

3.0 POPULATION & HUMAN HEALTH

3.1 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 the human environment and identifies and assesses impacts from the Proposed Development on the surrounding population and human health.

Effects of a development on the environment can impinge upon the surrounding human environment, directly and indirectly, positively and negatively. Direct effects may include such matters as safety, air and water quality, noise, landscape quality and road traffic. Indirect effects pertain to such matters as ecology and biodiversity, heritage and archaeology. These matters form discreet sections of this EIAR in their own right and corresponding mitigation measures are comprehensively provided in those sections.

The following assessment has been prepared by Kevin McGillicuddy (BA (Mod), MSc). Kevin is a Practitioner Member of the Institute of Environmental Management and Assessment and has more than 8 years' experience.

3.2 Methodology

3.2.1 Technical Scope

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 EPA's 2017 draft 'Guidelines on the information to be contained in environmental impact assessment reports' suggest the following sub-headings under which to arrange issues; *"Employment, Human Health (considered with reference to other headings such as water and air), Amenity (e.g. effects on amenity uses of a site or of other areas in the vicinity – may be addressed under the factor of Landscape)."*

The assessment also considered 'Advice Notes for Preparing Environmental Impact Statements', also published in 'draft' by the EPA in September 2015.

Having regard to the above guidance; particularly the 2017 EPA draft guidance on the information to be contained in an EIAR; the characteristics and context of the lands the subject of this EIAR; and the nature of the development, this EIAR chapter aims to identify the likely significant impacts that the Proposed Development may have on the 'quality of life' and these are discussed under the following headings:

- Populations;
- Employment;
- Amenity;
- Land Use and development patterns;
- Human health; and
- Health and safety.

3.2.2 Prediction of Impacts and Effects Prior to Mitigation

Prediction methods are required to identify and assess the significant effects of the Proposed Development on the environment. The predictive method used for this assessment is a common framework of assessment criteria and terminology based on the EPA's draft 'Guidelines on the information to be contained in environmental impact assessment reports' with some adjustments to improve clarity.

This common framework 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 terms used in the common framework are described below. Details of how these specifically relate to the human environment are based on the UK's Design Manual for Roads and Bridges (January 2020, Volume 11, Section 3, LA112, Revision 1, Sustainability and environment. Appraisal. Population and human health). The sensitivity of communities and populations has been included and has been conservatively attributed a 'High' sensitivity. These descriptions for value (sensitivity) of receptors are provided in Table 3.1 and Table 3.2.

Table 3.1: Environmental value (sensitivity) and descriptions.

Value (sensitivity) of receptor / resource	Typical description
High	High importance and rarity, national scale, and limited potential for substitution.
Medium	Medium or high importance and rarity, regional scale, limited potential for substitution.
Low	Low or medium importance and rarity, local scale.
Negligible	Very low importance and rarity, local scale.

The environmental sensitivity descriptions have been assigned to receptor groups as appropriate for the assessment on the human environment. These descriptions and rankings have been provided below in Table 3.2.

Table 3.2: Environmental value (sensitivity) and descriptions for assessment groups.

Group	Receptor / resource	Designated value (sensitivity) of receptor / resource
Populations / Communities	All individuals located in a particular location (this can be local, regional or at a national scale), and groups of people living in the same place or having a particular characteristic in common.	High
Private Dwellings	Residential property.	High
Community land and facilities, and other lands	Designated local green space / valued community facility.	High
	Undesignated local green space / non-essential community facility.	Low
	Derelict or unoccupied buildings or lands.	Low
Local Businesses	Businesses where viability is likely to be permanently jeopardised by a short disruption or worsening of trading conditions.	High
	Businesses where profitability may be harmed by a short or medium-term disruption or worsening of trading conditions.	Medium

Group	Receptor / resource	Designated value (sensitivity) of receptor / resource
	Businesses that could continue to operate without substantial harm if affected by a disruption or worsening of trading conditions.	Low
	Businesses that could continue to operate relatively unharmed if affected by a disruption or worsening of trading conditions.	Negligible
Non-motorised users	All non-motorised users utilising roads and networks, including pedestrians, cyclists, horse-riding, etc.	High
Human health	Health receptor that would be likely or expected to be directly affected. Receptor is well placed to take advantage of beneficial impacts, and/or is not well placed to deal with any adverse impacts.	High
	Health receptor that would be likely to be indirectly affected. Average ability to maximise beneficial impacts or cope with adverse impacts.	Medium
	Health receptor that would be unlikely to be affected. Receptor is not well placed to take advantage of beneficial impacts, and/or is well placed to deal with any adverse impacts.	Low
	Health receptor that would be unlikely to be affected or effects would be temporary in nature, or which would be anticipated to have a slight or no effect on human health.	Negligible
Vehicle travellers	Public transport, motor vehicles.	Low

The descriptions for magnitude of impact are provided in Table 3.3. The numerous descriptions for both the adverse and beneficial magnitudes of impact provided below reflects the diverse range of receptor groups which may be impacted.

Table 3.3: Magnitude of impact and typical descriptions.

Magnitude of impact (change)		Typical description
High	Adverse	<ul style="list-style-type: none"> ■ Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements; ■ An impact that is expected to have considerable adverse socioeconomic effects. Such impacts will typically affect large numbers of businesses, workers or residents; ■ Very large damage to local business which may compromise its viability; ■ Adverse health impact to a large number of people and adverse impact affecting sensitive population groups.
	Beneficial	<ul style="list-style-type: none"> ■ Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality; ■ An impact that is expected to have considerable beneficial socioeconomic effects. Such impacts will typically affect large numbers of businesses, workers or residents; ■ Very large direct or indirect benefits for local business; ■ Beneficial health impact to a large number of people and beneficial impact affecting sensitive population groups.

Magnitude of impact (change)		Typical description
Medium	Adverse	<ul style="list-style-type: none"> ■ Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements; ■ Moderate magnitude impacts will typically be long-term in nature, resulting in the permanent change of the study area's baseline socio-economic conditions; ■ Moderate to large damage to local business, but with changes to management it should remain viable; ■ Adverse impact affecting moderate number of people. Adverse impact affecting some sensitive population group(s).
	Beneficial	<ul style="list-style-type: none"> ■ Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality; ■ Moderate magnitude impacts will typically be long-term in nature, resulting in the permanent change of the study area's baseline socio-economic conditions; ■ Moderate to large benefits for local business; ■ Beneficial impact affecting moderate number of people. Beneficial impact affecting some sensitive population group(s).
Low	Adverse	<ul style="list-style-type: none"> ■ Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements; ■ An impact that is expected to have a minor socio-economic effect. Such impacts will typically have a noticeable effect on a limited number of businesses, workers or residents, and will lead to a permanent (but not drastic) change to the study area's baseline socio-economic conditions; ■ Slight to moderate damage to local business, but with minor changes to management it should remain viable; ■ Adverse impact affecting low-moderate number of people. Adverse impact affecting few sensitive population groups.
	Beneficial	<ul style="list-style-type: none"> ■ Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring; ■ An impact that is expected to have a minor socio-economic effect. Such impacts will typically have a noticeable effect on a limited number of businesses, workers or residents, and will lead to a permanent (but not drastic) change to the study area's baseline socio-economic conditions; ■ Slight to moderate benefits for local business; ■ Beneficial impact affecting low-moderate number of people. Beneficial impact affecting few sensitive population groups.
Negligible	Adverse	<ul style="list-style-type: none"> ■ Very minor loss or alteration to one or more characteristics, features or elements; ■ An impact that is expected to affect a small number of businesses, workers or residents. Or an impact that may affect a larger number of receptors but without materially changing the study area's baseline socio-economic conditions. Such impacts are likely to be temporary in nature; ■ The identified impacts are predicted to have little or no damage to local business; ■ No or non-perceptible impact to health, population or sensitive groups.
	Beneficial	<ul style="list-style-type: none"> ■ Very minor benefit to or positive addition of one or more characteristics, features or elements; ■ An impact that is expected to affect a small number of businesses, workers or residents. Or an impact that may affect a larger number of receptors but without materially changing the study area's baseline socio-economic conditions. Such impacts are likely to be temporary in nature; ■ The identified impacts are predicted to have little or no benefit to local business; ■ No or non-perceptible impact to health, population or sensitive groups.

The approach followed to derive effects significance from receptor value and magnitude of impacts is shown in Table 3.4. Where Table 3.4 includes two significance categories, evidence is provided in the topic chapters to support the reporting of a single significance category.

