. While the exceedance of overpressure is note, having regard to the location of the

exceedance within the appeal site and limited number (2 no.) over a 10 year period of monitoring, I am satisfied that the impact is not significant.

10.17.19. The impact of vibration on the stability of the mining tunnels within the former Drumgoosat underground mine has been addressed in the Impact of Construction and Mining Vibration report attached as Appendix 7.14. The report notes that blasting would be carried out through the Upper and Lower Gypsum seams only, with all other materials being free dug. Blasts would be designed and initiated to minimise vibrations in the area of the underground workings, that will remain in-situ after quarrying operations have ceased. It is considered that heavy equipment and blasting are unlikely to generate sufficient vibrations to initiate any new subsidence. The EIAR notes that the risks and risk mitigation associated with vibration are well understood and would be addressed by method statements and standard operating procedures related to mining above and through underground workings. A proposed Standard Operating Procedure (SOP) for mining in the vicinity of suspected voids and unstable ground is provided in Appendix 7.17. Having regard to the information submitted I am satisfied that the risk of instability from blasting is low.

10.17.20. The submission from the third parties also raised concerns that seismic activity and the resulting vibration has no statutory provisions or proper regulation. Seismic activity relates to the release of energy in the earths curst or upper mantel. This usually occurs due to movement along a fault line or volcanic activity. As the proposed blasting and mining activity does not result in seismic activity it is not considered relevant to this assessment.

Conclusion

10.17.21. The concerns of the third parties are noted. However, having regard to the available data relating to vibration within and surrounding the appeal site I am satisfied that, subject to adherence with the comprehensive range of mitigation and monitoring measures in the EIAR, any potential impacts from vibration can be reduced to non-significant levels.

10.18. Material Assets, Cultural Heritage and the Landscape

10.18.1. The format of my assessment follows the headings as set out in the Planning and Development Act, 2000 (as amended). Having regard to the information provided in the applicants EIAR the following Sub-headings are used:

- Landscape and Visual Impact
- Traffic
- Archaeology and Cultural Heritage
- Material Assets

10.19. Landscape and Visual Impact

Issues Raised

10.19.1. Third parties raised concerns that the EIAR is inadequate as it does not take account of the defects both historical and potentially encountered in the future on the landscape and that the existing mining operation has had a very destructive effect on the landscape.

Examination of the EIAR

Context

10.19.2. Chapter 13 of the EIAR comprises a Landscape and Visual Impact Assessment (LVIA). It describes the landscape context of the appeal site and assesses the likely impacts of the scheme on the receiving environment. The chapter outlines the methodology used, sources of information and the assessment criteria. The EIAR notes that no particular difficulties were encountered in the preparation of this chapter of the EIAR.

10.19.3. Appendix 13.1 comprises a separate booklet of photomontages containing 13 no. viewpoints providing a comparison of the existing site and the construction phase, operational phase and restoration phase of the proposed development with. I am satisfied that the applicants submitted photomontages provide a reasonable representation of how the proposed development would appear to allow for a full assessment of the potential impact.

10.19.4. Chapter 13 also includes Community Sports Complex Landscape Plan attached as Appendix 13.2: and Knocknacran West Mine Landscape Plan attached as Appendix 13.3.

Baseline

10.19.5. The surrounding area is characterised as undulating drumlin landscape and the appeal site is generally located in a lowland setting. The predominant land use is agriculture with medium to large-sized geometric fields bound by mature tree lines and hedgerows, with smaller areas of woodland and mining / quarrying. The Monaghan County Development Plan (2019 – 2025) identifies areas of Primary Amenity and Secondary Amenity, as well as designated scenic routes. No sensitive landscape and scenic designations occur within the vicinity of the development site. The development site is c. 20 km from any 'Area of Primary Amenity Value', c. 2 km from an 'Area of Secondary Amenity Value', and c. 10 km from any Views from Scenic Routes.

10.19.6. The EIAR notes that the character, value and sensitivity of the study area is hugely varied and inconsistent. Due to the differences the assessment subdivides the site into the community sports complex site, the mine sites and the wider study area.

10.19.7. *Community Sports Complex Development Site:* This site includes the community sports complex, with some immature planting. The landscape sensitivity is deemed to be low.

10.19.8. *Mine Sites:* The proposed Knocknacran West Mine Site has some naturalistic and aesthetic character. However, it is a highly modified man-made landscape with legacy issues (sinkholes, crown holes and subsidence) associated with the former Drumgoosat Underground Mine. The landscape sensitivity is deemed to be Medium-Low.

10.19.9. The existing Knocknacran Mine is dominated by a large and deep open-cast mine and associated processing plant. The landscape sensitivity is deemed to be Low.

10.19.10. *Wider Study Area:* The area within 1km of the appeal site is dominated by farmland subdivided by hedgerows with small settlements. Extractive industries have evident in landscape character. The character of Monaghan's drumlin landscape, typically interspersed with lakes, trees and woodlands, is more apparent within the wider

landscape, c. 2-3 km from the site. The landscape sensitivity of the study area can be summarised as Medium-Low.

Potential Effects

10.19.11. The EIAR identifies the potential for a range of environmental effects on the Landscape and Visual Impact. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 9 below. Minor effects are not identified, except where there is potential for significant impact interactions, cumulative effects or where concerns have been expressed by parties to the application.

Table 9: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	The existing mine would be restored, and the Knocknacran West site and the community sports complex would not be developed.
Construction	highest impacts would occur when the new structures have fully emerged in terms of their finished size but are not yet tidily finished and workers and machinery remain on site. The magnitude of landscape impact will be Medium, the quality of effect will be Negative and the duration Short-term. At the proposed Knocknacran West Mine and there would be a high intensity of activity involving heavy machinery and workers. The magnitude of construction stage landscape impact is considered to be High the quality of effect will be Negative and the duration Short-term.
Operation	The community sports complex expansion would screen the mine processing plant from the R179. The quality of the effect is positive and the duration is permanent. The landscape impacts of the operational phases of the proposed Knocknacran West Mine are an extension of the landscape operations of the existing Knocknacran Mine, which is an open cast

	mine. The magnitude of landscape impact is considered to be High, of a Negative quality and of a Long-term duration.
Decommissioning and Restoration	Once the restoration measures have become established it is likely that there will be little evidence that large open cast mines existed on the Knocknacran and Knocknacran West sites. The restored landscape would blend seamlessly with the surrounding agricultural landscape, which also has frequent lakes in this part of the county. The magnitude of landscape impact at restoration stage is considered to be Medium, of a Positive quality and a Permanent duration.
Cumulative	No significant effects envisioned.

Mitigation

10.19.12. Section 13.7 of the EIAR sets out mitigation measures. Mitigation measures are embedded in the design of the development and includes extensive landscaping, screening berms and other screening measures and the restoration phase of the proposed development. Existing trees and vegetation along roadside boundaries would also be retained where possible. The Community Sports Complex Landscape Plan is attached as Appendix 13.2 and Knocknacran West Mine Landscape Plan attached as Appendix 13.3.

Residual Impacts

10.19.13. Having regard to the embedded nature of mitigation measures the residual effects are not considered to be significant.

Analysis, Evaluation and Assessment: Direct and Indirect Effects

10.19.14. I have examined, analysed and evaluated the information provided in Chapter 13 and all the associated documents including the separate booklet of photomontages and submissions on file in respect of landscape and visual impact. I have inspected the site and the surrounding area. I am satisfied that the information submitted in the EIAR adequately demonstrates an understanding of the potential impacts that the proposed development could have on the surrounding landscape and visual amenity of the area.

10.19.15. *Landscape:* The appeal site is located in a rural area and is characterised as an undulating drumlin landscape. The appeal site comprises multiple elements that effect its impact on the landscape. The area to the south of the R179 contains the existing Knocknacran open cast mine with associated processing plant and a community sport complex. The site of the proposed Knocknacran West mine is located to the north of the R179 and currently comprises the underground workings of the former Drumgoosat mine, the former GAA grounds that were subject to subsidence in 2018, fields, woodland, ditches, transitional scrub and buildings / structures. The existing features to the north of the R179 would either be removed or substantially altered as a result of the proposed Knocknacran West mine. The development also includes a cut and cover tunnel under the R179. I agree with the EIAR that due to the nature of the mine development there is a potential for an impact magnitude of 'High / Negative' in respect of the proposed Knocknacran West Mine on the existing agricultural setting.

10.19.16. The third parties raised concerns that the EIAR is inadequate as it does not take account of the defects both historical and potentially encountered in the future on the landscape and that the existing mining operation has had a very destructive effect on the landscape. It is acknowledged that the proposed development would alter the landscape and would be visible from the surrounding public roads. However, mining activity is well established in the area and the proposed Knocknacran West mine site would address legacy issues associated with the underground workings of the former Drumgoosat mine. It is my opinion the proposed Knocknacran West site can be viewed as an extension to the existing Knocknacran mine site. Therefore, I agree with the EIAR that the proposed mine can be considered to be consistent with the existing characteristics of the surrounding area.

10.19.17. In the long term (30 years), both the Knocknacran mine and the proposed Knocknacran West mine would be restored to agricultural grassland and a lake. Having regard to the current nature of the site it is my opinion that in the long term the significance of the proposed development would be positive on the landscape.

10.19.18. The proposed Community Sports Complex comprises an extension to an existing sports complex on the site and would replace the facilities lost in 2018 on the opposite side of the R179 due to subsidence. The facility would be a permanent structure. Due to the high-quality design and its location adjacent to the existing facility, to the R179

and to the existing petrol station and convince shop located outside of the appeal site, I am satisfied that it would not have a significant effect on the landscape.

10.19.19. *Visual Impact:* To address the visual impact of the proposed development the applicant provided an assessment of the significance of the impact of the proposed development from 13 no. viewpoints. In my opinion Viewpoints VP1, VP2, VP 3, VP4, VP5, VP6, VP7, VP8 and VP15 are short distance views, V9 and VP14 are medium distance and VP 10, VP11, VP12 and VP13 are longer distance views. Section 13.6 provides an assessment of the visual impact of the development from these viewpoints during the construction, operational and restoration phase.

Short Distance Views: (VP1, VP2, VP 3, VP4, VP5, VP6, VP7, VP8 and VP15)

10.19.20. VP1 is taken from the L4816, c. 15m west of the existing Knocknacran mine towards the sports complex. During the construction and operational phases, the proposed community sports complex would be visible and during the operational phase views would be partially obscured by the proposed screen planting. I agree with the EIAR during these phases the significance of the impact would be moderate – slight. There are no proposals to decommission the sports complex. However, as screen planting matures there is only limited views of the roof of the sports complex. I agree with the EIAR that in the long term the significance of the impact is slight – imperceptible, positive and permanent.

10.19.21. VP2 (a) and (b), VP 3 (a) and (b) and VP4 (a) and (b) are taken along the R179. These viewpoints indicate that at the proposed screen planting matures along the site's boundaries with the R179 there would be limited views of the mines sites and community sports complex. VP4(b) also indicates that the existing gates to the former GAA ground on the R179 would be replaced with planting. VP5, VP 6 and VP15 are taken from a local road that connects the R179 to the village of Drumgoosat and VP 8 is taken from a local road to the north of the Knocknacran West site. Again, the photomontages indicate that that at the proposed screen planting matures along the site's boundary with the public road that there would be limited views of the Knocknacran West mine site. Having regard to the rural nature of the area and the extensive planting / screening I am satisfied that the visual impact would be neutral.

10.19.22. VP7 is taken from the crossroads at Drumgoosat village. The site is already heavily screened and there are no proposes to alter this view. No additional photomontages are provided.

