13.0 INTERACTIONS AND INTER-RELATIONSHIPS

13.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) has been prepared by Golder Associates Ireland Ltd (Golder) for the L Behan Aggregates and Recycling Ltd Section 37L Application (of the Planning and Development (Amendment) (No. 2) Regulations 2015) to An Bord Pleanála, (ABP). The Application has been made for the proposed quarrying activities (the Proposed Development) located at the lands at Windmillhill, south of Rathcoole in South Dublin (the Site).

This chapter of the EIAR describes interactions/inter-relationships between environmental effects in the area surrounding the Proposed Development.

The assessment directly covers the physical extent of the EIAR study boundary as shown in Figure 13.1, and the assessment area has been extended as appropriate to identify the relevant interacting effects surrounding the Proposed Development.

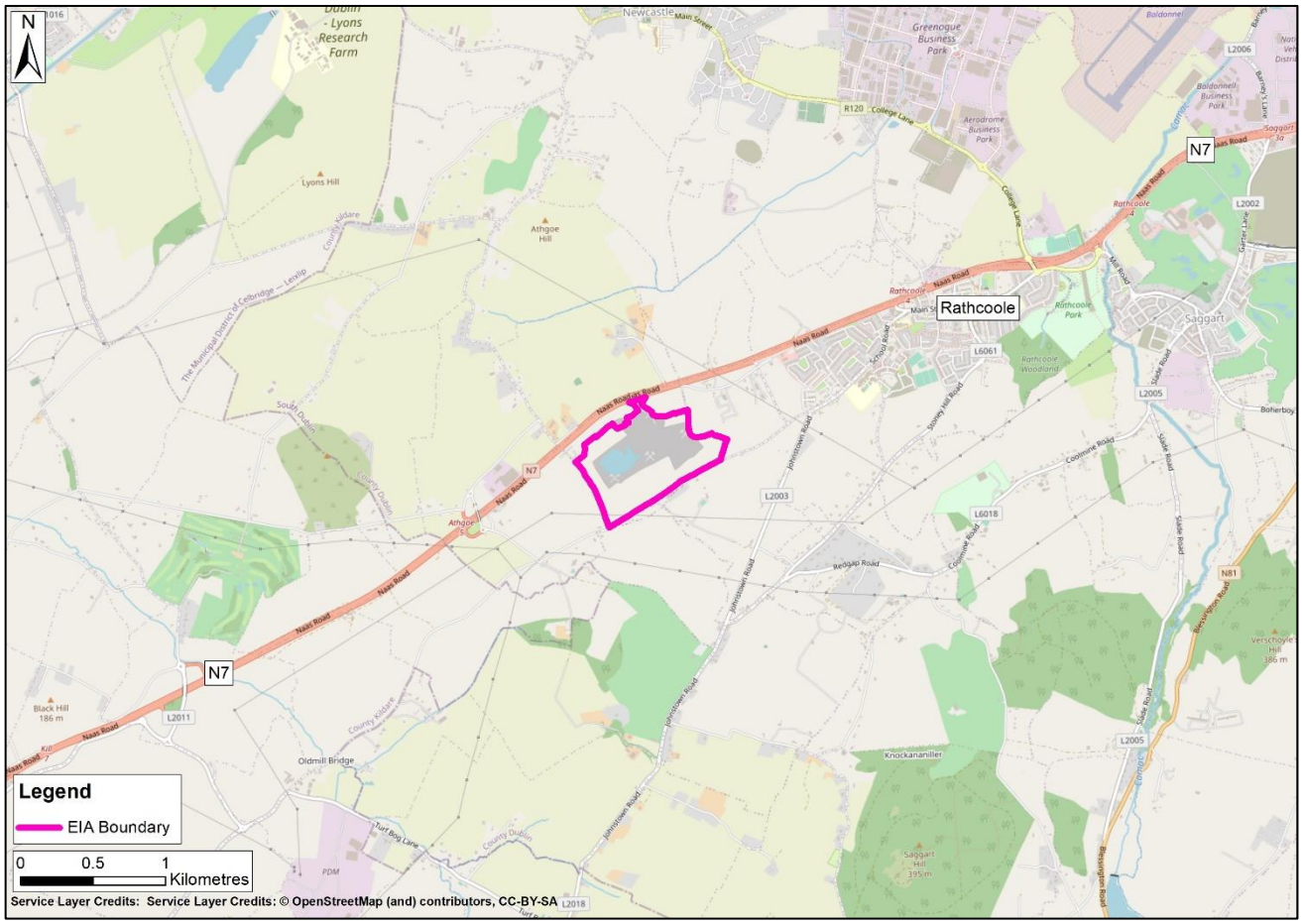

Figure 13.1: EIAR Study Boundary

Environmental factors are inter-related to some degree, and these interactions can exist on many levels. This chapter summarises the primary interactions between the environmental topics and provides a matrix to coherently display them.

The overall objective of the assessment in this chapter is to identify whether additional mitigation is required that would not otherwise have been identified in the individual study areas for these interacting effects.

The overall EIAR Project Team contributed to the compilation of this chapter.

13.1.1 Proposed Development Description

The Proposed Development will consists of further development of a quarry over an area of 26.87 ha. that largely coincides with an existing operational quarry void currently at an average working depth of approximately 173 mAOD and final floor of approximately 150 mAOD. It is proposed to laterally extend the existing quarry void to the north by approximately 4.1 ha. (over a total of 5.16 ha. to accommodate screening berms) and to also further extract the existing quarry void to a final average depth of 150 mAOD, east and west of a centrally located existing administration and processing plant area. The proposal includes for restoration to agricultural and amenity use upon completion of proposed extraction. The proposal duration is 20 years to reflect anticipated extraction of remaining reserve within 10 – 15 years, depending on market conditions and a further 2 - 5 years for restoration.