Table 3.4: Significance Matrix

	Magnitude of Impact (Degree of Change)				
		Negligible	Low	Medium	High
Environmental value (Sensitivity)	High	Slight	Slight or moderate	Moderate or large	Profound
	Medium	Imperceptible or slight	Slight or moderate	Moderate	Large or profound
	Low	Imperceptible	Slight	Slight	Slight or moderate
	Negligible	Imperceptible	Imperceptible or slight	Imperceptible or slight	Slight

A description of the significance categories used is provided in Table 3.5.

Table 3.5: Significance categories and typical descriptions.

Significance Category	Typical Description
Profound	An effect which obliterates sensitive characteristics. Only adverse effects are usually assigned this level of significance. These factors are key issues in the decision-making and consent process. These effects are generally, but not exclusively, associated with sites or features of international, national or regional importance which are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also be included in this significance category.
Large	An effect which, by its character, magnitude, duration or intensity alters a significant proportion of a sensitive aspect of the environment. These can be beneficial or adverse effects and are considered to be very important issues which are likely to be substantial in the decision-making process.
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends. These are beneficial or adverse effects which may be important but are not likely to be central to decision-making or consent. The cumulative effects of these factors may influence consent or decision-making if they should lead to an increase in the overall adverse effect on a particular resource or receptor.
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities. These beneficial or adverse effects may be raised as local factors. They are unlikely to be critical in the decision-making process but are important in enhancing the subsequent design of the project.
Imperceptible	An effect capable of measurement but without significant consequences. No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

The approach to assigning significance of effect included reasoned argument and the professional judgement of competent experts. The assessment of the significance of environmental effects covered the following factors:

1. The receptors/resources (natural and human) which would have been affected and the pathways for such effects;
2. The geographic importance, sensitivity or value of receptors/resources;
3. The duration (long or short term); permanence (permanent or temporary) and changes in significance (increase or decrease);
4. Reversibility - e.g. is the change reversible or irreversible, permanent or temporary;
5. Environmental and health standards (e.g. local air quality standards) being threatened; and
6. Feasibility and mechanisms for delivering mitigating measures, e.g. is there evidence of the ability to legally deliver the environmental assumptions which are the basis for the assessment?

Using the described classification and professional judgement, **effects considered to be Profound or Large are deemed significant and those Moderate, Slight, or Imperceptible, to be not significant**, for the purposes of this assessment.

3.2.3 Information Sources

The description of the receiving environment for this EIAR is set out under the headings identified in Section 3.2.1.

In regard to Human Health the reader is reminded that other chapters of this EIAR assess effects and set down mitigation measures for other environmental factors that ultimately require emission regulation by national/international standard, or specific planning / licensing condition for reason of protection of human health and the environment. Those assessments are referenced in this chapter to address potential Human Health impacts in accordance with EPA draft guidance on the information to be contained in an EIAR; *“In an EIAR, the assessment of impacts on population & human health should refer to the assessments of those factors under which human health effects might occur, as addressed elsewhere in the EIAR e.g. under the environmental factors of air, water, soil etc. The Advice Notes [Advice Notes on Current Practice (in the preparation of Environmental Impact Statements, Sept. 2003)] provide further discussion of how this can be addressed.”*

Sources of information for the assessment of potential impacts on populations and human health included the following:

- Census Returns (Central Statistics Office (CSO), 1991, 1996, 2002, 2006, 2011 and 2016 Census);
- South Dublin County Council Development Plan, 2016-2022;
- South Dublin County Council Development Plan, 2016-2022, Two year Progress Report, 2018;
- South Dublin County Council Development Plan, 2022-2028, Issues paper, 2021;
- South Dublin County Council, Traveller Accommodation Programme, 2019 -2024;
- Department of Health, Key Trends in Ireland, 2018;
- Field surveys of the Application Site and inspection of the surrounding area;
- Correspondence with the Applicant/Site Owner;

- Desktop reviews of previous assessment from historic planning applications;
- Review of available Ordnance Survey of Ireland Aerials (1991, 1994, 1995, 2000, 2004, 2012, 2016 and 2020); and
- Department of Communication, Climate Action and Environment (DCCA) Eircode maps.

The EPA's 2017 'Guidelines on the information to be contained in environmental impact assessment reports' identify that the legislation does not generally require assessment of Land Use planning, demographic issues or detailed socio-economic analysis, which should be avoided in an EIAR, unless issues such as economic or settlement patterns give rise directly to specific new developments and associated effects. As such, assessments of these topics have not been conducted as the Proposed Development is not considered likely to have impacts on the land use planning within the locality, nor is it likely to affect the local demographics or socio-economic dynamics of the area. However, baseline information on the local area has been provided to show its context to, and comparison with, the region (county) and national average. In addition, information on industrial land use in proximity to the Site has been included. The land-uses identified include: similar industry to the Proposed Development, EPA regulated and licenced facilities (such as waste or IPC/IE sites); and upper or lower tier SEVESO sites.

3.2.4 Temporal Scope

Under the programme of the Proposed Development, the extraction phase will last for 10 to 15 years which will provide for fluctuations in market demands for the aggregate extracted from the Site. The duration of the extraction phase is therefore classified as 'medium-term' by the EPA's 2017 draft 'Guidelines on the information to be contained in environmental impact assessment reports' (seven to fifteen years).

The restoration phase of the Proposed Development will follow the extraction phase and will be 2 to 5 years in duration, which is 'short-term' (those lasting from one to seven years).

3.2.5 Geographical Scope

The EIA directly covers the physical extent of the Site as shown in Figure 3.1. As predicted impacts on the human environment can extend beyond the immediate Site boundary, a wider 'zone of influence' has been considered.

The geographical study area for the assessment covers the development area and a buffer zone of 500 m from the development boundary. The buffer area has been identified based on the UK's Design Manual for Roads and Bridges (Volume 11, Section 3, LA112, Revision 1, Sustainability and environment. Appraisal. Population and human health). An assessment of residential receptors has been made in relation to a 500 m offset to the planning application boundary.

The study area defined for the population and demographic trends is the Electoral Division (ED) of Rathcoole.

In the assessment of cumulative impacts the geographical extent of the EIAR has been extended as appropriate to include relevant related or unrelated development activities that have the potential to create significant negative impacts with the Proposed Development.