10.19.23. It is acknowledged that the proposed community sports complex would be visible from short distance viewpoints V1 (L4816) and V2 (b) (the R179). However, it is noted that the existing sports facility is currently highly visible from the R179. Due to the context of the surrounding rural area, the existing road network and the existing mine I am satisfied that the visual impact on short distance views would not be significant.

Medium Distance Views - VP9, VP10 and VP14

10.19.24. VP14 is taken c. 300 west of the appeal site and VP 9 is taken c. 410m west of the appeal site, VP10 is taken from the Church of Ireland church of St. Molua c. 650m west of the appeal site. All are viewpoints are near the settlement of Magheracloone. The appeal site is already heavily screened from these viewpoints and there are no proposes to alter these views. The visual impact would be negligible from medium distance views.

Long Distance Views - VP11, VP12 and VP13.

10.19.25. Long Distance Views - VP11, VP12 and VP13 all indicate that the appeal site is already heavily screened from these viewpoints and there are no proposes to alter these views. The visual impact would be negligible from long distance views.

10.19.26. Having visited the site and the surrounding areas it is noted that the boundary fencing of the appeal site is visible from the surrounding road network (R179 and the L4816). However, it is my opinion that due to the low-lying nature of the site and the subsurface nature of the extraction, the distance from the site's boundaries and the existing extensive screening provided that the only views of the open cast mine and the associated plant are from within the site itself. The information submitted also indicates that the face of the proposed Knocknacran West mine would not be visible from the public road.

Conclusion

10.19.27. The concerns of the third parties are noted and the impact of the proposed mine on the landscape is acknowledged as being high / negative. However, having regard to the well-established mining activity on the site and in the surrounding area, the long-

term proposals to restore the overall appeal site, and the legacy issues of instability above the former underground Drumgoosat workings, I am satisfied that subject to appropriate mitigation, including extensive screening / planting that in the long term the impact on the landscape and the visual impact would not be significant.

10.20. ***Traffic***

Issues Raised

10.20.1. Third parties raised concerns that the local road infrastructure is not capable of accommodating the huge volumes of material that would be transported within and around the site with regard to the capacity of the road network and the structural stability of the road. Concerns are also raised regarding the location of the new vehicular access off the L4816.

Examination of the EIAR

Context

10.20.2. Chapter 14 of the EIAR assesses the impact of construction and operational traffic generated by the proposed development on the receiving environment. The chapter outlines the methodology used, sources of information and the assessment criteria. The EIAR notes that no particular difficulties were encountered during the compilation of this chapter.

10.20.3. A Traffic and Transport Assessment (TTA) including a Road Safety Audit (RSA) are attached as Appendix 14.1.

Baseline

10.20.4. The surrounding road network is generally straight in alignment and in good condition. The R179 traverses through the site and provides access to the existing community sports complex and a secondary vehicular access to the existing Knocknacran mine. The R179 is c. 10 in width with hard standing and grass verges on both sides of the carriageway. The L4816 is c. 9m in width and generally runs along the western boundary of the existing Knocknacran mine site. This road provides the main vehicular access to the site. The L49014 is c. 3-4m in width and runs to the west of the proposed Knocknacran West mine site and forms a staggered 4-arm junction with the R179 and the L4816. The L4900 is c. 6m in width and runs to the east of the Knocknacran West

mine site. This road provides a T junction with the R179 and links to the village of Drumgoosat. The L8830 is c. 7m in width and runs to the east of the existing Knocknacran mine site. It forms a staggered 4-arm junction with the R179 and the L4900.

10.20.5. Traffic counts were carried out on Tuesday 17th May 2022 at three junctions, in this regard (1) the existing mine access junction with the L4816, (2) the R179 / L4816 / L49014 staggered 4-arm junction to the west of the appeal site and (3) the R179 / L4900 / L8830 Staggered 4-arm junction to the east of the appeal site. An additional traffic count at the Community Sports Complex Access with the R179 was undertaken on Wednesday 1st February 2023. These counts were carried out between 06.00 – 10.00 and 16.00 - 21.00. The surveys indicate that all junctions operate significantly below their design capacity.

10.20.6. There are no cycle lanes and limited footpaths on the surrounding road network. There is no public transport available in the vicinity of the site.

Potential Effects

10.20.7. The EIAR identifies the potential for a range of environmental effects on Traffic. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 10 below. Minor effects are not identified, except where there is potential for significant impact interactions, cumulative effects or where concerns have been expressed by parties to the application

Table 10: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	Baseline traffic flow would remain until the existing mine closes and is restored. The Knocknacran West site and the community sports complex would not be developed.
Construction	The sports facility would generate c. 100 no. trips (50 no. arrivals and 50 no. departures) per day associated with construction staff / operatives travelling to / from the site, and c. 20 no. trips (10no. loads) per day associated with the delivery of materials to site.

	The mine site would generate c. 30 no. trips (15 no. arrivals and 15 no. departures) per day associated with construction staff / operatives travelling to / from the site, and c. 6 no. trips (3no. loads) per day associated with the delivery of materials to site. The new tunnel under the R179 would result in the temporary diversion of the R179 for c. 6 months. These works would generate an additional 1,120 trips.
Operation	An intensification of existing trips is not proposed
Decommissioning and Restoration	No significant effects envisioned.
Cumulative	No significant effects envisioned.

Mitigation

10.20.8. Mitigation and Management measures are provided in Section 14.7 of the EIAR and includes the preparation of a Construction Traffic Management Plan for Community Sports Complex, a Construction Traffic Management Plan for the Mine Development and a Construction (Demolition) Traffic Management Plan for the restoration phase.

Residual Impacts

10.20.9. Residual effects are not envisioned.

Analysis, Evaluation and Assessment: Direct and Indirect Effects

10.20.10. I have examined, analysed and evaluated the information provided in Chapter 14 and all the associated documents and submissions on file in respect of Traffic and Transportation. I am satisfied that the information submitted in the EIAR adequately demonstrates an understanding of the potential impacts that the proposed development could have on the surrounding landscape and visual amenity of the area.

10.20.11. *Capacity:* Third parties raised concerns that the local road infrastructure is not capable of accommodating the huge volumes of material that would be transported within and around the site.

10.20.12. The modelling of traffic generated during the construction phase indicates that it would exceed 10% of baseline flows on the R179, L49014 and the L4816. Therefore, in accordance with TII guidelines a Traffic and Transportation Assessment (TTA) was carried out by the applicant. This is attached as Appendix 14.1. The information provided in the TTA indicates that during the construction phase all arms of all junctions assessed would continue to operate significantly below their design capacity during the construction phase. I am satisfied that the information provided is evidence based and robust and that traffic generated by the proposed development during the construction phase of the development would have a negligible impact on the capacity of surrounding road network.

10.20.13. The proposed Knocknacran West Mine would replace the existing Knocknacran Mine. Therefore, production rates of between c 250,000 and 500,000 tonnes of gypsum per annum, would remain. Gypsum would continue to be hauled to the existing factory site outside of Kingscourt. The applicants traffic assessment is based on the upper limit of 500,000 tonnes per annum and The TRICS database was used to estimate the number of trips generated by the extension to the proposed sports facility. Material would be moved from the Knocknacran West to the Knocknacran mine sites via the proposed tunnel under the R179. It is noted that these truck movements are not considered in the traffic assessment as they do not enter the public road network. This is considered acceptable. The modelling of traffic generated during the operational phase also indicates that all arms of the junctions assessed would continue to operate significantly below their design capacity for the opening year (2026), 2031 and 2041. I am satisfied that the information provided is evidence based and robust and traffic generated by the proposed development during the operational phase of the development would have a negligible impact on the capacity of the surrounding road network.

10.20.14. As noted above in the Climate section, in the absence of the proposed development there would be no indigenous source of gypsum in Ireland after 2032. Therefore, sourcing gypsum, post 2032, would necessitate larger transport distances and increase the carbon footprint of gypsum.

10.20.15. *Stability:* Concerns are raised by the third parties that the additional movements on the road network would negatively impact on structural stability. As noted above, the

proposed Knocknacran West Mine would replace the existing Knocknacran Mine and would not result in any additional vehicular movements on the surrounding road network. The issue of the stability of the R179 and the R4900 is addressed above in Section 9.13, Land, Soils and Geology. It is noted that there are underground workings under sections of the R179 and L4900, however, there are no recorded instances of instability along these public roads. The Trigger Action Response Plan (TRAP) would continue to monitor stability along sections of the R179 and L4900 for the lifetime of the proposed development until such time as the workings under the roads can be remediated. The TRAP provides an early warning system of the failure of the gypsum roof beams, that may affect the stability of the roads and the safety or road users. I am satisfied that the applicant had adequately demonstrated that the proposed development would not negatively impact on the stability of the surrounding road networks and in the long term would have a positive impact on stability by removing the vast majority of the underground workings and remediating the areas under the public road.

10.20.16. *Roadworks / Access:* To facilitate the construction of the new tunnel under the R179. The existing road would be temporarily diverged into the site of the proposed Knocknacran West Mine site for a c. 3 - 6-month period. I have no objection to the proposed temporary diversion, and it is noted that no concerns were raised to the temporary road diversion by TII, the planning authority or a third party.

10.20.17. During the construction of the tunnel a service yard would be provided to the northeast of Knocknacran West site to be used until the tunnel under the R179 is completed. It is proposed that this access would be retained as an emergency access for the lifetime of mine. It is proposed that additional emergency access points would also be provided along the site's boundary with the public road. This is considered appropriate and acceptable.

10.20.18. The proposed development also includes relocating the existing mine access on the L4816 with associated signage and road markings. Sightline and swept path drawings for the proposed new entrance are provided in Appendix C of the TTA (Appendix 14.1). The third parties raised concerns regarding the location of the new vehicular access off the L4816. The EIAR notes that existing sightlines from the mine access are 79m to the south (left) and 160m to the north (right). The proposed new mine access would

improve sightlines to the left (south) to 90m and reduce sightlines to the right (north) to 120m.

10.20.19. The speed limit on the L4816 is 80kph. For a design speed of 80kph the required visibility is 160m in both directions. While this is noted, the recorded speed is between 62.9kmp and 64kmp at the mine entrance. For a design speed of 60kph the required visibility is 90m. The revised design would reduce the sightlines to the right. However, having regard to the recorded speed outside the mine entrance, the existing road signage along the L4816 notifying drivers of a HGV crossing and the improvement in sightlines to the south (left) I am satisfied that the revised access / egress arrangements would not result in a traffic hazard and are acceptable in this instance. It is also noted that the planning authority and TII raised no objection in this regard.

10.20.20. *Car Parking:* The existing community facility includes 52 no. formal car parking spaces. Table 15.6 of the development plan sets out minimum car parking standards for a variety uses. There is a standard of 1 no. car parking space per 50sqm (NFA) for a leisure centre / sports club. The Nett Floor Area of the proposed GAA building is c. 2,135sqm. This equates to a minimum requirement of 43 no. car parking spaces. It is proposed to provide a total of 100 no. car parking spaces to serve the existing and proposed community facilities. This equates to an additional 48 no. spaces to serve the proposed uses. I am satisfied that the quantum of car parking is in accordance with the provisions of the development plan. The EIAR notes that the proposed community sports complex also provides informal overspill parking which may be in use occasionally for match fixtures. Having regard to the nature of the surrounding road network, where overspill car parking cannot be accommodated and the nature of the facility, I am satisfied that this is appropriate in this instance.

10.20.21. The EIAR notes that the current staff parking for the mine is considered adequate, and no additional spaces are proposed.