The existing quarry is accessed at a single location from the N7. The reserve consists of sandstone (greywacke) and is currently extracted by blasting and mechanical means. The excavated material is crushed at the working face by mobile plant and transported to the central processing area for washing and grading. The further development of the quarry relates to further extraction only and is to utilise the extant existing administration and processing plant area and quarry access.

13.2 Methodology

This assessment has been made with reference to the 'Guidelines on the information to be contained in environmental impact assessment reports', published in 'draft' by the EPA in August 2017 (EPA, 2017 Draft Guidelines). These guidelines were drafted by the EPA with a view to facilitating compliance with the EIA Directive (Directive 2011/92/EU, as amended by Directive 2014/52/EU, together the 'EIA Directive'). The assessment also considered 'Advice Notes for Preparing Environmental Impact Statements', also published in 'draft' by the EPA in September 2015.

The descriptive terminology used follows a 'matrix approach' to environmental assessment which is based on the characteristics of the impact (magnitude and nature) and the value (sensitivity) of the receptor. The terminology and method have been summarised in Chapter 1, Section 1.7 of this EIAR.

For the assessment of interacting effects, a matrix has been provided in Table 13.1 identifying through professional judgment the specific topics within the EIAR where the effects potentially interact/inter-relate with each other.

Table 13.1: Behan Quarry Section 37L Application Environmental Interactions.

	Pop. & Human Health	Ecology & Biodiversity	Land, Soils & Geology	Water	Air Quality & Climate	Noise & Vibration	Cultural Heritage	Traffic & Transport	Landscape & Visual	Material Assets
Pop. & Human Health										
Ecology & Biodiversity										
Land, Soils & Geology										
Water										
Air Quality & Climate										
Noise & Vibration										
Cultural Heritage										
Traffic & Transport										
Landscape & Visual										
Material Assets										

Population and Human Health

Continued quarrying activity at the Proposed Development has the potential to cause interacting effects between the surrounding population and human health and water, air quality, noise, traffic and transport, landscape and visual, and material assets.