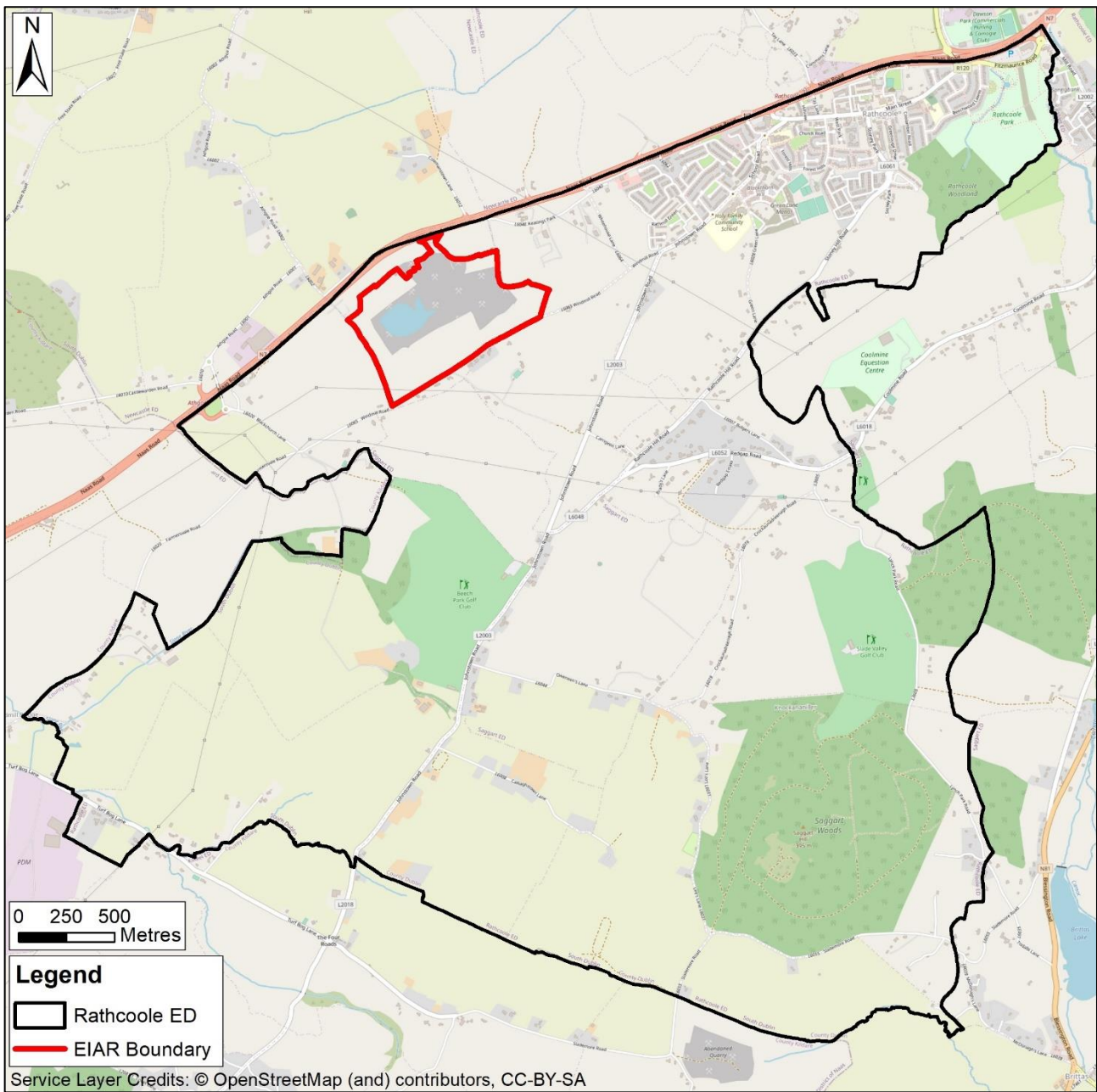


Figure 3.1: The EIA Project Site and Rathcoole ED boundary.

3.2.6 Planning Objectives

The Site is located within the administrative area of South Dublin County Council (SDCC) and is subject to the objectives and policies contained within the South Dublin County Development Plan 2016-2022 which has been the subject of 5 no. variations.

The Plan includes mapped land use zoning, specific, transport and conservation objectives for the Site displayed on Map no. 7. An extract of that map is at Figure 3.2. Objectives relating to the subject site are at Table 3.7 below Figure 3.2.

The EIA project boundary, to the south, includes conservation objectives related to Windmill Hill for the protection of A prospect and the architectural remains as part of Listed Buildings. These conservation objectives are reinforced by a specific local objective “*HCL3 SLO3: To secure the preservation of Windmill*

Hill, Rathcoole (RPS Ref. 358).” There is a further conservation objective to “Protect and Preserve Significant Views” on Windmillhill Road at the southern eastern corner of the EIAR project boundary.

In addition the EIA site includes, in its north western, quadrant a specific objective “To provide for Traveller Accommodation Sites to be Selected”. This specific objective is coupled with that “To provide for Traveller Accommodation” and therefore indicates that the specific objective within the EIAR project boundary refers to a location to be assessed. According to Section 2.1.4 of the Plan these mapped objectives reflected the then Traveller Accommodation Programme 2014 -2018 against which “sites to be selected” were presumed to be adjudged. The Plan also states that the programme would be reviewed at the Two Year Progress Report of the Development Plan in 2018.

At the time of writing of this EIAR, no proposal for traveller accommodation a been progressed in the vicinity of the specific objective within the EIAR project site. The Two Year Progress Report of the Development Plan refers to A Traveller Development Programme for 2019 -2023 then being prepared, of which the Traveller Accommodation Programme (TAP) 2019 – 2024 has formed part. This TAP includes a map of ‘Existing and Proposed/Indicative sites for Traveller Accommodation 2019-2024’ that records operational accommodation locations and the specific objective “To provide for Traveller Accommodation”. In this way, there is not, nor is it anticipated that there will be residential accommodation for travellers arising within the EIAR project boundary.

The application boundary for the proposal for development for a minor lateral northern extension of the extant quarry void and the deepening of that void from an average of 173 mAOD to 150 mAOD does not include any of the specific, transport or conservation mapped objectives of the Development Plan. The further quarrying proposed has been designed to be confined to the extant void and northern lateral extension for the protection of those objectives. Landscape and cultural heritage assessments are at Chapters 11 and 9 of this EIAR respectively.

The entire of the proposal and larger EIAR project sties hold land use zoning objective ‘RU’ “To protect and improve rural amenity and to provide for the development of agriculture.” Table 11.16 of the Plan set out those land uses permitted in principle, open for consideration and not permitted within areas holding the RU land use zoning objective. The full schedule of those uses are repeated at Table 3.6 below, with the uses of the existing quarry and proposed further quarrying proposal identified by underline.

Table 3.6: Repeat of Table 11.16: Zoning Objective ‘RU’ of South County Dublin Development Plan 2016 – 2022

USE CLASSES RELATED TO ZONING OBJECTIVE	
Permitted in Principle	Aerodrome/Airfield, Agriculture, Allotments, Cemetery, <u>Concrete/ Asphalt Plant in or adjacent to a Quarry</u> , Home Based Economic Activities ^a , <u>Industry-Extractive</u> , Open Space, Public Services, Rural Industry-Food.
Open for Consideration	Abattoir, Advertisements and Advertising Structures, Bed & Breakfast ^a , Boarding Kennels, Camp Site ^h , Car Park ^h , Childcare Facilities ^b , Community Centre, Crematorium, Cultural Use ^a , Doctor/ Dentist ^b , Education, Embassy ^a , Enterprise Centre ^b , Fuel Depot ^b , Funeral Home ^b , Garden Centre, Guest House ^a , Health Centre ^b , Heavy Vehicle Park, Hotel/Hostel, Offices less than 100sq.m ^b , Petrol Station ^b , Place of Worship ^b , Primary Health Care Centre ^b , Public House ^b , Recreational-Facility, Recycling Facility ^b , Refuse Landfill/ Tip, Residential ^c , Restaurant/Café, Service Garage ^b , Shop-Local ^b , Social Club, Sports Club/Facility, Stadium, Traveller Accommodation, Veterinary Surgery.

USE CLASSES RELATED TO ZONING OBJECTIVE	
Not Permitted	Betting Office, Caravan Park- Residential, Conference Centre, Hospital, Housing for Older People, Industry-General, Industry-Light, Industry-Special, Live-Work Units, Motor Sales Outlet, Nightclub, Nursing Home, Office-Based Industry, Offices 100 sq.m-1,000 sq.m, Offices over 1,000sq.m, Off-Licence, Outdoor Entertainment Park, Refuse Transfer Station, Residential Institution, Retail Warehouse, Retirement Home, Science and Technology Based Enterprise, Scrap Yard, Shop-Major Sales Outlet, Shop- Neighbourhood, Transport Depot, Warehousing, Wholesale Outlet, Wind Farm.
<p>^a In existing premises</p> <p>^b In Villages to serve local needs</p> <p>^c In accordance with Council policy for residential development in rural areas</p> <p>^f In accordance with a Local Area Plan</p> <p>^h For small-scale amenity or recreational purposes only</p>	

In their County Development Plan SDCC identify that mineral extraction and the aggregate industry is an important economic sector that provides raw materials for the construction industry. SDCC also state that the processes involved in extraction can give rise to long-term environmental effects and significantly alter landscape character. These effects are stated to require consideration when identifying the suitability of areas for extraction.

Under Section 4.7.0 of the Plan, is the SDCC policy for, 'Policy 10 Mineral Extraction' as part of Economic Development and Tourism. Policy 10 Mineral Extraction states:

'It is the policy of the Council to support the sustainable extraction of aggregate resources at suitable locations within the County subject to appropriate environmental safeguards.'

This section of the Plan refers to the Landscape Character Assessment for the county stating that the most environmentally sensitive high amenity areas of the county are a priority for protection. Chapter 11 of this EIAR of a landscape assessment of the proposal.

Specific objectives in this policy which are relevant to the Site include:

- **ET10 Objective 1:** To facilitate mineral extraction in suitable locations subject to the protection of amenity and environmental quality; and
- **ET10 Objective 3:** To ensure the satisfactory reinstatement and/or re-use of disused quarries and extraction facilities, where active use has ceased.

The Plan acknowledges that factors such as air pollution, water pollution, nuisance noise and vibrations can negatively affect human health, the environment and residential amenity.