10.20.22. Policy EVP 2 requires that at least 1 no. car parking space should be equipped with an EV charging points for every ten car parking spaces provided for non-residential developments. It is noted that EV parking would be provided within the proposed formal parking area of the community sports complex at a ratio of 10%.

Conclusion

10.20.23. The concerns of the third parties are noted. However, having regard to the existing number of trips generated by the existing mine, the available capacity on the surrounding road network, the current available sightlines from the mine access / egress and the speeds recorded on the surrounding road network, I am satisfied that the potential for effects on traffic and transportation during the construction, operational and restoration phases can be avoided, managed and mitigated by measures that form part of the proposed scheme and at there is no potential for cumulative effects, given the absence of permitted or planned construction activity in the vicinity of the site.

10.21. ***Archaeology and Cultural Heritage***

Issues Raised

10.21.1. No specific concerns have been raised by the third parties or the planning authority regarding the impact of the development on archaeology or cultural heritage.

10.21.2. The submission from the Department of Housing, Local Government and Heritage: states that given the scale of the proposed development works and the proximity to Recorded Monuments, it is possible that archaeological material / features could be impacted and damage. It is recommended that a thorough geophysical survey be carried out over the entire development site in order to detect any subsurface archaeological features / deposits in the area where development is proposed to take place. The geophysical report shall be submitted to the National Monuments Section of the Department of Housing, Local Government and Heritage and the relevant planning authority. Should there be a significant archaeological impact, the National Monuments Section will advise on further mitigation.

Examination of the EIAR

Context

10.21.3. Chapter 15 considers any direct or indirect effects on archaeology and cultural heritage from the proposed development. The chapter outlines the legislative and policy context, the baseline environment, the key characteristics of the proposed

development, the potential effects, methodology used and sources of information. The EIAR notes that no particular difficulties were encountered in the preparation of this chapter of the EIAR.

10.21.4. A desktop study of the proposed development site, surrounding area and receiving water environment was undertaken. Site specific sources of information were also utilised, and a field assessment was carried out in August 2018 to identify an unknow archaeological sites, structures and previously unrecorded features and possible finds.

10.21.5. The following Appendices are attached to Chapter 15: -

- Appendix 15.1: Record of Monuments and Places (RMP) Sites in the Study Area
- Appendix 15.2: Architectural Heritage Assessment Report
- Appendix 15.3: Figures and Photographic Plates
- Appendix 15.4: Sites in the Sites and Monuments Record in the Study Area
- Appendix 15.5: Correspondence regarding the Minor Place Names

Baseline

10.21.6. There are no protected structures or structures listed on the National Inventory of Architectural Heritage (NIAH) located within or immediately adjacent to the appeal site. The closest protected structure to the appeal site is St. Peter and Plans Church (RPS 41403003) located c. 180m northwest of the appeal site. The closest structure listed on the NIAH is Teachers House (Ref. 41403011) located c. 120m northwest of the appeal site. Both of which are located in the village of Drumgoosat. A list of all protected structures and structures listed on the NIAH within 10km of the appeal site are listed in Tables 15.1 and 15.2 of the EIAR.

10.21.7. The EIAR notes that a Recorded Monument - Knocknacran East Barrow – unclassified (MO031-108) was previously removed from within the proposed Knocknacran West site. It is depicted the 1834 and 1907 editions of the OS 6-inch map as a ‘mound’. The mound was opened in 1860. However, nothing was found. The location of this possible monument has been removed by extraction as stated in the RMP. There have been

no licenced archaeological investigations carried out on the site. The closest Recorded Monument to the Knocknacran West site, RMP MO030-036 - Drumgoosat Ringfort – rath, is situated 350m northeast of the site boundary.

10.21.8. The structures to be demolished are considered to have no architectural, archaeological or cultural significance. No additional items of heritage, structures or monuments were identified during field investigations and no archaeological or cultural heritage features were identified during the construction of the community sports complex.

Potential Effects

10.21.9. The EIAR identifies the potential for a range of environmental effects on archaeology and cultural heritage. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 11 below. Minor effects are not identified, except where there is potential for significant impact interactions, cumulative effects or where concerns have been expressed by parties to the application.

Table 11: Summary of Potential Effects

Project Phase	**Potential Direct, Indirect and Cumulative Effects**
Do Nothing	The existing mine would continue to operate. The Knocknacran West mine site and the community sports facility would not be developed. No significant effects envisioned.
Construction	Loss of existing field patterns
Operation	Loss of existing field patterns
Decommissioning and Restoration	No significant effects envisioned.
Cumulative	No significant effects envisioned.

Mitigation

10.21.10. Mitigation and monitoring measures are provided in Section 15.7 of the EIAR and include the preservation by record of existing structures on site to be demolished and uploading of placenames / field names to Meitheal Logainm and Cumann Gaelach

Mhuineacháin. It is also recommended that archaeological monitoring should take place for previously unstripped areas in the proposed Knocknacran West mine site.

Residual Impacts

10.21.11. Subject to adherence to mitigation measures no significant effects are envisioned.

Analysis, Evaluation and Assessment: Direct and Indirect Effects

10.21.12. I have examined, analysed and evaluated the information provided in Chapter 15 and all the associated documents and submissions on file in respect of archaeology and cultural heritage. I am satisfied that the information submitted in the EIAR adequately demonstrates an understanding of the potential impacts that the proposed development could have on archaeology and cultural heritage.

10.21.13. There are no known archaeological or cultural heritage features within or within close proximity to the appeal site. An Architectural Heritage Report is attached as Appendix 15.2 which indicates that the buildings to be demolished on site have no particular historical or architectural merit. Having regard to the information submitted I am satisfied that the proposed development would not have a significant impact on any known features of archaeological, architectural or cultural heritage.

10.21.14. To prevent any significant effect on any unknow features or items the EIAR recommends that archaeological monitoring be carried out of topsoil in any previously unstripped areas within the Knocknacran West site. The submission from the Department of Housing, Local Government and Heritage states that given the scale of the proposed development works and the proximity to Recorded Monuments, it is possible that archaeological material / features could be impacted and damage. It is recommended that a thorough geophysical survey be carried out over the entire development site in order to detect any subsurface archaeological features / deposits in the area where development is proposed to take place. . I am satisfied that this could be addressed by way of condition to prevent any significant effect on any previously unknown archaeological feature.

Conclusion

10.21.15. I am satisfied that subject to mitigation measures the proposed development would not give rise to significant direct, indirect, or cumulative effects on archaeology, architectural and cultural heritage of the site.

10.22. **Material Assets**

Issues Raised

10.22.1. Concerns are raised by the third parties that all types of pollution and waste generated by this development have not been properly assessed.

Examination of the EIAR

Context

10.22.2. Chapter 16 considers any direct, indirect or cumulative effects on material assets arising from the proposed development. Material assets comprise the physical resources in the environment, including built services and infrastructure such as surface water drainage, telecommunications, electricity, gas and water supply infrastructure.

10.22.3. The chapter outlines the legislative and policy context, the baseline environment, the key characteristics of the proposed development, the potential effects, methodology used and sources of information. The EIAR notes that no particular difficulties were encountered in the preparation of this chapter of the EIAR.

10.22.4. The following Appendices are attached to Chapter 16: -

- Appendix 16.1: ESB Service Routes original maps
- Appendix 16.2: GNI Service Routes original maps
- Appendix 16.3: Application to connect to the MGWS

Baseline

10.22.5. Gypsum mining has been carried out in the area since the 1950s. The existing Knocknacran Mine has been in operation since 1989 and Drummond Mine since 2003.

10.22.6. The appeal site is surrounded by a network of local roads with the R179 subdividing the site into the existing Knocknacran mine site with associated processing plant and the sports facility to the southeast and the Knocknacran West site to the north west.

10.22.7. *Fuel:* Diesel fuel, for machinery, is stored in in oil storage tanks on the existing processing plant site. The main diesel tank has capacity for 27,000 L. At present 18,000 L of diesel is bought every 4 – 6 weeks. Other liquids such as hydraulic oil and coolant are stored in the other storage tanks within the dedicated storage area on the plant site.

10.22.8. *Electricity:* The existing Knocknacran mine site is connected to the ESB grid by an onsite medium voltage ESB substation which connects to the overhead lines to the south of the site via an underground line. Overhead ESB lines traverse the western side of the sports complex and the Knocknacran West site. Electricity consumption at the site relates to pumping water from the Knocknacran open-cast sump to the River Bursk, crushing gypsum rock in primary and secondary crushers, and transporting the gypsum by conveyor. The current electrical usage at the mine site, is 23.9 KwH/tonne. All electricity is sourced from certified CO2 neutral sources in line with corporate policy

10.22.9. *Gas:* There is a confirmed Gas Networks Ireland (GNI) distribution line located within the site. The exact location of the line is unknown. However, it generally follows the route of the R179. This line services the surrounding area.

10.22.10. *Telecommunications:* There are existing telecommunication (EIR) overhead lines along the site's boundary and a partial underground line generally following the route of the R179 These lines serve the surrounding area.

10.22.11. *Water Supply:* The existing Knocknacran and Drummond Mines and the surrounding area are served by the Magheracloone Group Water Scheme (MGWS) which comprises a c. 132 km long distribution network. MGWS is sourced primarily from Lough Greaghlone. The mains supply runs under the surrounding road network including under the R179. A map of 22 no. private wells in the surrounding area is provided in Figure 16.6. There is also an existing dewatering borehole located within the proposed Community Sports Complex site. This borehole is used to dewater the Drumgoosat underground workings.

10.22.12. *Wastewater:* The site is not connected to the public network. The existing Knocknacran and Drummond mines site's office area has an independent septic tank system (with a design capacity c. 10 PE). The Sports Complex has a wastewater treatment system with a design capacity of 46 PE.

10.22.13. *Surface Water:* The appeal site is not connected to the public network. Surface water within the Knocknacran Mine site is directed towards the base of the open-cast mine, where is flows to the water settlement lagoons, and is discharged to the River Bursk in accordance with the sites IE licence. Surface water run-off from the Sports Complex drains to the northern side of the R179. There is no existing surface water infrastructure within the proposed Knocknacran West Mine site, except drainage ditches which flow to the Corduff Stream, which in turn flows to Lough Fea.

10.22.14. *Waste:* No soil or bedrock material is exported offsite as a waste material. All extracted material is used. General waste generated within the sites is contained within designated and clearly labelled recycling and waste bins before being transported offsite for disposal by a designated waste contractor as and when required.

10.22.15. *Geology Resource:* Several mineral localities are noted within the Study Area including gypsum, clay, shale, dolomite, coal, and marl. Clay and gypsum are currently extracted in the surrounding area.

Potential Effects

10.22.16. The EIAR identifies the potential for a range of environmental effects on Material Assets. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 12 below. Minor effects are not identified, except where there is potential for significant impact interactions, cumulative effects or where concerns have been expressed by parties to the application

Table 12: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	The existing mine would continue to operate. The Knocknacran West mine site and the community sports complex would not be developed.

Construction	No significant effects envisioned.
Operation	No significant effects envisioned.
Decommissioning and Restoration	No significant effects envisioned.
Cumulative	No significant effects envisioned.

Mitigation

10.22.17. Mitigation and Management measures are set out in Section 16.7 of the EIAR. All works will be carried out in accordance with relevant legislation and guidelines and pre-construction consultation and authorisation would be obtained from the relevant provider.