Potential effects to the human environment from the Proposed Development activities include impacts on water which may affect groundwater quality and quantity in local wells. Potential impacts to human health may arise from dust generating activities on the Site and increases in concentrations of airborne particles and nitrogen dioxide due to plant emissions. Impacts to human health from excess noise and vibration associated with the Proposed Development may result in direct effects to site workers and also annoyance and effects on mental health at the surrounding residential receptors.

Visual impacts from the Proposed Development relate to the effect on views and on the general visual amenity experienced by people.

Site activities from the continued activity at the Proposed Development have the potential to impact or cause disruption to local services or utilities.

These interactions have been considered in the relevant chapters of this EIAR: Chapter 3 Population and Human Health, Chapter 6 – Water, Chapter 7 – Air Quality and Climate, Chapter 8 – Noise and Vibration, Chapter 10 – Landscape and Visual, Chapter 11 – Traffic and Transport, and Chapter 12 – Material Assets.

In summary, these assessments have identified that such interacting effects with the human environment are **not significant**.

Ecology and Biodiversity

There is potential for interacting effects between ecology and biodiversity and land, soils and geology, water, air quality, noise and vibration and landscape and visual.

Adverse impacts to the soil, water and air environment have the potential to deteriorate habitat quality both on and off-site.

Similar to human receptors, impacts from excess noise and vibration generated by the Proposed Development may result in stress to some species and effects on biodiversity and habitats surrounding the Site.

Elements of the Proposed Development will alter landscape features permanently. A large proportion of habitat to be altered by the extension of the Proposed Development will be improved agricultural grassland. With the extension of the Site, the degradation of hedgerow habitat and habitat severance has the potential to cause stress to species associated with hedgerow habitat.

These interactions have been considered in the relevant chapters of this EIAR: Chapter 4 – Ecology and Biodiversity, Chapter 5 Land, Soils and Geology, Chapter 6 – Water, Chapter 7 – Air Quality and Climate, Chapter 8 – Noise and Vibration and Chapter 10 – Landscape and Visual.

In summary, these assessments have identified that such interacting effects with the surrounding ecology and biodiversity are **not significant**.

Land, Soils and Geology

The continued activities at the Proposed Development create the potential for interacting effects between soil and geology, water, and cultural heritage.

Excavated materials will arise as a result of the soil stripping and the removal of rock. These activities will have the potential to cause changes in the underlying water environment and also to damage undiscovered cultural heritage features.

These interactions have been considered in the EIAR in Chapter 5 – Land, Soils and Geology, Chapter 6 – Water, and Chapter 9 – Cultural Heritage.

In summary, these assessments have identified that the interacting effects with land, soils and geology and water and cultural heritage are **not significant**.

Cultural Heritage

The continued activity provides potential for interacting effects between cultural heritage and air quality, noise and vibration, and landscape and visual impact.

The proposed blasting of rock will generate vibration which has the potential to damage cultural heritage features in the surrounds of the Site. In addition, extraction activities which will generate dust could holistically affect the setting of cultural heritage assets within the wider study area. Also, alterations in the landscape and visual amenity of the wider Site may have the potential to impact the value of recorded monuments and also unrecorded features.

These interactions have been considered in Chapter 5 – Land, Soils and Geology, Chapter 7 – Air Quality and Climate, Chapter 8 – Noise and Vibration.

In summary, this assessment has identified the above interacting effects as **not significant**.

Material Assets

The Proposed Development has the potential for interacting effects between material assets and noise and vibration.

The blasting of rock generated vibration will have the potential to damage material assets surrounding the Site (e.g. water supply infrastructure), and disrupt supply for the relevant users.

These interactions have been considered in Chapter 3 – Population and Human Health, Chapter 8 – Noise and Vibration and Chapter 12 – Material Assets.

In summary, this assessment in the EIAR has identified interacting effects between noise and vibration and material assets as being **not significant**.

13.3 Conclusions

It has been concluded that there will be no significant interactions between any of the various environmental topic areas as a result of the continued operation of the Proposed Development.

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