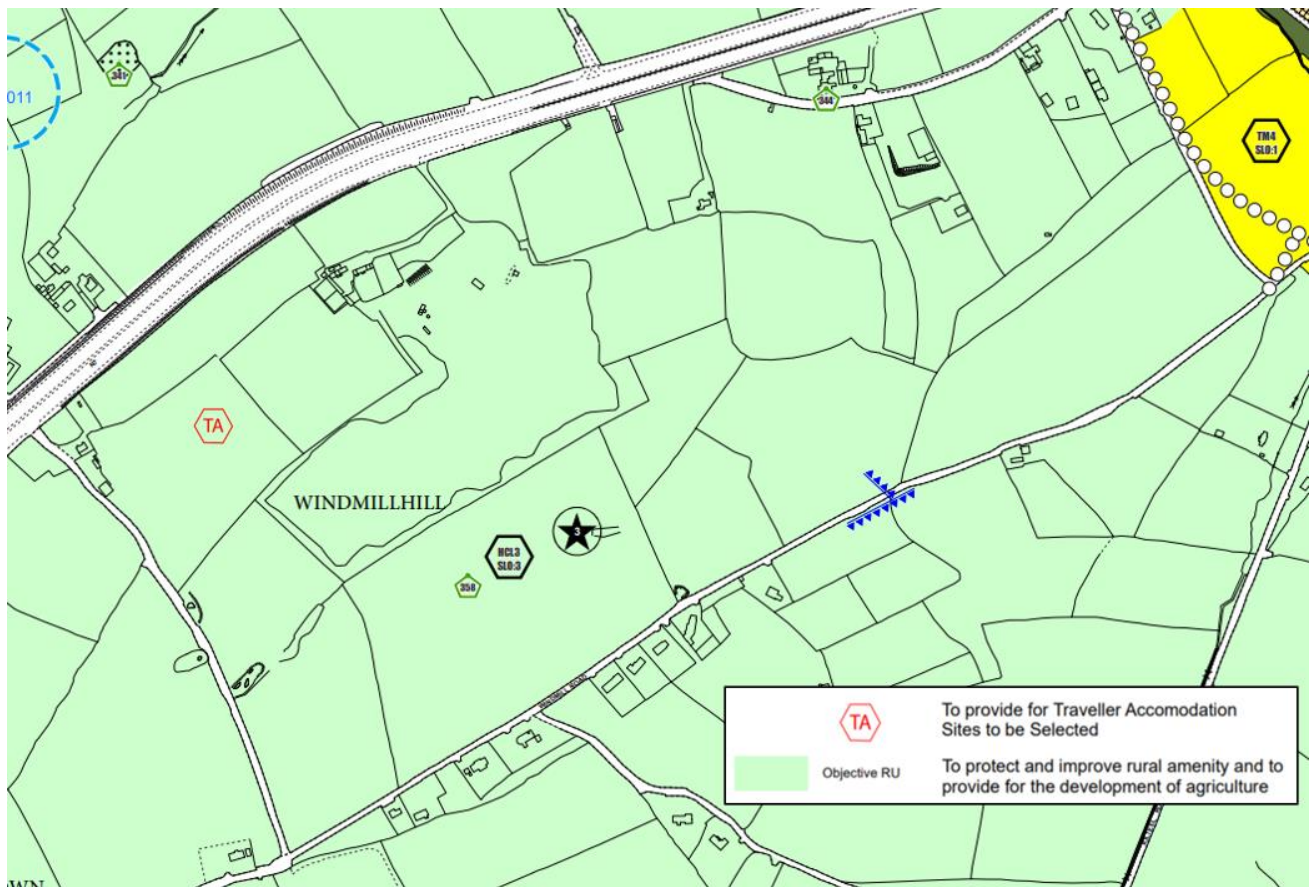
Chapter 7 of the SDCC County Development Plan 2016 - 2022 provides policies and objectives related to 'Infrastructure and Environmental Quality'. In this chapter relevant policies which are related to the development and bio-physical factors (air, noise and water) which could affect human health include:

Policy 2 Surface Water and Groundwater:

'It is the policy of the Council to manage surface water and to protect and enhance ground and surface water quality to meet the requirements of the EU Water Framework Directive.'

Policy 7 Environmental Quality:

'It is the policy of the Council to have regard to European Union, National and Regional policy relating to air quality, light pollution and noise pollution and to seek to take appropriate steps to reduce the effects of air, noise and light pollution on environmental quality and residential amenity.'



Use Zoning Objectives

- Objective RES To protect and/or improve residential amenity
- Objective RES-N To provide for new residential communities in accordance with approved area plans
- Objective SDZ To provide for strategic development in accordance with approved planning schemes
- Objective REGEN To facilitate enterprise and/or residential-led regeneration
- Objective TC To protect, improve and provide for the future development of Town Centres
- Objective MRC To protect, improve and provide for the future development of a Major Retail Centre
- Objective DC To protect, improve and provide for the future development of District Centres
- Objective VC To protect, improve and provide for the future development of Village Centres
- Objective LC To protect, improve and provide for the future development of Local Centres
- Objective RW To provide for and consolidate retail warehousing
- Objective EE To provide for enterprise and employment related uses
- Objective OS To preserve and provide for open space and recreational amenities
- Objective HA (LV, DV, DM) To protect and enhance the outstanding natural character and amenity of the Liffey Valley, Dodder Valley and Dublin Mountains areas
- Objective RU To protect and improve rural amenity and to provide for the development of agriculture

Specific Objectives:

- PPS Proposed Post Primary School
 - PS Proposed Primary School
 - Seveso Sites
 - Specific Local Objectives (See Written Statement for Details)
 - TA To provide for Traveller Accommodation Sites to be Selected
 - TA To provide for Traveller Accommodation
 - To protect and / or provide for a Burial Ground
 - Contour Lines
 - SDZ Planning Scheme Boundaries
 - County Boundary
- Transport**
- Junction Proposals
 - Road Proposals - Long Term
 - Road Proposals - 6 Year
 - Long Term High Capacity Public Transport (RPA Preferred Route)
 - NTA Greater Dublin Cycle Network Plan
 - Proposed Local Cycle / Pedestrian Link







Conservation

- To Preserve Prospects
- Tree Preservation Order (See Written Statement For Details)
- Record of Protected Structures (See Written Statement for Details)
- Record of Monuments and Places (See Written Statement for Details) (For Areas of Archaeological Potential see Index Map)
- Protect and Preserve Significant Views
- Geological Sites for Protection
- Bohernabreena Reservoir Catchment
- Architectural Conservation Areas (ACA)
- Proposed Natural Heritage Areas (pNHA)
- Special Protection Areas (SPA)
- Liffey Valley Special Area Amenity Order 1990 (SAAO)
- Special Area of Conservation (SAC)

Note: See Index map for details of approach areas and height control zones for Casement Aerodrome, Baldonnell and Backweston Aerodrome, Backweston Park.
The lines of the Transport Proposals shown on this map are diagrammatic only and are subject to change during the detailed design process

Figure 3.2: Indicative location for Traveller Accommodation, within the north-west area of the Site. Figure adapted from Map 7 of the SDCC County Development Plan 2016-2022, and includes approximate EIAR boundary.

Table 3.7: Mapped objectives of 2016 – 2022 South County Dublin Development Plan at the Site

Mapped Objectives Category	Objective
Land Use Zoning	 'RU' To protect and improve rural amenity and to provide for the development of agriculture
Specific	 Specific Local Objective HCL3 SLO:3 To secure the preservation of Windmill Hill, Rathcoole (RPS Ref. 358).  To provide for Traveller Accommodation Sites to be Selected
Transport	Low or medium importance and rarity, local scale.
Conservation	 To Preserve Prospects  Record of Protected Structures No. 358. Map ref. 358. RPS Ref. 358. Address / Location: Windmill House Rathcoole. Description: Stone Mill (Ruin) (Former Paper Mill)  Protect and Preserve Significant Views

The current Development Plan is scheduled for review in order it be replaced for the period 2022 -2028. That review is statutorily prescribed consisting of 3 no. public consultation periods ahead of final adoption: pre-draft, draft Plan, and material amendments to that Plan. The pre-draft phase of the new Plan has passed and the Draft Plan expected for public consultation in July 2021. The Pre-Draft stage was informed by local authority issues papers that do not specifically refer to the Site or the proposed quarrying land use. Pre-Draft Plan issues papers, in common with the Plan itself, defers to higher order policy documents. The Site is not identified for large-scale redevelopment in the higher order spatial planning policies primarily consisting of the National Planning Framework (NPF) and the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region.

3.3 Baseline

3.3.1 Surrounding Environment

The Site is located in the south of County Dublin, east of the border with Co. Kildare. The Site is located within the townland of Windmillhill and located directly south of the M/N7 Dublin to Limerick road, ca. 2 km to the southwest of Rathcoole. As noted, the Site is located within Rathcoole ED, the boundary of which has been provided in Figure 3.1.