Residual Impacts

10.22.18. Subject to adherence to mitigation measures no significant effects are envisioned.

Analysis, Evaluation and Assessment: Direct and Indirect Effects

10.22.19. I have examined, analysed and evaluated the information provided in Chapter 16 and all the associated documents and submissions on file in respect of Material Assets. I am satisfied that the information submitted in the EIAR adequately demonstrates an understanding of the potential impacts that the proposed development could have on built services and infrastructure.

10.22.20. *Fuel:* No impact to fuel storage is envisioned. The EIAR notes that it is intended, where appropriate to reduce diesel fuel usage onsite and diversify the mine fleet with the substitution of electric vehicles, over the development life.

10.22.21. *Electricity:* The information submitted indicates that there is capacity with the existing infrastructure to accommodate the proposed development. An ESB transformer connection would be provided on the Knocknacran West site to allow for a power supply to the welfare facilities and the semi-mobile crusher on this site.

10.22.22. The development of the Knocknacran West Mine would require the removal and realignment of the ESB overhead lines (HL). The EIAR notes that OHL have previously been relocated on the appeal site. It is noted that the applicant has engaged with the ESB, and no complications are envisioned.

10.22.23. I am satisfied that subject to appropriate mitigation measures during the construction phase that the potential impacts on the electricity network are not significant.

10.22.24. *Gas:* The information submitted indicates that there is capacity with the existing infrastructure to accommodate the proposed sports complex development. No gas connection is proposed for the mine development site.

10.22.25. The EIAR notes that the applicant has engaged with Gas Networks Ireland. To confirm the location of the existing gas pipe on the R179 trial digging and services scanning would be undertaken prior to construction of the temporary road diversion and tunnel. A temporary alteration to the gas line would be required to facilitate the construction works to ensure that there will be no effects on the surrounding GNI infrastructure and supply as a result of the proposed works.

10.22.26. I am satisfied that subject to appropriate mitigation measures during the construction phase that the potential impacts on the gas network are not significant.

10.22.27. *Telecommunications:* The information submitted indicates that there is capacity with the existing infrastructure to accommodate the proposed development. Based on existing mapping the proposed underground tunnel would be located beneath the existing underground telecommunication line. This would be confirmed prior to construction. I am satisfied that the potential impacts on the existing telecommunications network are not significant.

10.22.28. *Water Supply:* A connection to the Magheracloone Group Water Scheme (MGWS) to service the worker's facilities (office/canteen/welfare) on the Knocknacran West Mine is required. An application to connect to the (MGWS) is attached in Appendix 16.3. However, the proposed development would not result in an increase in employment, therefore, there would be no impact on the existing water supply.

10.22.29. The pipe under the R179 would need to be temporarily re-directed during the construction of the underground tunnel, to ensure continued supply. It would be reinstated following completion of the works. The EIAR notes that this would be subject to agreement with the MGWS and Local Authority prior to construction of the tunnel.

10.22.30. The information provided in the EIAR indicates that existing local and community water supply systems are hydraulically disconnected and isolated from the gypsum mining areas. Therefore, the effects of the proposed mining works on existing supplies is considered to be imperceptible.

10.22.31. I am satisfied that subject to appropriate mitigation measures during the construction phase that the potential impacts on the water supply network are not significant.

10.22.32. *Wastewater:* Temporary portable wastewater facilities would be provided during the construction phase. The existing wastewater treatment system at the sports complex was designed to accommodate the proposed expansion of the sports complex.

10.22.33. A wastewater treatment system would be constructed on the Knocknacran West Open-Cast Mine site with a design capacity of 10 PE and would be used for the future operational phase. This system would be located adjacent to the office and welfare facilities and within a berm to allow the sand polishing filter to be underlain by silt soil as the EIAR notes that permeability testing on the natural ground indicate poor drainage. Wastewater would be treated at the site prior to being pumped to a surface percolation area. The treatment tank would be maintained every 2 years by a licenced contractor. A site suitability assessment is attached in Appendix 3.2. I am satisfied that the site is suitable for the installation of a wastewater treatment system.

10.22.34. *Surface Water:* The mine development would continue to use the existing mine water management system located adjacent to the Knocknacran processing plant. Emergency storage of water would be facilitated in the existing Knocknacran Open-Cast Mine, as is currently the case. I am satisfied that subject to appropriate mitigation measures that the potential impacts from surface water run-off are not significant.

10.22.35. *Waste:* Concerns are raised by the third parties that all types of pollution and waste generated by this development have not been properly assessed. In response to the

appeal the applicant notes that gypsum is a mineral not a metal and is not a toxic material. It is noted that the processing plant does not generate a waste material.

10.22.36. The proposed development includes the demolition of 4 no. houses, 3 no. of which are unoccupied and sheds to facilitate the development. Asbestos is confirmed n 3 no. structures to be demolished. The EIAR notes that a specialist contractor would be engaged to oversee the removal, collection and segregation of this material during the demolition phase and ensure authorised and appropriate removal of asbestos from the site. All construction and operational waste would be disposed of appropriate by a licenced contractor. I am satisfied that, subject to appropriate mitigation measures, the impact of waste generated by the proposed development is not significant.

Conclusion

10.22.37. I am satisfied that subject to mitigation measures the proposed development would not give rise to significant direct, indirect, or cumulative effects on material assets.

10.23. **The interaction between these factors.**

10.23.1. Chapter 18 addresses Interactions and combined effects. It highlights those interactions which are considered to potentially be of a significant nature and Table 18.1 provides a matrix of interactions. It is noted that there are some discrepancies between the matrix and the text provided in Chapter 18.

Population and Human Health: I agree with the EIAR that there is potential for interacting effects between the local population and human health with water, air quality, climate, noise, vibration, traffic and transport, landscape and visual impact, and material assets. It is also my opinion that there is potential for interacting effects with land, soils and geology.

Biodiversity: I agree with the EIAR that there is potential for interacting effects between biodiversity and land, soils and geology, water, air quality, noise and vibration and landscape and visual impact. It is also my opinion that there is potential for interacting effects with climate.

Land, Soils and Geology: I agree with the EIAR that there is potential for interacting effects between land, soils and geology and biodiversity, water and archaeology and

cultural heritage. It is also my opinion that there is potential for interacting effects with climate.

Water: I agree with the EIAR that there is potential for interacting effects between water and population and human health, biodiversity, land, soils and geology and climate. It is also my opinion that there is potential for interacting effects with material assets.

Climate: I agree with the EIAR that there is potential for interacting effects between climate and population and human health, biodiversity, water, air quality, traffic and transport and material assets.

Air Quality: I agree with the EIAR that there is potential for interacting effects between air quality and population and human health, biodiversity, climate and traffic and transport. However, I do not agree that there is a potential for interacting effects between air quality and landscape and visual impact.

Noise: I agree with the EIAR that there is potential for interacting effects between noise and population and human health, biodiversity and traffic and transport. However, I do not agree that there is a potential for interacting effects between noise and archaeology and cultural heritage impacts.

Vibration: I agree with the EIAR that there is potential for interacting effects between vibration and population and human health, biodiversity, traffic and transport. However, I do not agree that there is a potential for interacting effects between vibration and archaeology and cultural heritage and material assets.

Landscape and Visual Impact: I agree with the EIAR that there is potential for interacting effects between landscape and visual impacts and population and human health, biodiversity, land and soils, water, climate, traffic and transport, archaeology and cultural heritage and material assets. However, I do not agree that there is a potential for interacting effects between landscape visual impact and air quality.

Traffic and Transport: I agree with the EIAR that there is potential for interacting effects between traffic and transport and population and human health, climate, air quality, noise, vibration and landscape and visual impacts.

Archaeology and Cultural Heritage: I agree with the EIAR that there is potential for interacting effects between archaeology and cultural heritage and landscape and visual impacts. However, I do not agree that there is a potential for interacting effects between archaeology and cultural heritage and air quality, noise and vibration. It is also my opinion that there is potential for interacting effects between archaeology and cultural heritage and land, soils and geology.

Material Assets: I agree with the EIAR that there is potential for interacting effects between material assets and population and human health, water, climate, vibration and landscape and visual impacts. However, I do not agree that there is a potential for interacting effects between material assets and vibration.

10.23.2. I have considered the interrelationships between factors and whether these might as a whole affect the environment, even though the effects may be acceptable on an individual basis. Having considered the mitigation measures in place, I am satisfied that no residual risk of significant negative interaction between any of the disciplines was identified and no further mitigation measures are required.

10.24. **The vulnerability of the proposed development to risks of major accidents and disasters.**

Issues Raised

10.24.1. The third parties raised serious concerns regarding health and safety risks at the mine site. It is stated that sink holes, crown holes, subsidence and landslides have all occurred in the immediate vicinity of the site and there are concerns regarding the structural stability of the roads, due to the underground mines.

10.24.2. Concerns are also raised regarding the open cast mining engineering solutions proposed above an underground mine, which considered to be very experimental.

10.24.3. The submission from Geoscience Regulation Office (GSRO) states that the development is supported in principle, as it would augment the supply of high-quality gypsum to the construction sector over the next 30 years, allow for the restoration of the existing open cast to original ground level and also aid the long-term stability of the area, which in recent years has been affected by a number of subsidence events. However, the proposal would need to demonstrate that there is no significant risk of

unnecessary impacts, or impacts which cannot be satisfactorily mitigated, which could outweigh the benefits of the development.

Context

10.24.4. Chapter 17 of the EIAR addresses Major Accidents and Disasters. It outlines the legislative and policy context of the mine and the assessment methodology and significance criteria.

10.24.5. The planning authority raised some concerns regarding the information provided in Chapter 17 – Major Accidents and Disasters of the EIAR and request that 2 no. items of further information be sought with regard to the (1) potential scenarios resulting in the accidental release of large volumes of mine water and / or heavily impacted water to surface water bodies and (2) the EIAR should also present and assess scenarios similar to the incidence of 2018.

10.24.6. In response to the request for further information the applicant notes that (1) Section 17.7.3.11 has considered the scenario of the failure of dewatering pumps in the proposed open-cast development and consequential increase in water levels in the open-cast pit and (2) The proposed development differs from the 2018 scenario as it is an open-cast mine which has been dewatered for more than 50 years. It will encounter significantly lower mine water volumes than Drummond Underground Mine. Once mining cesses it is predicted that it would take 27 years for the water levels to rise in the open cast mine to form a final waterbody. The planning authority considered that these items of further information were adequately addressed by the applicant.

Baseline

10.24.7. Mining activities have been ongoing Knocknacran Open-Cast Mine since 1988 and at the underground Drummond Mine since 2007. The proposed development at Knocknacran West would replace mining at Knocknacran Open-Cast Mine which will be exhausted by 2027. Drummond Mine is currently permitted to continue until 2032.

10.24.8. In 2018, a subsidence event took place on the north-western side of the R179 on the former Magheracloone GAA Facility, which was located above the old Drumgoosat mine workings. A section of the R179 closed for a number of weeks and local residents were relocated until the risk from further land subsidence could be determined.

10.24.9. Concerns are raised by third parties that a similar incident could occur due to legacy issues associated with the underground mine or from the proposed development of the Knocknacran West site.

10.24.10. Since the subsidence event, investigations were undertaken to assess the causes and current, and future, stability of the existing underground workings beneath the Knocknacran West site. The assessments indicate that the subsidence event occurred due to water being pumped from the Drummond mine to the old Drumgoosat Mine workings, to be stored prior to discharge to the River Bursk during the winter season. The high volume of water meant that the water reached higher levels in the mine than had historically occurred. This occurred in a combination with 12 m high pillars at this location compared to 6 m high pillars elsewhere and a thin gypsum floor beam. The assessments concluded that loss in underground mine stability was localised, and that further mine collapse is unlikely. The underground mine workings are no longer flooded as they were gradually dewatered by the Drumgoosat dewatering borehole, located on the site of the sports complex, to the south-east of the R179. It is also noted that the underground workings at Drumgoosat are no longer used to store excess water prior to discharge.

10.24.11. Remediation by grading and landscaping of the grounds to grassland of the crown holes and fissures associated with subsidence events have taken place. The former GAA Club buildings and pitches were removed as part of site remediation works. The remediation works were finished in 2020.

Potential Effects

10.24.1. The EIAR identifies potential hazards. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 13 below. Minor effects are not identified, except where there is potential for significant impact interactions, cumulative effects or where concerns have been expressed by parties to the application

Table 13: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	The underground Drumgoosat mine would remain with risk of further subsidence.

	Events associated with the operational phase would be removed.
Construction	Potential fatalities or injuries from the development of a crown hole / sinkhole under the public road or over agricultural land.
Operation	Potential fatalities or injuries from the development of a crown hole / sinkhole under the public road or over agricultural land. Collapse of open pit face or debris falling may endanger, injure or fatally injure persons working in proximity to those faces. Vulnerability to storm events which contribute to increased run off and discharge patters, groundwater recharge and the mobilisation of suspended solids and flooding. Uncontolled explosion due to human error in blast management. Gas leaks and fire Collision of vehicles resulting in diesel spill of up to 12,500L of fuel
Decommissioning and Restoration	The risk of major accidents and emergencies to arise following closure of the mine will continue to be managed through the actions identified in the Closure Restoration and Aftercare Management Plan (CRAMP).
Cumulative	No significant effects envisioned.

Mitigation

10.24.2. Mitigation and Management measures are set out in Section 17.8 of the EIAR. All works would be carried out in accordance with relevant best international current practice and, as such, mitigation against the risk of major accidents and disasters would be embedded through the design and management. Construction activities will be managed in accordance with a Construction Environmental Management Plan (CEMP). The Trigger Action Response Plan (TARP) monitoring would continue, and measures would be reviewed in consultation with the relevant authorities and updated as required.

10.24.3. Emergency response provision will be maintained on Site and updated accordingly with the site's management practices. The emergency response planning will cover all foreseeable risks on site. Appropriate training for site personnel will be maintained,

including the incident and rescue teams, as well as first aiders and fire marshals. In addition, appropriate staff will be trained in environmental issues and spill response procedures.

10.24.4. The Closure, Restoration and Aftercare Management Plan (CRAMP) sets out details of the closure and aftercare vision for the Application Site. The plan will continue to be developed taking community and statutory interests into account. The risk of major accidents and emergencies to arise following closure of the mine will continue to be managed through the actions identified in the CRAMP.

10.24.5. Mitigation and monitoring measures in relation the potential for the proposed development to cause subsidence under the adjacent public roads are discussed in Chapter 7 Lands, Soils and Geology and Chapter 8 Water of the EIAR and are summarised above.

Residual Impacts

10.24.6. Subject to adherence to mitigation and management measures no significant effects are envisioned.

Analysis, Evaluation and Assessment: Direct and Indirect Effects

10.24.7. The concerns of the third parties regarding the potential for subsidence are noted and the subsidence event in 2018 is acknowledged. Chapter 7 (Land, Soils and Geology) of the EIAR notes that proposed Knocknacran West site has had several subsidence events over the years, all of which were confined to areas over the underground Drumgoosat mine. The location of the known sinkholes / crown holes are identified in Figure 7.17 of the EIAR and Appendix 7.6 December 2018 Crown hole provides cross sections of the underground workings indicating the mines stability. In the interest of clarity, a sinkhole is a natural occurrence while a crown hole is the result of man mad activity. In response to the appeal the applicant states that the most recent subsidence event was recorded on 16th February 2024 where a crown hole, 11m in diameter, was discovered on a routine survey over the former Drumgoosat Mine. Having regard to the information provided I am satisfied that the risk of subsidence is limited to the area over the old Drumgoosat mine workings. It is noted that these extend under the R179 and the L4900.

10.24.8. Following the subsidence event in September 2018, assessments were undertaken on behalf of the applicant, to assess the causes and current, and future, stability of the existing underground workings beneath the site. All studies completed by the applicant relating to the stability of the mine between 1999 and 2018 was also independently reviewed on behalf of the Department of Communications, Climate Action and Environment (DCCAE). Independent analysis of the underground pillars below the subsidence event, the R179 and the L4900 were also undertaken. Both the applicants and the independent consultant's findings indicate that the risk of future mine instability was very low.

10.24.9. It is noted that there are underground mine workings below the R179 and the L4900. The applicant has installed devices (extensometers) at the site's boundaries with the R179 and L4900 to provide geotechnical monitoring. This monitoring system provides an early warning of failure of the gypsum roof beams that lie at below the carriageways that may affect the stability of the road and the safety of road users. It is linked to an automatic alarm system for action to be taken in the event of a trigger level being exceeded. A Trigger Action Response Plan (TARP) for mine workings underlying the R179 and L4900 is attached as Appendices 7.7 and 7.8 and is based on real-time monitoring of the extensometers. The EIAR notes that a TARP is a tool in the mining industry used for managing potentially critical situations from a mine safety point of view

10.24.10. Following the closure of the Knocknacran West Mine, it is proposed that the four-way junctions associated with the historical underground workings under the R179 and L4900 would be backfilled with stripped low permeability mudstone. This would result in the in-situ gypsum including beneath the roads becoming hydraulically isolated from any active groundwater flow pathways, greatly reducing the potential for any on-going kinetic reactions and possible gypsum dissolution. Therefore, minimising the potential for any future settlement. Backfill would also be placed against the southern and eastern walls of the open-cast and along the northern and western walls, where gypsum is exposed. This would ensure the long-term stability of the historical working. The northern side of the existing Knocknacran open cast mine has already been backfilled in this manner.

10.24.11. To assess that the assumptions made in the EIAR regarding the stability of underground mining voids it is proposed that hydrogeological and stability

assessments would be carried out by the applicant during the lifetime of Knocknacran West Open Cast Mine. If permission is being contemplated it is recommended that a condition be attached that these assessments be submitted for the written agreement of the planning authority and if the assessments indicate that it is not possible to inhibit water ingress into mine workings that occur beneath the R179 and L4900, additional details regarding the backfilling of four-way intersections beneath the two roads should be agreed in writing with the planning authority.

10.24.12. The assessments carried out subsequent to the 2018 subsidence event identified likely indicators of instability risk developing. This enabled the employment of mitigation measures to monitor potential future instability risk. The information provided indicates that the risk of future mine instability is very low and the proposed development of an open cast mine above the former underground Drumgoosat mine would remove the risk of instability. In my opinion the removal of the risk of instability would be a positive benefit of the proposed development.

10.24.13. Concerns are also raised regarding the engineering solutions proposed, which are very experimental. The submission from the GSRO also notes that the proposed development constitutes potential health and safety risks that require careful consideration and mitigation against the risks associated with working above mine voids and disturbed ground. In response to the appeal the applicant notes that open cast mining is not unchartered territory and that an open cast mine has been in operation at the appeal site for over 30 years. The response also states that the technologies and methods proposed are not experimental, they are robust and based on many years of knowledge and risk assessment. Having regard to the applicants experience at the Knocknacran, Drummond and Drumgoosat mines and the information provided by the applicant regarding the operational phase I am satisfied that the proposed development does not pose an inherent risk to employees / workers.

10.24.14. Modelling provided in Chapter 7 and associated appendices indicates that the excavation of the proposed tunnel and open cast mine would not affect the stability of the underground workings, as the existing pillars and roof beams would remain stable during extraction. As noted above the modelling demonstrates that displacements of the room roofs (beams) due to the proposed excavation works are upwards, due to the elastic rebound of the rock after removal of material. As some of the overlying sediment weight is removed it results in less weight and pressure on the roof. This

allows the roof to rebound upwards slightly, it does not indicate that the roof has thinned or that there is space created for sediment to fall downwards. Having regard to the information submitted I am satisfied that the roof beam of the existing underground workings would not fail with less weight and pressure on it.

10.24.15. As the Knocknacran West Mine progresses, sections of the existing underground workings will be exposed. These workings will be inspected and assessed by competent experts. If the assessments deem that further action is warranted to optimise geotechnical stability, particularly outside the site boundary, this will be discussed and agreed with the relevant authorities. The applicant notes that they have experience in working in areas with historical underground workings in the existing Knocknacran open cast mine. During my site visit on the 4th February 2025 underground workings from the Drummond Mine were visible in the lower level of the Knocknacran open cast mine. I am satisfied that it has been demonstrated that the open cast mining methods above the old underground mine workings can be carried out in a safe manner and does not pose inherent risk to workers.

Conclusion

10.24.16. The concerns of the third parties are noted. However, having regard to the present condition of the site, which includes an active mine with associated processing plant, and the underground workings of the former Drumgoosat mine and the underground workings of the existing Drummond Mine, I am satisfied that the potential for major accidents and disasters during both the construction and operational phases can be avoided, managed and mitigated by measures that form part of the proposed scheme and at there is no potential for cumulative effects**,** given the absence of permitted or planned construction activity in the vicinity of the site.

10.25. Mitigation and Monitoring Measures

10.25.1. Chapter 19 of the EIAR provide a schedule of environmental mitigation and monitoring measures.

10.25.2. The planning authority's request for further information stated that Chapter 19 should include all mitigation identified in relevant chapters and where monitoring is presented, it must be in-line with the relevant specialist sections in relation to the number and location of such monitoring.

10.25.3. In response to the request for further information the applicant noted that once permission is granted all mitigation within the EIAR would be complied into two documents, one for the Community Sports Complex and the Mine Development. Where mitigation measures have been modified by the conditions attached to the grant of planning permission, these would be incorporated into the relevant mitigation documents. All relevant construction monitoring details would also be incorporated into a monitoring plan for the mine and all relevant operational monitoring details would be incorporated into a monitoring plan for the mine development subsequent to agreement with the EPA.

10.25.4. The planning authority considered that these items of further information were adequately addressed by the applicant.

10.26. ***Cumulative Impacts***

10.26.1. Given the rural location of the proposed development, it is unlikely that the proposed development would occur in tandem with the development of other sites that are zoned in the area. It is, therefore, concluded that the cumulation of effects from the planned and permitted development and the proposed development would not be likely to give rise to significant effects on the environment other than those that have been described in the EIAR and considered in this EIA.

10.27. ***Reasoned Conclusion on the Significant Effects***

10.27.1. Having regard to the examination of environmental information set out above, to the EIAR and other information provided by the developer, including the response to further information, and to the submissions from the planning authority, prescribed bodies and third parties in the course of the application, it is considered that the main significant direct and indirect effects of the proposed development on the environment are as follows:

- ***Population and Human Health:*** Overall neutral / imperceptible impact on human health, due to the location of the proposed development in a rural area remote from population centres and the established mine use on the site and in the surrounding area

- Neutral impact to the local economy during the construction, operation and restoration phases due to the existing mine.

- The potential for significant effects on human health from noise and vibration, air quality (dust) and water quality during the construction and operational phases can be avoided, managed and mitigated by measures that form part of the proposed scheme.

- Serious risks to human health and safety are not envisaged as the quarrying / mining activity would continue to be managed in accordance with all applicable legislation and guidelines, including Safety, Health and Welfare at Work (Quarry) regulations 2008.

- Potential positive impact on human health by the removal of the majority of the underground Drumgoosat mine workings and backfilling work workings under the public road.