The lands surrounding the Site to the north, west and south can be characterised as rural in nature, with land uses in the area being agricultural and single-house residential. Dry cattle, sheep rearing and grazing of horses are the main activities in the area, with further arable activities to the south-west. Suburban development has extended from more built up areas of Rathcoole along the N7 towards the east of the Site. The nearest school and church to the site is located within Rathcoole ca. 2 km to the east of the site.

The local residential and non-residential receptors surrounding the Site have been identified in Figure 3.3. Residential receptors have been identified with a circle icon, while non-residential receptors are indicated with a triangle icon. The numbers of each have been provided in Table 3.8. The non-residential receptors are commercial and industrial facilities. Three properties owned by the Applicant and located within their land holding have been identified.

Table 3.8: Local residential and non-residential receptors within various distances of the Site.

Year	0 - 250 m Residential	0 - 250 m Non-Residential	250 - 500 m Residential	250 - 500 m Non-Residential
1991	13	5	21	5
1994	13	5	21	5
2000	13	6	22	5
2004	15	6	22	5
2012	16	7	23	5
2016	16	7	23	5
2020	16	8	23	5

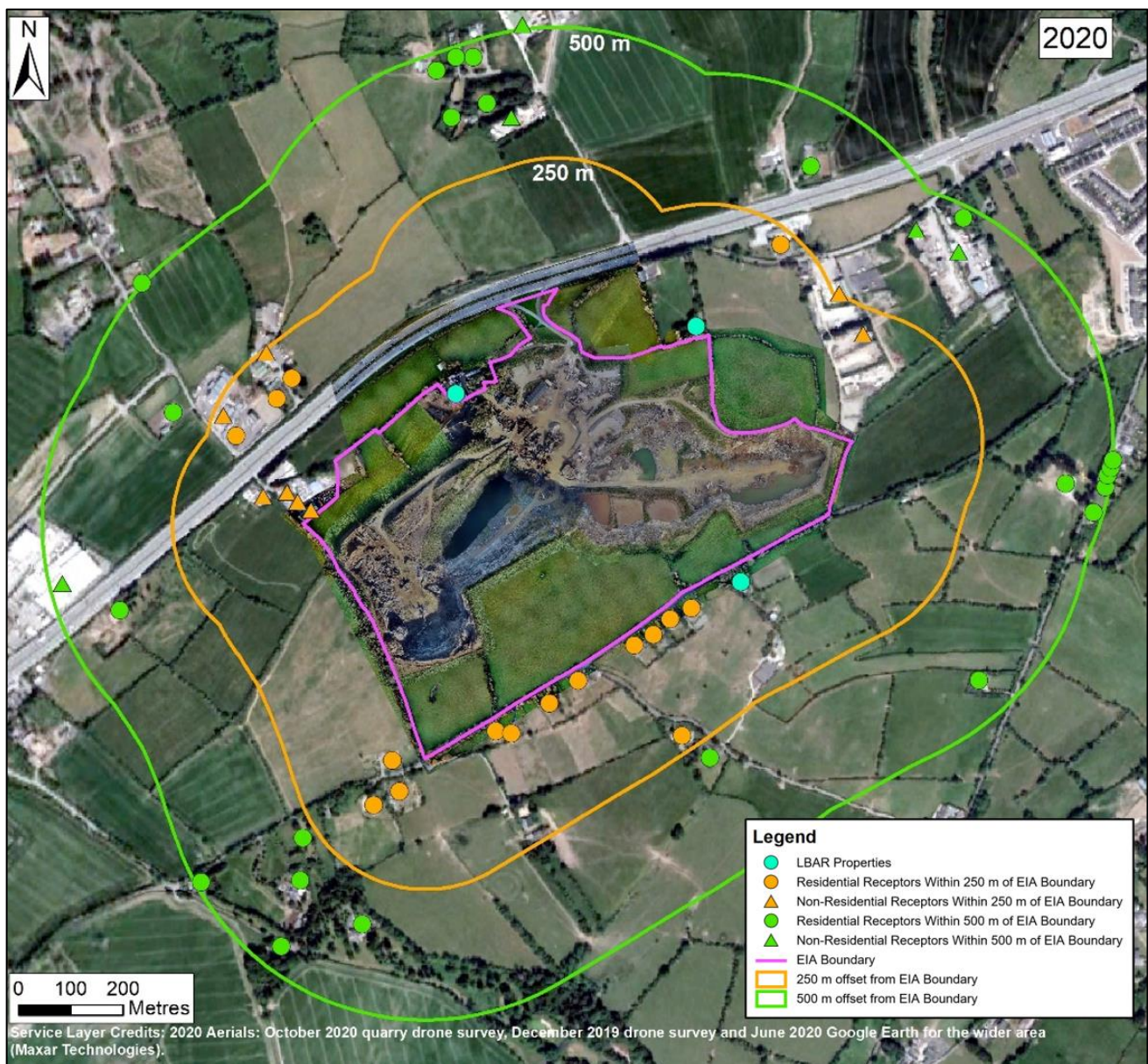


Figure 3.3: EIA boundary with 2020 aerial image, and receptors within 250 m and 500m.

3.3.2 Population

The lands subject to this EIAR do not hold a resident population. Three properties owned by the Applicant have been identified within 250 m of the Site (which are within the Applicant's overall land holding).

The Site is located within the Electoral Division (ED) of Rathcoole (CSO Area Code ED 03021), which has an area of 15.6 km².

Table 3.9 and Table 3.10 summarises population statistics for the State, Leinster, South Dublin and the Rathcoole ED. The percentage population increase has been calculated between the Census periods of 1991, 1996, 2002, 2006, 2011 and 2016.

Generally consistent increases in population were observed in the State, Leinster and Co. Dublin over the Census periods. Subsequent lower rates of population increase were observed in the period of 2011 to 2016.

The population of Rathcoole ED decreased over the Census periods of 1991 to 2002. During these periods, the population increased in the county, regionally and nationally. Between 2002 and 2011 the population of Rathcoole ED increased by greater proportions than was observed in the county, regionally and nationally. An increase in population was observed between 2011 and 2016 within the Rathcoole ED which was consistent with increases in South Dublin, Dublin and Leinster for that period.

The higher rates of population increase observed between 2002 and 2011 can be attributed to the economic growth of the mid 2000s and the development within the surrounds of Rathcoole during that period.

Population data subsequent to 2016 is not available for the Rathcoole ED; however, it is anticipated that large increases of the local population have taken place due to the development of housing estates between the Site and Rathcoole Village.

Table 3.9: Populations recorded during the 1991 to 2016 census period (Central Statistics Office).

Area	1991	1996	2002	2006	2011	2016
State	3,525,719	3,626,087	3,917,203	4,239,848	4,588,252	4,761,865
Leinster	1,860,949	1,924,702	2,105,579	2,295,123	2,504,814	2,634,403
Dublin	1,025,304	1,058,264	1,122,821	1,187,176	1,273,069	1,347,359
South Dublin	208,739	218,728	238,835	246,935	265,205	278,767
Rathcoole ED	3,575	3,448	3,204	3,614	4,740	5,009

Table 3.10: Population dynamics (% change) from 1991 to 2016 (Central Statistics Office).

Area	1991 to 1996	1996 to 2002	2002 to 2006	2006 to 2011	2011 to 2016
State	2.85	8.03	8.24	8.22	3.78
Leinster	3.43	9.40	9.00	9.14	5.17
Dublin	3.21	6.10	5.73	7.24	5.84
South Dublin	4.79	9.19	3.39	7.40	5.11
Rathcoole ED	-3.55	-7.08	12.80	31.16	5.68

A total of 39 No. existing third-party residential dwellings are found to be currently within 500 m of the Site boundary, of these 16 No. receptors are located within 250 m of the Site boundary. The number of residences is based on a field survey, a review of aerial photography, DCCA Eircode mapping and a local authority planning permission search.

Population Age Distribution

Table 3.11 summarises the percentage population distribution by age for the State, South Dublin and Rathcoole ED. The population age distribution percentages have been calculated for the available Census periods for the relevant population areas.

From a comparison of the increases in the age 0-14 and 30-44 demographics between 2006 and 2016 it is indicated that there was an increase in younger families within the area.

The size of the over 65 age group within the Rathcoole ED increased proportionally with those groups in the South Dublin area and the State as a whole for the same period. Decreases in the proportional size of the 15-29 age group were also evident across the Rathcoole ED, South Dublin and the State for the same period.