- ***Biodiversity***: Having regard to the present condition of the site, as an active mine (Knocknacran) and located above a former mine (Drumgoosat), with no special concentrations of flora or fauna, the impact of the loss of habitat and disturbance of species during the construction and operational phase is not significant. The potential for effects on biodiversity during the construction and operational phases can be avoided, managed and mitigated by measures that form part of the proposed scheme.

- The restoration phase would have a positive impact on biodiversity as it would improve the ecological value of the site.

- ***Land, Soils, Water, Air and Climate:*** Overburden and interburden from the proposed Knocknacran West site would be reused for landscaping and restoration purposes. The removal of gypsum is a permanent negative effect, however, the impact on the Irish Construction Industry is considered positive.

- There is sump for collection and removal of surface water and groundwater seepage at the lower bench of the open cast mines. Water is discharge, under licence, to the Bursk River. Groundwater volume represents a very small

proportion of the overall mine discharge. Mitigation measures to prevent the pollution of groundwater or surface water would prevent any negative impacts on the water quality from the operation of the site.

- Noise, vibration and dust emissions would have a short-term negative impact on adjoining residential and commercial properties although these would be mitigated through the control of stringent measures, such as, inter alia, hours of operation, limits on blasting and the management of dust both within the site and through the movement along the local roads.

- Overall neutral / imperceptible impact on climate due to the long-established mining activities on site.

- ***Material Assets, Cultural Heritage and the Landscape:*** Traffic impacts would be short-term and temporary and will be mitigated during construction by the measures set out in the EIAR, including the CEMP and Traffic Management Plan Having regard to the current mining activities on site and the associated vehicular movements the impact of the proposed development on traffic on the surrounding road network during the construction and operational phase is not significant.

- There are no known archaeological, architectural or cultural features within the site. Potential impacts on unknown features would be mitigated by archaeological monitoring with provision made for resolution of any archaeological features / deposits that may be identified.

- The site is not highly visible from the surrounding area and is not located within any sensitive landscape. Having regard to the surrounding context of the existing facility and adjacent agricultural uses that the proposed development would have no significant direct or indirect effects on the landscape, visual amenity of the area or on any protected view.

10.27.2. The EIAR has considered that the main significant direct and indirect effects of the proposed development on the environment would be primarily mitigated by environmental management measures, as appropriate. The assessments provided in many of the individual EIAR chapters are satisfactory to enable the likely significant

direct environmental effects arising as a consequence of the proposed development to be satisfactorily identified, described and assessed. The environmental impacts identified are not significant and would not justify refusing permission for the proposed development or require substantial amendments.

11.0 **Appropriate Assessment**

11.1. *Stage 1 – Screening Determination*

11.1.1. I have considered the proposed development in light of the requirements of S177U of the Planning and Development Act 2000 as amended. An AA Screening and Natura Impact Statement prepared in support of the application. An updated Natura Impact Statement was submitted in response to Monaghan County Council's request for further information. I have had regard to all the information submitted for the purposes of this screening determination.

11.2. *Description of the project*

11.2.1. A description of the project is summarised in Section 2 of my report. In summary, the proposed development comprises

- Excavation of the former (Drumgoosat) underground mine by open cast mining methods for the purposes of gypsum extraction.
- The construction of a cut-and-cover tunnel under the Carrickmacross to Kingscourt regional road (R179). The temporary realignment of the R179 during the tunnel construction period, to allow the R179 to remain in constant use.
- The demolition of 4 no. houses and sheds.
- The continued pumping of water from the existing Drumgoosat underground workings via an existing borehole on the Knocknacran West Mine site.
- The continued ongoing restoration of the existing Knocknacran Open-Cast Mine, permitted under Reg. Ref. 17/217.
- Modification to the existing approved Knocknacran Mine restoration plan.

- The continuation of use and the refurbishment of the existing Knocknacran Processing Plant area.
- A revised vehicular access to the existing Knocknacran Open-Cast Mine and Knocknacran Processing Plant area site from the L4816.
- The construction of 2 no. playing pitches, with associated facilities and a new building to incorporate reception, meeting / club rooms, sports hall, handball alley, changing rooms and toilets, a viewing gallery, a part covered grandstand and additional parking and all associated siteworks, at the existing Community Sports Complex.

11.3. *Submissions*

The third parties raised concerns that the NIS does not take full account of the very significant impact that this development would have on designated sites due to hydrological connectivity.

11.4. *European Sites*

11.4.1. The proposed development is not located within or adjacent to any designated site. The applicant considered the following designated sites to be within the zone of influence of the appeal site.

European Site ***Site Code***	**List of Qualifying interest / Special conservation Interest**	**Distance from proposed development (Km)**	**Connections (source, pathway receptor)**	**Considered further in screening. Y/N**
Stabannan-Braganstown SPA (004091)	Greylag Goose	19km (as the crow flies)	Yes, indirect hydrological connection via surface water and the River Bursk and River Glyde to a section of the northern boundary of the SPA.	YES
Kilconny Bog SAC (000006)	Raised Bog (Active) Degraded Raised Bog	20km (as the crow flies)	NO	NO
Dundalk Bay SAC (000455)	Estuaries	29km (as the crow flies)	Yes, indirect hydrological connection via	YES

	Mudflats and sandflats not covered by seawater at low tide Perennial vegetation of stony banks Salicornia and other annuals colonising mud and sand Atlantic salt meadows Mediterranean salt meadows		surface water and the River Bursk and River Glyde	
Dundalk Bay SPA (001026)	Great Crested Grebe Greylag Goose Light-bellied Brent Goose Shelduck Teal Mallard Pintail Common Scoter Red-breasted Merganser Oystercatcher Ringed Plover Golden Plover Grey Plover Lapwing Knot Dunlin Black-tailed Godwit Bar-tailed Godwit Curlew Redshank Black-headed Gull Common Gull Herring Gull Wetland and Waterbirds	29km (as the crow flies)	Yes, indirect hydrological connection via surface water and the River Bursk and River Glyde	YES

11.4.2. Dundalk Bay SPA overlaps with Dundalk Bay SAC. It comprises a large open shallow sea bay with extensive saltmarshes and intertidal sand/mudflats. It is one of the most important wintering waterfowl sites in the country and one of the few that regularly supports more than 20,000 waterbirds. The Conservation Objectives Targets and Attributes are summarised as: -

- Long Term winter population tread is stable or increasing.
- No significant decrease in the numbers or range of areas used by waterbird species.

11.4.3. Dundalk Bay SAC is a site of significant conservation value because it supports good examples of a range of coastal habitats listed on Annex I of the E.U. Habitats Directive, as well as large numbers of bird species, some of which are listed in the Birds Directive. The Conservation Objectives Targets and Attributes are summarised as: -

- The permanent area is stable or increasing, subject to natural processes.
- Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions
- Maintain/restore creek and pan structure, subject to natural processes, including erosion and succession
- Maintain natural tidal regime
- Maintain range of saltmarsh habitat zonation's including transitional zones, subject to natural processes
- Maintain structural variation within sward
- Maintain more than 90% of area outside creeks vegetated
- Maintain range of sub- communities with characteristic species listed in Saltmarsh Monitoring Project
- No significant expansion of Spartina

11.4.4. Stabannan-Braganstown SPA is situated c. 4 km inland from Dundalk Bay. It is a small, flat alluvial plain adjacent to the River Glyde and is bounded to the north and south by low, rolling hills. In winter this site is utilised by an internationally important wintering population of Greylag Goose. The Conservation Objectives Targets and Attributes are summarised as: -

- Long Term winter population tread is stable or increasing.
- Sufficient area and availability (in terms of timing and intensity of use) of suitable habitat to support the target population.
- The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution.

- The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA
- Sufficient number of locations, area and availability of suitable roosting habitat to support the population target
- Sufficient area of utilisable habitat available in ecologically important sites outside the SPA

11.4.5. The Corduff Stream rises in the northern section of the proposed Knocknacran West mine site. It flows in a north-east direction to Lough Fea and ultimately to the River Gylde via the River Bursk. The Magheracloone Stream is located to the west of the appeal site. This stream flows to the River Gylde. The River Gylde flows in an easterly direction and is joined by the River Dee before discharging to Dundalk Bay, c. 38.6 km downstream of the appeal site. The AA Screening report notes that the River Glyde becomes a five-order stream that converges with substantial tributaries before reaching Dundalk Bay SAC and SPA.

11.4.6. There is no connectivity between groundwater within the appeal site and any designated site.

11.4.7. All waters (surface and ground) that enter the existing Knocknacran Mine site are treated at the existing 4 no. settlement lagoons before being discharged into the River Bursk, in accordance with the sites IE licence. Gypsum is a mineral not a metal. It is not toxic material and the processing plant does not generate any waste. It is envisioned that the Knocknacran Mine West site would be incorporated into the IE licence via a licence review process and over the lifetime of the Knocknacran West Mine site the Knocknacran mine would be restored. However, there are no proposals to amend the existing rates / limits of the existing discharge licence.

11.5. *Consideration of the Impacts*

Direct Impacts

11.5.1. The development site is not located within a designated site. Therefore, it would not result in temporary or permanent loss, disturbance or disruption of habitat.

Indirect Impacts

11.5.2. *Surface Water: Construction Phase*: In the absence of mitigation measures there is potential for suspended solids to enter the surface water network via the Corduff Stream and ultimately the designated sites within Dundalk Bay.

11.5.3. *Surface Water: Operational Phase:* During the operational phase (30 years) treated water would continue to be discharged to the River Bursk in accordance with the sites IE licence. The existing water management system consists of a series of 4 holding ponds to facilitate the settlement of suspended solids. Water is pumped from the lagoons, via the pumphouse, to the holding tanks prior to discharge to the River Bursk. The discharge of water is strictly controlled to ensure that the quantity and quality of water released is within the limits defined in the IE Licence. In the event that the water treatment measures were not implemented or failed there is potential for an increase in the quantity of water and the chemical parameters to exceed those set in the IE Licence.

11.5.4. *Surface Water: Restoration Phase:* Following closure and restoration of the mine a pit lake would form on the Knocknacran West site. This proposed lake is located at the head of the Corduff catchment and would form part of the surface water network. The post-closure lake is predicted to have parameters broadly similar to current conditions, with the exception of sulphate which is expected to have a discharge of between 200 and 250mg/L.

11.5.5. *Ex-Situ Sites:* Bird species which are Qualifying Interests of Dundalk Bay SPA were recorded on the appeal site during the bird surveys. Therefore, there is potential for the proposed development to impact on these species.

Consideration of the Impacts – Conclusion

11.5.6. Based on the information provided in the screening report, site visit, review of the conservation objectives and supporting documents, I consider that in the absence of mitigation measures beyond best practice construction methods, the proposed development has the potential to result in the following impacts:

- *Surface Water:* Release of silt and sediment and / or release of construction related compounds including hydrocarbons to surface water during the construction phase.
- Failure of water treatment system during the operational phase, resulting in the discharge of mine water to the River Bursk which exceeds the quality, and the chemical parameters set in the IE Licence discharge.
- Discharge of water to the surface water network with elevated levels of sulphate during the restoration phase.
- *Ex-Situ:* The proposed development could negatively impact on protected bird species by loss of habitat and noise and disturbance.

11.5.7. Having regard to the above, it is my opinion that further assessment is required for Dundalk Bay SPA (001026) and Dundalk Bay SAC (000455).

11.5.8. Due to the separation distance, and the nature of the qualifying interests (Greylag Goose) of Stabannan-Braganstown SPA (004091) to the distant and interrupted hydrological connection and to the distance and volume of water (dilution factor) separating the appeal site from the designed site, I am satisfied that it can be screened out from further assessment.

11.5.9. It is also my view that due to the separation distance, the nature of the qualifying interests and to the lack of a hydrological connection Kilconny Bog SAC (000006) can also be screened out from further assessment.

11.6. *Screening Determination*

11.6.1. The proposed development was considered in light of the requirements of Section 177U of the Planning and Development Act 2000 as amended. Having carried out Screening for Appropriate Assessment of the project, it has been concluded that the project individually or in-combination with other plans or projects could have a significant effect on European Sites (Dundalk Bay SPA (001026) and Dundalk Bay SAC (000455)) in view of the site's Conservation Objectives, and Appropriate Assessment (and submission of a NIS) is therefore required.

11.6.2. Having carried out Screening for Appropriate Assessment of the project, it has been concluded that the project individually or in combination with other plans or projects would not be likely to give rise to significant effects on European Sites (Stabannan-Braganstown SPA (004091) and Kilconny Bog SAC (000006)) in view of the site's Conservation Objectives, and Appropriate Assessment (and submission of a NIS) is not, therefore, required.

Stage 2 – The Natura Impact Assessment

11.6.3. Sections 6 of the applicants NIS identifies the potential impacts and outlines the embedded design mitigation measures of the proposed development.

11.6.4. Concerns are raised by the third parties that the NIS does not take full account of the very significant impact that this development would have on designated sites due to hydrological connectivity. Having reviewed the documents, submissions and consultations I am satisfied that the information allows for a complete assessment of any adverse effects of the development, on the conservation objectives of the designated sites alone, or in combination with other plans and projects.

11.7. *European Sites*

11.7.1. A description of the sites and their Conservation and Qualifying Interests (QI's) / Special Conservation Interests (SCI's), including any relevant attributes and targets for these sites, are summarised above, are set out in the Section 4 of the NIS and are also available on the NPWS website (www.npws.ie).

11.7.2. As Dundalk Bay SPA and Dundalk Bay SAC overlap it is considered appropriate to assess the likely significant effect of the proposed development

11.7.3. An assessment of the implications of the project on the qualifying interest features of the European sites using the best scientific knowledge in the field as outlined in the NIS is provide in the table below. All aspects of the project which could result in significant effects are assessed and mitigation measures designed to avoid or reduce any adverse effects are considered and assessed.

Dundalk Bay SPA (001026) c. 29km as the crow flies and c. 38.6 km downstream of the appeal site **Conservation Objectives: To maintain or restore the favourable conservation status of habitats and species of community (M/R)** Detailed Conservation Objectives available: https://www.npws.ie		
***Qualifying Interests*:** Great Crested Grebe (M), Greylag Goose (M), Light-bellied Brent Goose (M), Shelduck (M), Teal (M), Mallard (M), Pintail (M), Common Scoter (M), Red-breasted Merganser (M), Oystercatcher (M), Ringed Plover (M), Golden Plover (M), Grey Plover (M), Lapwing (M), Knot (M), Dunlin (M), Black-tailed Godwit (M), Bar-tailed Godwit (M), Curlew (M), Redshank (M), Black-headed Gull (M), Common Gull (M), Herring Gull (M) and Wetland and Waterbirds (M).		
Summary of Appropriate Assessment		
Conservation Objectives Summary	**Potential Adverse Effects**	**Mitigation Measures (Summary - See Section 7 of the NIS)**
Long Term Population Trend stable or increasing. No significant decrease in the range, timing and intensity of use of areas by species other than that occurring from the natural patterns of variation	Indirect Effects: Deterioration of water quality during the construction, operation and restoration phases. Loss of Ex-Situ Habitat	Embedded mitigation includes the water quality parameters as set in the discharge licence. Standard pollution prevention measures during construction and operational activities.

Dundalk Bay SAC (000455), c. 29km as the crow flies and c. 38.6 km downstream of the appeal site **Conservation Objectives: To maintain or restore the favourable conservation status of habitats and species of community (M/R)** Detailed Conservation Objectives available: https://www.npws.ie			
***Qualifying Interests*:** Estuaries (M), Mudflats and sandflats not covered by seawater at low tide (M), Perennial vegetation of stony banks (M), Salicornia and other annuals colonising mud and sand (R), Atlantic salt meadows and Mediterranean salt meadows (M).			
Summary of Appropriate Assessment			
Qualifying Interests	**Conservation Objectives Summary**	**Potential Adverse Effects**	**Mitigation Measures (Summary - See Section 7 of the NIS)**
Estuaries (M)	Habitat Area is stable or increasing, subject to natural processes The Subtidal fine sand community complex should be conserved in a natural condition	Indirect Effects: Deterioration of water quality during the construction, operation and restoration phases.	Embedded mitigation includes the water quality parameters as set in the discharge licence. Standard pollution prevention measures during construction and operational activities.
Mudflats and sandflats not covered by seawater at low tide (M)	Habitat Area is stable or increasing subject to natural processes The Muddy fine sand community and Intertidal fine sand community complex should be conserved in a natural condition		
Perennial vegetation of stony banks (M)	Area stable, subject to natural processes, including erosion and succession. No decline in distribution, subject to natural processes.		

	Maintain the natural circulation of sediment and organic matter without any physical obstructions. Maintain range of habitat zonations including transitional zones, subject to natural processes including erosion and succession. Maintain the presence of species-poor communities Negative indicator species (including non-natives) to represent less than 5% cover		
Salicornia and other annuals colonising mud and sand (R)	Area stable or increasing, subject to natural processes, including erosion and succession No decline in distribution, subject to natural processes Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions Maintain/restore creek and pan structure, subject to natural processes, including erosion and succession Maintain natural tidal regime Maintain range of saltmarsh habitat zonations including transitional zones, subject to natural processes including erosion and succession. Maintain structural variation within sward		

	Maintain more than 90% of area outside creeks vegetated Maintain range of sub- communities with characteristic species listed in Saltmarsh Monitoring Project No significant expansion of Spartina. No new sites for this species and an annual spread of less than 1% where it is already known to occur		
Atlantic salt meadows and Mediterranean salt meadows (M)	Area stable or increasing, subject to natural processes, including erosion and succession No decline, subject to natural processes. Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions Maintain/restore creek and pan structure, subject to natural processes, including erosion and succession. Maintain natural tidal regime Maintain range of saltmarsh habitat zonations including transitional zones, subject to natural processes including erosion and succession Maintain structural variation within sward		

	Maintain more than 90% of area outside creeks vegetated Maintain range of sub- communities with characteristic species listed in Saltmarsh Monitoring Project No significant expansion of Spartina. No new sites for this species and an annual spread of less than 1% where it is already known to occur		

Assessment:

Surface Water Quality:

Construction Phase: Activities associated with construction phase may result in the release of silt / sediment laden water run-off. Standard pollution prevention measures would be put in place during the construction phase. These measures are standard practice for construction sites and would be required for a development on any site, irrespective of any potential hydrological connection to a designated site. In the event that the pollution control measures were not correctly implemented or failed I am satisfied that due to the nature of the qualifying interests, the separation distance (29km), to the distant and interrupted hydrological connection and the volume of water (dilution factor) separating the appeal site from the designed site that the impact on the qualifying interests of Dundalk Bay SPA and Dundalk SAC would not be significant.

Operational Phase: During the operational phase (30 years) mine water would continue to be discharged to the River Bursk in accordance with the sites IE licence. The discharge of water is strictly controlled to ensure that the quantity and quality of water released is within the limits defined in the IE Licence. The existing and proposed development allows for the temporary storage of mine water in the base of the Knocknacran open cast mine and subsequently in the base of the Knocknacran West open cast mine, until flows and the assimilative capacity of the receiving River Bursk are sufficient to allow discharge in accordance with the parameters of the IE Licence. This is an embedded mitigation measure.

The applicants AA Screening Report focuses on the potential for likely significant effect on the discharge levels of sulphate, calcium and measured conductivity as they can be directly toxic and harmful to aquatic organisms at high levels. Receptors (invertebrates and fish) may constitute prey resources for qualifying species of the SPA. The information provided by the applicant, which is evidence based, indicates that the embedded mitigation measures ensures that likely significant effects on prey resources for the qualifying interests of the SPA are unlikely to occur.

I am satisfied that due to the nature of the qualifying interests, the separation distance (38.6km downstream), to the distant and interrupted hydrological connection and the volume of water (dilution factor) separating the appeal site from the designed site that the impact on the qualifying interests of Dundalk SAC would not be significant.

Restoration Phase: Following closure and restoration of the mine a pit lake would form on the Knocknacran West site. This proposed lake is located at the head of the Corduff catchment and would form part of the surface water network. The average annual outflow is predicted to be within the range of ca. 500-700 m3/d, varying seasonally from zero in the summer, to over 1,000 m3/d in the winter months. Modelling indicates that the post-closure lake is likely to have parameters broadly similar to current conditions, with the exception of sulphate which is expected to have a discharge of between 200 and 250mg/L. This is due to naturally occurring sulphate at this location. Sulphate levels in the Corduff Stream are estimated to be c. 135 mg/l. This is significantly below the current daily limit of 625 mg/L in the River Bursk, as licenced by the EPA. No preventative mitigation measures are required.

Ex-Situ Habitat: There is no spatial overlap with between the appeal site and Dundalk Bay SPA. Lapwing were recorded breeding within the development site. However, this was by small numbers (2 no.). The recorded use of the development site by species of Mallard and designated wetland and waterbirds such as Coot, Grey Heron and Moorhen was periodic and by a small number of birds. The habitats to be removed may form part of the breeding, nesting and feeding range of a number of species, however, based on similar or higher valued habitats surrounding the appeal site, they are not considered critical resource for these recorded species. No preventative mitigation measures are required.

Overall conclusion: Integrity test:

The applicant determined that following the implementation of mitigation measures the construction and operation of the proposed development would not result in significant impacts on Dundalk Bay SPA or Dundalk Bay SAC alone or in combination with other plans and projects.

Based on the information provided I consider that potential for adverse effects on the European Sites at a distance of over 38.6km downstream of the discharge point at the Estuarine area of the Dundalk Bay is significantly reduced by distance and assimilative and dilution effects, estuarine and marine influencers. Distance from source impacts combined with standard mitigation measures proposed to prevent construction related impacts on water quality would be adequate to interrupt the impact pathway and exclude adverse effects on site integrity for the SPA and SAC

The proposed development will not affect the attainment of conservation objectives for these sites and adverse effects on site integrity can be excluded.

In Combination Effects

11.7.4. As the proposed project would not affect the integrity of any European site within the zone of influence, I am satisfied that there will be no adverse effects on the integrity of any European sites to arise as a consequence of the proposed project acting in-combination with any other plans or projects.

Appropriate Assessment Conclusion

11.7.5. The proposed development has been considered in light of the assessment requirements of Section 177 of the Planning and Development Act, 2000 (as amended).

11.7.6. Having carried out screening for Appropriate Assessment of the project, it was concluded that it may have a significant effect on Dundalk Bay SPA and Dundalk Bay SAC. Consequently, an Appropriate Assessment was required of the implications of the project on the qualifying features of those sites in light of their conservation objectives.

11.7.7. Following an Appropriate Assessment, it has been ascertained that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of any European site, in view of the site's Conservation Objectives.

11.7.8. This conclusion is based on a complete assessment of all aspects of the proposed project and there is no reasonable doubt as to the absence of adverse effects:

- A full and detailed assessment of all aspects of the proposed project including proposed mitigation measures and ecological monitoring in relation to Dundalk Bay SPA (001026) and Dundalk Bay SAC (000455).
- Detailed assessment of in-combination effects with other plans and projects including current proposals and future plans.
- No reasonable scientific doubt as to the absence of adverse effects on the integrity of the designated sites.