Table 3.11: Population Age Distribution, (Central Statistics Office)

Year	Area	% Aged 0-14	% Aged 15-29	% Aged 30-44	% Aged 45-64	% Aged 65+
2016	State	21.1	18.4	23.3	23.8	13.4
2011	State	21.3	20.5	23.7	22.7	11.7
2006	State	20.4	23.7	22.9	21.9	11.0
2002	State	21.1	24.4	22.1	21.2	11.1
1996	State	23.7	24.6	20.9	19.4	11.4
1991	State	26.7	24.0	20.2	17.6	11.4
2016	South Dublin	23.0	18.7	24.9	22.3	11.1
2011	South Dublin	23.1	21.8	24.3	22.1	8.7
2006	South Dublin	21.7	26.4	23.0	21.6	7.2
2002	South Dublin	22.5	27.8	22.9	20.6	6.3
1996	South Dublin	27.1	26.8	23.1	17.8	5.2
2016	Rathcoole ED	22.7	14.1	31.0	17.0	15.2
2011	Rathcoole ED	17.0	21.1	24.9	23.5	13.5
2006	Rathcoole ED	14.4	27.1	20.4	28.2	10

Population Density

Table 3.12 summarises population densities for the State, Leinster, Co. Dublin, South Dublin and the Rathcoole ED. The population densities have been calculated between the Census periods of 1991, 1996, 2002, 2006, 2011 and 2016.

As expected from the increased populations, the population densities also increased in the State, province and county areas of the Census periods. Proportionally larger increases were evident in Dublin, South Dublin and the Rathcoole ED owing to the influence of development in the greater Dublin area during this period.

The population density of the Rathcoole ED is still much higher than that observed in the state and Province and lower than Dublin County which reflects the semi-rural and semi suburban nature of the area as it is located on the outskirts of Dublin City.

Table 3.12: Population Density (persons per square kilometre) from 1991 to 2016 (Central Statistics Office)

Area	Size km ²	1991	1996	2002	2006	2011	2016
State	70,273	50.2	51.6	55.7	60.3	65.3	67.8
Leinster	19,800	94.0	97.2	106.3	115.9	126.5	133.1

Dublin	922.3	1,111.7	1,147.4	1,217.4	1,287.2	1,380.3	1,460.9
South Dublin	223.6	933.5	978.2	1,068.1	1,104.4	1,186.1	1,246.7
Rathcoole ED	15.8	226.3	218.2	202.8	228.7	300.0	317.0

Households

Table 3.13 summarises the number of households and persons per household for the State, South Dublin and the Rathcoole ED. The statistics have been calculated for the available Census periods of 2006 and 2016.

It can be noted that the increases and decreases in the average size of households are relatively consistent for the Rathcoole ED, South Dublin, and the State for the same periods.

Table 3.13: Households from 2006 to 2016 (Central Statistics Office)

Area	2006			2011			2016		
	Household	People	Avg. No. Persons per Household	Household	People	Avg. No. Persons per Household	Household	People	Avg. No. Persons per Household
State	1,469,521	4,123,318	2.81	1,654,208	4,510,409	2.73	1,702,289	4,676,648	2.75
South Dublin	80,631	244,462	3.03	90,019	263,723	2.93	92,523	277,168	3.00
Rathcoole ED	1,251	3,569	2.85	1,578	4,228	2.68	1,766	4,976	2.82

3.3.3 Employment / Local Economies

Employment at the Site

There is no consolidated methodology or practice for assessing the impact on employment in EPA guidance. The impacts of the Site on employment have therefore been assessed qualitatively based on the number of jobs which the Site has created. The Site has provided direct and indirect employment. Direct jobs include the workforce employed by the Developer and subcontracted directly at the Site. Indirect employment includes those created in the supply chain to provide input (e.g. fuels), specialist labour (e.g. contract drivers) and services (e.g. equipment maintenance) for the site and workforce.

The numbers of employees which the Site has directly employed over recent years has varied due to increases and decreases of demand for aggregate products from the construction industry. The Site has provided consistent employment for approximately 40 staff.

Principal Status

Table 3.14 summarises the employment status of the persons aged 15 years or older in South Dublin and the Rathcoole ED. As identified in Table 3.11 this equates to 77.0% (2016), 76.9% (2011) and 78.3% (2006) in South Dublin and 78.3% (2016), 83.0% (2011) and 85.6% (2006) in the Rathcoole ED. Similar and directly comparable data was unavailable for the period of 1990 to 2006, however it is considered that the cumulative employment status of the persons aged 15 years or older would be less than in 2006 with a gradual rise exhibited in the data from 1990. The rise in the principal economic status would be owing to the economic growth up to that period and its peak in 2006/2007 prior to the economic downturn.

Between the periods of 2011 and 2016 it is evident that the percentage of those 'Unemployed having lost or given up previous job' has decreased within the respective populations (Table 3.14). This is attributed to the rebound in the national economy following the banking crisis and recession prior to 2011.

Table 3.14: Principal Status of Persons 15 years and older in South Dublin and Rathcoole ED, in 2006, 2011 and 2016 (Central Statistics Office)

Status	South Dublin 2006 (%)	South Dublin 2011 (%)	South Dublin 2016 (%)	Rathcoole ED 2006 (%)	Rathcoole ED 2011 (%)	Rathcoole ED 2016 (%)
At work	61.7	52.2	55.5	65.0	54.2	59.9
Looking for first regular job	0.9	1.2	0.9	0.7	0.5	0.6
Unemployed having lost or given up previous job	5.2	11.6	7.6	3.6	10.2	4.8
Student	10.3	10.9	11.1	7.8	7.8	7.1
Looking after home/family	10.0	9.4	8.0	9.5	10.2	7.8
Retired	7.9	10.1	12.7	10.1	13.5	16.5
Unable to work due to permanent sickness or disability	3.8	4.3	3.9	3.1	3.3	3.0
Other	0.3	0.2	0.3	0.3	0.3	0.3

Employment Industry

Table 3.15, Table 3.16 and Table 3.17 summarise the percentage of persons aged 15 years or older per employment industry in the State, South Dublin and the Rathcoole ED. Given that South Dublin and the Rathcoole ED are suburban in the Greater Dublin Area it is expected that the percentage of the population involved in the 'agriculture, forestry and fishing' industries would be less than the national averages.

Employment industries where the percentage of persons in Rathcoole ED are above the national average include; 'building and construction', 'commerce and trade', and 'transportation and communications'. Other identified employment industries are in line with the national averages.

The 'Other' employment category was found to be lower in the Rathcoole ED when compared with the national and South Dublin averages, therefore it is considered that the employment industries of the working population of Rathcoole ED are better described in the defined criteria.

Similar and directly comparable data was unavailable for the period of 1990 to 2006, however it is considered that the relative distribution within the ED would be relatively consistent with the figures in Table 3.15, Table 3.16 and Table 3.17.

Table 3.15: Percentage persons in work by industry, 2016 (Central Statistics Office)

Industry	State (%)	South Dublin (%)	Rathcoole ED (%)
Agriculture, forestry and fishing	4.4	0.2	0.5
Building and construction	5.1	5.1	7.0
Manufacturing industries	11.4	8.8	11.0
Commerce and trade	23.9	27.9	28.8
Transport and communications	8.5	10.6	11.4
Public administration	5.3	5.8	5.1
Professional services	23.5	23.1	22.9
Other	17.8	18.5	13.3

Table 3.16: Percentage persons in work by industry, 2011 (Central Statistics Office)

Industry	State (%)	South Dublin (%)	Rathcoole ED (%)
Agriculture, forestry and fishing	5.1	0.2	0.8
Building and construction	4.8	4.6	5.5
Manufacturing industries	11.6	9.5	9.8
Commerce and trade	25.2	29.8	24.9
Transport and communications	8.1	10.6	9.3
Public administration	6.3	7.0	5.8
Professional services	23.5	23.6	19.6
Other	15.3	14.6	24.4

Table 3.17: Percentage persons in work by industry, 2006 (Central Statistics Office)

Industry	State (%)	South Dublin (%)	Rathcoole ED (%)
Agriculture, forestry and fishing	4.6	0.4	0.8
Building and construction	11.1	9.4	14.1
Manufacturing industries	13.6	11.3	13.7
Commerce and trade	27.1	33.5	27.9
Transport and communications	5.5	7.2	8.2
Public administration	5.2	6.2	5.3
Professional services	16.5	14.7	14.3
Other	16.3	17.3	15.7

Local Employment Centres

As previously described, the Site is situated close to the Kildare-Dublin border, just south of the N7 national road. The Site is in close proximity to the town of Rathcoole and due to the proximity to the N7 it is within a short commuting distance to Dublin City.

Public transport routes and the N7 road provide vital linkages and strengthen the area's status as a centre for economic investment and activity, and as a commuter zone. Using the N7 road, Dublin city centre is approximately 30 minutes away by car, while Naas can be reached in less than 15 minutes.

The Site is well positioned to serve the greater Dublin area and its location in a regional context has continued influence on the economic activity of the area. Such ease of access increases the attractiveness of the Site as a source of high value aggregate to meet the demands of the region. The ease of access also makes the area an ideal location for commuters. This is evident with the increases in population observed in Table 3.9.

There are a total of 8 No. existing non-residential industrial/commercial premises found to be currently within 250 m of the Site boundary. In addition, 5 commercial premises were identified between 250 m and 500 m of the Site boundary. The number of these business premises is based on a field survey, a review of aerial photography, DCCA Eircode mapping and a local authority planning permission search. It is considered that given the nature of these businesses they could continue to operate without substantial harm if they were affected by a disruption from the Proposed Development, (See Section 3.5.2).

3.3.4 Amenity

The subject lands do not offer amenity opportunities for the public being a private commercial enterprise. Please refer to Chapter 12.0 Landscape & Visual assessment for an assessment of the effect of the land use on the landscape of the area.

There are no community amenity lands or facilities within 500 m of the Site.

Infrastructure to the benefit of a wider population in the form of an upgraded N7 has been in place since 2007 and is described in Chapter 11.

Beech Park Golf Club is located ca. 600 m to the south of the Site while Slade Valley Golf Club is located ca. 2.0 km to the south east, and Castlewarden Golf Club is located 2.1 km to the west.

Other amenity areas surrounding the Site include the Slade Valley and Slievethoul walking trails located ca. 2.5 km to the south-east. A number of public open spaces, parks and sport pitches within the towns of Rathcoole and Saggart are located to the east (ca. 1.5 – 3.5 km from the Site).

The local clubs and amenity areas referenced above are utilised by the wider South Dublin and east Kildare communities and not just by the local population of the surrounding area.

There are no religious centres in the vicinity of the Site (1 km).

3.3.5 Land Use and Development Patterns

The EIA boundary for the Site is approximately 46.14 ha in area. This comprises lands which are currently used for quarrying activities and agricultural lands to the south. The Corine Landcover classification for the area bears the same Level 3 classification as the adjacent N7 (Road and Rail Network; Figure 3.4), however it is more appropriate to consider the area of land classified as 'Mineral Extraction Sites' which is typical of such rock quarries. The lands to the south, east and west are defined as 'Pastures'.

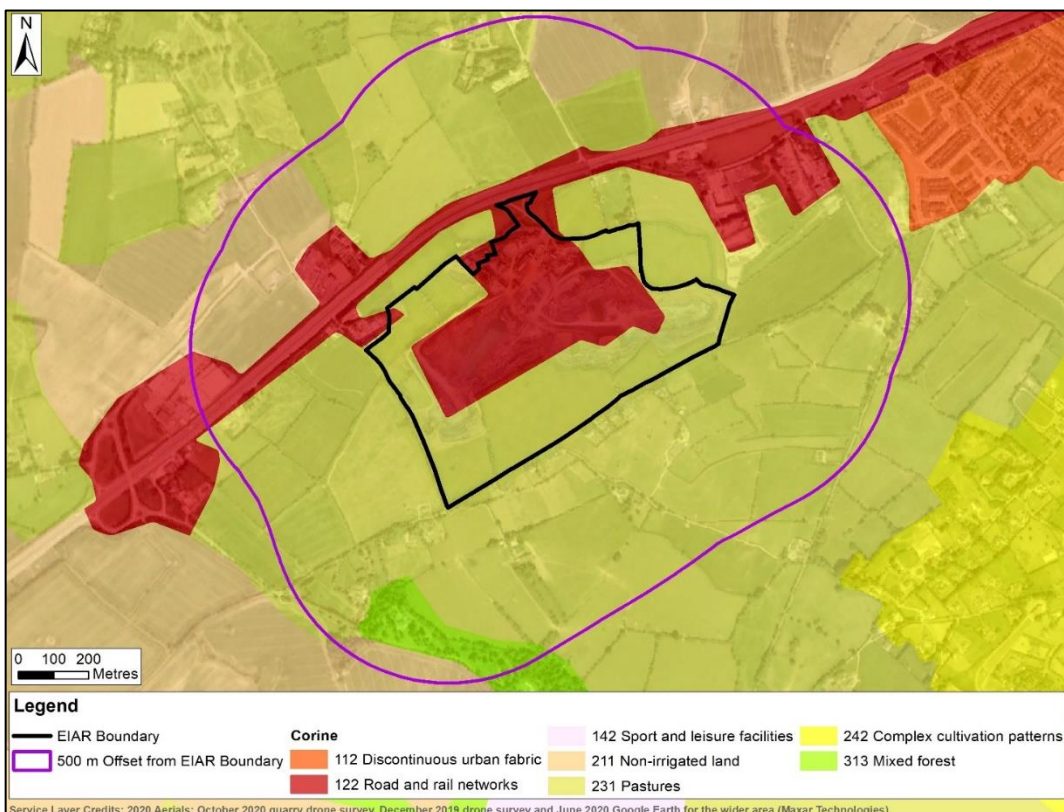


Figure 3.4: Corine Landcover classification for the Site.

The lands surrounding the Site to the north, west and south can be characterised as rural in nature, with land uses in the area being agricultural and single-house residential. Dry cattle sheep rearing and grazing of horses are the main activities in the area, with further arable activities to the south-west. Suburban development has extended from more built up areas of Rathcoole along the N7 towards the east of the Site. The nearest school and church to the site is located within Rathcoole ca. 2 km to the east of the site.

The rural nature of the surrounding area with suburban influences to the east has been a consistent baseline in the area. More recently, residential development towards the east in Rathcoole has increased.

There are no waste licenced or IE/IPC Licenced facilities within 1 km of the Site. Within 5 km of the Site, there are 6 No. EPA regulated activities;

- Saint Gobain Building Distribution (ROI) Limited (EPA Licence No. P0325-02), ca. 3.3 km to the south-west. Original Application made in October 1997;
- Brittas Plastics Ltd (EPA Licence No. P0150-01), ca. 3.3 km to the east. Original Application made in May 1996;
- BBALP Limited (EPA Licence No. P0275-01), ca. 4.5 km north-east. Original Application made in June 1997;
- Starrus Eco Holdings Limited (Greenogue) (EPA Licence No. W0188-01), ca. 3.0 km north-east. Original Application made in June 2003;
- Rilta Environmental Limited (EPA Licence No. W0192-03), ca. 3.0 km north-east. Original Application made in September 2003; and
- Rilta Environmental Limited (EPA Licence No. W0185-03), ca. 3.2 km north-east. Original Application made in April 2003.

Within 5 km of the Site, there are 4 No. consented Section 4 discharges:

- Johnston Haulage Co. Ltd, WPW/11/16, ca. 600 m west;
- Castlewarden Golf & Country Club, S4008-14, ca. 2.6 km west;
- Teehill Management Company Ltd, WP218/05, ca. 3.7 km south;
- Callighstown Enterprises, WPW/498/025, ca. 2.3 km south;
- Cathal Declan & Shane Ryan, S4009-15, ca. 4 km north-west;
- Concast Building Ltd, WPW/434/018, ca. 4.6 km north; and
- H.S.E., St Brigid's Nursing Home, WPW/504/026, ca. 3.9 km south-east.

There are two SEVESO sites within 5 km of the Site, one upper tier and one lower tier site. The closest SEVESO site is Dascher Ireland Limited (formerly Johnston Logistics Ltd), which is an upper tier SEVESO site and is located approximately 600 m to the west of the site. Brenntag Chemical Distribution (IRE) Limited, which is a lower tier site, is located within Greenogue Business Park approximately 3.1 km to the north-east of the site. These sites have been registered since ca. 2015 with the implementation of the Seveso III Directive (2012/18/EU) through the Chemicals Act (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2015 (S.I. No. 209 of 2015), (the "COMAH Regulations").

The intended development pattern for the Site and surrounding area is set out in the Development Plan for South Dublin County 2016 -2022, described at Section 3.2.6 and Figure 3.2, that indicate the underlying land use zoning objective as 'RU' (rural) with:

- Specific objectives for; Traveller Accommodation 'sites to be selected', and the preservation of the identified Windmill Hill Record Protected Structure (RPS) No. 358; and
- Conservation objectives for Windmill Hill RPS No. 358, a Prospect at Windmill Hill, and protection of View on Windmill Hill Road.