11.7.9. It is also noted that the planning authority concluded that the proposed development, subject to mitigation measures outlined in the NIS, would not adversely affect, either directly or indirectly, the integrity of any European Site, either alone or in combination with other plans or projects.

12.0 Recommendation

It is recommended that permission be granted subject to conditions.

It is noted that the planning authority also recommended a grant of planning permission subject to conditions. Appendix A is a summary of my consideration of the planning authority's environmental conditions.

13.0 Reasons and Considerations

The proposed development, comprising the excavation of an open cast mine, the restoration of the existing Knocknacran open-cast mine, the retention and refurbishment of the existing processing plant and the expansion of the existing Community Sports Complex would facilitate the extraction of the only known, viable and indigenous source of gypsum in Ireland, which is an essential component in the Irish Construction Industry.

It is considered that the proposed development would be in accordance with the provisions of:

- Monaghan Development Plan 2019 – 2025
- National Planning Framework – Ireland 2040' (NPF) and the Updated Draft Revised National Planning Framework
- Minerals Development Acts 1940-1999
- Policy Statement on Mineral Exploration and Mining – Critical Raw Materials for the Circular Economy Transition
- The Water Framework Directive
- The Whole of Ireland Circular Economy Strategy 2022-2033,
- Our Rural Future – Rural Development Policy 2021-2025

The proposed development would be consistent with

- Climate Action Plan, 2024
- Climate Action and Low Carbon Development (Amendment) Act 2021

Having regard to the location, nature and scale of the existing Knocknacran Open Cast Mine site which includes the existing processing plant, to the nature, scale and technical design of the proposed Knocknacran West open cast mine and its location above the former Drumgoosat underground mine workings, it is considered that subject to compliance with the conditions set out below the proposed open cast mine development, restoration of the Knocknacran Open Cast Mine and the continued use and refurbishment of the processing plant and all associated works would not give rise to a significant risk of pollution or subsidence, would not have an unacceptable impact on water quality, traffic, visual amenity or residential amenity and would constitute an acceptable form of development in this location.

Having regard to the location, nature and small scale of the proposed community sports complex it is considered that subject to compliance with the conditions set out below the proposed community sports complex and all associated works would not have an unacceptable impact on traffic or visual amenity and would constitute an acceptable form of development in this location.

The proposed development would, therefore, be in accordance with the proper planning and sustainable development of the area.

14.0 Conditions

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application, as amended by the further plans and particulars received by the planning authority on the 10th day of November 2023, except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.

   Reason: In the interest of clarity.

2. The period during which the mining activity at Knocknacran West Open Cast Mine hereby permitted may be carried out shall be 30 years from the date of commencement of open cast mining activity at the Knocknacran West site.

   Reason: Having regard to the nature of the development the Board considers it appropriate to specify a period of validity of this permission.

3. The mitigation measures contained in the submitted Environmental Impact Assessment Report (EIAR), the Natura Impact Statement (NIS) and the Construction and Environmental Management Plan (CEMP) shall be implemented.

   Reason: To protect the environment.

4. Prior to commencement of development, a geophysical survey shall be carried out over the Knocknacran West mine site to detect any subsurface archaeological features / deposits in the area where development is proposed to take place. The developer shall engage a suitably qualified archaeologist to monitor all site clearance works, topsoil stripping and groundwork associated with the construction phase of the development. Prior to the commencement of such works the archaeologist shall consult with and forward to the Local Authority archaeologist or the National Monuments Service as appropriate a method statement for written agreement. The use of appropriate tools and/or machinery to ensure the preservation and recording of any surviving archaeological remains shall be necessary. Should archaeological remains be identified during the course of archaeological monitoring, all works shall cease in the area of archaeological interest pending a decision of the planning authority, in consultation with the National Monuments Service, regarding appropriate mitigation.

   Reason: To ensure the continued preservation in situ or by record of places, caves, sites, features or other objects of archaeological interest

5. Prior to the commencement of development, the developer or any agent acting on its behalf, shall prepare a Resource Waste Management Plan (RWMP) as set out in the EPA's Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction and Demolition Projects (2021) including demonstration of proposals to adhere to best practice and protocols. The RWMP shall include specific proposals as to how the RWMP will be measured and monitored for effectiveness; these details shall be placed on the file and retained as part of the public record. The RWMP must be submitted to the planning authority for written agreement prior to the commencement of development. All records (including for waste and all resources) pursuant to the agreed RWMP shall be made available for inspection at the site office at all times.

   Reason: In the interest of proper planning and sustainable development.

6. Site development and construction works shall be carried out between the hours of 0700 to 1900 Mondays to Fridays inclusive, between 0800 to 1400 on Saturdays and not at all on Sundays and public holidays. Deviation from these times shall only be allowed in exceptional circumstances where prior written agreement has been received from the planning authority.

   Reason: To safeguard the amenity of property in the vicinity.

7. (a) The wastewater treatment system hereby permitted shall be installed in accordance with the recommendations included within the site characterisation report submitted with this application on 11th April 2023 and shall be in accordance with the standards set out in the document entitled "Code of Practice - Domestic Waste Water Treatment Systems (Population Equivalent ≤ 10) – Environmental Protection Agency, 2021.

   (b) Treated effluent from the septic tank/ wastewater treatment system shall be discharged to a percolation area/ polishing filter which shall be provided in accordance with the standards set out in the document entitled "Code of

Practice - Domestic Waste Water Treatment Systems (Population Equivalent ≤ 10)" – Environmental Protection Agency, 2021.

(c) Within three months of the installation of the wastewater treatment and disposal system, the developer shall submit a report to the planning authority from a suitably qualified person (with professional indemnity insurance) certifying that the wastewater treatment system and associated works is constructed and operating in accordance with the standards set out in the Environmental Protection Agency document referred to above.

Reason: In the interest of public health and to prevent water pollution

8. The landscaping scheme, as submitted with the application, shall be carried out within the first planting season following the completion of the construction works. Planting shall be adequately protected from damage until established. Any plants which die, are removed or become seriously damaged or diseased, within a period of five years from the completion of the development, shall be replaced within the next planting season with others of similar size and species, unless otherwise agreed in writing with the planning authority.

   Reason: In the interest of visual amenity

9. The proposed new vehicular access to Knocknacran mine site from the L4816 and the car parking spaces associated with the community sports facility shall comply with the detailed construction standards of the planning authority for such works

   Reason: In the interest of amenity and of traffic and pedestrian safety.

10. A minimum of 10% of all car parking spaces shall be provided with functioning electric vehicle charging stations/points, and ducting shall be provided for all remaining car parking spaces, facilitating the installation of electric vehicle charging points/stations at a later date.

Reason: In the interest of sustainable transport.

11. Hydrogeological and stability assessments carried out by the applicant during the lifetime of Knocknacran West Open Cast Mine, to assess that the assumptions made in the EIAR regarding the stability of underground mining voids, shall be submitted for the written agreement of the Planning Authority. If the assessments indicate that it is not possible to inhibit water ingress into mine workings that occur beneath the R179 and L4900, backfilling of four-way intersections beneath the two roads shall be undertaken unless otherwise agreed in writing with the planning authority. All works undertaken shall be at the developer's expense.

    Reason: In the interest of orderly development

12. Stability Monitoring of the R179 and L4900 shall continue throughout the lifetime of the mining activity in accordance with the Trigger Action Response Plans (TARP) submitted with the appeal, unless otherwise agreed with the planning authority.

    Reason: In the interest of safety and orderly development

13. The operating and maintenance hours for the Knocknacran West Open Cast Mine shall be between 08.00 and 20.00 Monday to Saturday only. The transportation of gypsum off site shall be between the hours of 06.00 and 21.00 Monday to Saturday only. No activity shall take place outside these hours or on Sundays or public holidays. No blasting of gypsum shall be undertaken within any part of the site before 08.00 hours on any day. Deviation from these times shall only be allowed in exceptional circumstances where prior written agreement has been received from the Planning Authority.

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

14. Recommissioning and restoration of the site shall commence within one year of cessation of extraction on site and shall be completed in accordance with the applicants Closure, Restoration and Aftercare Management Plan (CRAMP)

    Reason: In the interest of orderly development and to ensure the satisfactory completion of the development

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 of the Development Contribution Scheme made under section 48 of the Planning and Development Act 2000, as amended. The contribution 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 other security to secure the provision and satisfactory reinstatement of the R179 including roads, footpaths, watermains, drains, open space and other services that may be required in connection with the removal of the cut and cover tunnel, coupled with an agreement empowering the local authority to apply such security or part thereof to the satisfactory completion of any part of the development. 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 An Bord Pleanála for determination.

Reason: To ensure the satisfactory completion of the development

I confirm that this report represents my professional planning assessment, judgement and opinion on the matter assigned to me and that no person has influenced or sought to influence, directly or indirectly, the exercise of my professional judgement in an improper or inappropriate way.

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Elaine Power

Senior Planning Inspector

24th March 2025

APPENDIX A

Consideration of the Planning Authority's Environmental Conditions

Consideration of Environmental Conditions		
Monaghan County Council		**Included / excluded in Schedule of Conditions.**
Industrial Emission Licence Condition 5	No overburden stripping in Knocknacran West or restoration in Knocknacran with materials taken from Knocknacran West shall be undertaken until an Industrial Emissions (IE) Licence is granted by the Environmental Protection Agency	Excluded as the IE Licence is within the remit of the EPA.
Detail Condition 6a	Tree Management and Protection	Excluded as included in EIAR
Condition 6b	Dust Management	Excluded as included in EIAR
Environmental Conditions Condition 7a, 7b and 7c	Construction and Environmental Management Plan (CEMP).	Included to provide for agreement and monitoring agreement with updated requirements
Condition 7d	Refuelling details	Excluded as included in EIAR
Condition 8a, b, c, d and e.	Waste Management	Included as standard condition requiring a Resource Waste Management Plan.
Conditions 9 a, b and c	Protection, Management and Conservation of surface water during the construction phase.	Excluded as included in EIAR
Archaeological Conditions 10 a, b and c.	Pre-construction geophysical survey	Included, additional to measures in the EIAR and requested by Department of Housing, Local Government and Heritage.
Conditions 11a, b, c and d.	Archaeological conditions	Excluded as included in EIAR
Biodiversity Conditions 12 a, b and c.	Vegetation clearance and lighting requirements	Excluded as included in EIAR
Geotechnical Conditions 13 a and b.	Stability monitoring	Included to provide for agreement and monitoring agreement with updated requirements
Condition 14 a, b and c	Further hydrogeological and stability assessments	Included to provide for agreement and monitoring agreement with updated requirements

Waste water Treatment Conditions 15 a, b and c.	Detail of the wastewater treatment system	Included to provide for agreement and monitoring agreement with updated requirements
Monitoring Conditions 16 a, b, c and d	Environmental Protection	Excluded as included in EIAR and within the remit of the EPA via the IE licence
Time period Condition 17	Limiting the lifetime of the mining activity	Included, to provide clarity.
CRAMP Condition 18 a, b and c.	Mine Closure, Restoration and Aftercare	Included, to provide clarity.
Roads and Access Condition 21 a - 5	General, RSA, Cut and Cover Tunnel , Temporary / Permanent Works and Backfilling	Excluded as included in EIAR and covered in stability and monitoring conditions.
Condition 22 a - n	Roadworks	Excluded as included in the EIAR.