The specific and conservation objectives are within the EIAR boundary but outside of the development proposal Site. The Plan for the period 2022-2028 is in preparation with a Draft due in July 2021. Having regard to the Issues Paper prepared to support the Draft plan and higher order NPF and RSES, it is not anticipated that the Site, EIA lands or EIA study area lands will be subject to designation for development of alternative land use as they lie outside identified settlement boundaries to which new development will be encouraged.

A remote search of planning applications within the EIA Study area in February 2021 has not identified any significant new or extended land uses.

3.3.6 Human Health

Table 3.18 summarises the general health of persons by percentage for the State, South Dublin and the Rathcoole ED for the 2016 and 2011 census periods. Similar and directly comparable data is unavailable for preceding years.

In the 2016 Census there was a greater percentage of persons in the Rathcoole ED (89.2 %) who classified themselves as being in 'Good' or 'Very Good' health in comparison with the average for the State (87.0%), or South Dublin (87.4 %). In 2011, this figure was comparatively lower in the Rathcoole ED, however it should be noted that the General Health was not disclosed by a greater percentage of the Rathcoole ED population (11.4 % 'Not stated'). The percentage of persons who classified themselves as being in 'Bad' or 'Very Bad' health in the Rathcoole ED in 2016 (0.9 %) was lower in comparison with the average for the State, or South Dublin (both 1.6 %). This figure was on par for the State, South Dublin and the Rathcoole ED for the 2011 census period (all from 1.4 – 1.5 %).

Table 3.18: General Health percentage of the population, (Central Statistics Office)

General Health	2016 State (%)	2016 South Dublin (%)	2016 Rathcoole ED (%)
Very good	59.4	60.1	60.8
Good	27.6	27.2	28.4
Fair	8.0	7.4	7.2
Bad	1.3	1.3	0.9
Very bad	0.3	0.3	0.2
Not stated	3.3	3.7	2.5
General Health	2011 State (%)	2011 South Dublin (%)	2011 Rathcoole ED (%)
Very good	60.3	61.8	54.1
Good	28.0	27.3	26.1
Fair	8.0	7.1	7.0
Bad	1.2	1.2	1.3
Very bad	0.3	0.3	0.1
Not stated	2.2	2.4	11.4

3.3.7 Health and Safety

L. Behan Aggregates and Recycling Ltd. are committed to health and safety at their operations. The Site Manager is and has been responsible for safety management on the Site. The Manager is also responsible for the working environment, traffic management, emergency procedures, first-aid arrangements and safe systems of work.

The Site is required to meet conditions of existing consents and certain statutes. In particular, the relevant Health & Safety legislation (Safety, Health & Welfare at Work Act, 2005, the Mines and Quarries Act, 1965) and subsequent Health and Safety Regulations and Quarries Regulations relating to health and safety, training, and appropriate site management.

The Site has operated in accordance with a site specific safety statement and associated risk assessments (L. Behan Aggregates and Recycling Ltd, Safety Statement, Revision 08 January 2020).

The Site is fully fenced with any agricultural entrance permanently closed and locked. Boundaries have been inspected at regular intervals over the life of the quarry and the quarry manager would action repairs as appropriate.

The only vehicular entrance in operation is that from the N7. The lands are remotely secured via CCTV cameras with 24-hour monitoring. The site has alarm systems installed on the office, laboratory, workshop and other enclosed buildings. The entrance to the Site is secured by an electric gate. There is no requirement for lighting outside of the subject lands but within the lands, certain working hours (after dark in winter periods) necessitate lighting that is extinguished when the site is closed thus causing no external light pollution.

3.4 Characteristics of the Proposed Development

This Environmental Impact Assessment Report [EIAR] has been prepared to accompany a planning application to be made under S.37L of the Planning and Development Act, 2000 as amended for the continuation of extraction at an existing quarry at Windmillhill, Rathcoole, Co. Dublin.

The application for further development of the quarry is to be made concurrent with an application for substitute consent for the quarry that is accompanied by an rEIAR.

The lands the subject of this EIAR extend to 46.14 ha. that reflect historic operational site information including the extractable area declared under S.261 quarry registration in 2005. The EIA project boundary is generally bounded by the N/M7 to the north and the local Windmillhill Road to the south. The eastern and western EIA project boundaries are demarcated by the Windmillhill townland boundary that consist of field boundaries and the entrance to a dwelling called 'Four Winds' that is within the ownership of the planning applicant to the east; and the former local Steelstown Road to the west.

At the centre of the EIAR project boundary is an existing quarry that covers an area of approximately 28.8 ha. with an average working depth of 173 mAOD. The existing quarry is roughly rectangular in shape with an east – west axis parallel to the N/M7 and local Windmillhill Road. The existing quarry has a centrally located administration and processing plant area over approximately 5 ha.

The further quarrying development proposed involves a lateral northward extension of the current quarry void over approximately 5.16 ha west and east of an existing dwelling also in the applicant's ownership and a deepening of the western and eastern side of the laterally extended void to a final working depth of 150 mAOD. The further development proposed is for quarrying only and is over an area of approximately 26.87 ha. The material extracted will be processed at the existing central processing area and the existing quarry access will be utilised.

It is anticipated that extraction of the remaining reserve will occur over 10 to 15 years, depending on market conditions with a further 2 to 5 years for restoration that will remediate the quarry void to agricultural /amenity use and remove the quarry processing plant.

3.4.1 Embedded Mitigation

The initial assessment of the significance of potential effects resulting from the Proposed Development takes into consideration any embedded design and implemented Site management practices undertaken at the Site. These elements of the Proposed Development design and good working practices that reduce the potential for impacts to the surrounding human environment include the following:

- Site operations are managed in accordance with relevant health and Safety legislation (Safety, Health & Welfare at Work Act (2005, as amended); and the Mines and Quarries Act (1965, as amended)) and subsequent Quarries Regulations relating to health and safety, training, and appropriate site management;
- Fencing is actively maintained at the Site to ensure that the risk of injury to the public and livestock is minimised. The entrance gate is locked and controlled by the site's management;
- Exposed edges in the quarry are fenced or protected with safety berms;
- Blasting takes place at the Site using licenced and experienced operators.
- Site management practices are implemented to mitigate the impact to air quality, as identified in Chapter 7 of this EIAR, including:
 - Use of wet suppression of dust during dry periods, and the maintenance of physical screening of activities.
 - The design and nature of the Development is such that the floor of the quarry has gradually lowered during the assessment period which has resulted in the quarry face and benches providing natural screening;
 - Use of wheel wash to minimise dust transmission from HGVs, and the covering of loads during drier periods
- The implementation of Site management practices to mitigate the impact to noise, as identified in Chapter 8 of this EIAR, including:
 - The design of internal haul roads is such as to have as low a gradient as possible so as to minimise excessive revving of vehicle engines on-site;
 - The use of vehicle horns was and is discouraged during the daytime period and was and is banned during the early morning periods before 10:00 am;
 - The maintenance of bunds, as appropriate, to mitigate noise impacts at surrounding sensitive receptors;
 - Plant and equipment is shut down when not in use;
 - The imposition of speed limits on site and the access road to reduce noise from moving plant and HGVs.
- The implementation of Site management practices to mitigate the impact to the water environment, as identified in Chapter 6 of this EIAR, including:
 - Safe storage and handling of hazardous substances;

- Maintenance of equipment and plant to ensure there are no leakages of fuels, oils and potentially contaminating substances;
- The removal of soils is proposed to be conducted in phases and remain on site as formed berms to reduce the overall potential impact on the land use and underlying groundwater;
- The Site's traffic routes linked directly onto the N7 will be retained which mitigates the impacts on non-motorised road users as there is no need for HGVs and other vehicles to traverse local roads surrounding the Site, e.g. the L6065 to the south of the Site.

3.5 Potential Effects

The main potential impacts and associated effects considered in the assessment relate to the following:

- Activities or events that may impact size, density and composition of the local population or community;
- Activities or events which may impact or disrupt local employment and businesses surrounding the Site;
- Activities or events which may impact local amenity including: tourism attractions, local sport and recreation areas, designated and undesignated community lands, and religious centres;
- Activities or events which could impact local land use including agriculture, other industry and uses identified in local plans;
- Activities or events which could impact local populations or at-risk members of the local community. As identified in guidance documents from the European Commission and the Department of Housing, Planning and Local Government (DHPLG) the assessment of impacts on population and human health should focus on health issues and environmental hazards resulting from other environmental factors (those identified in Article 3(1) of the EIA Directive (2014/52/EU)), and does not require a wider consideration of human health effects which do not relate to those factors. The EPA's 2017 draft 'Guidelines on the information to be contained in environmental impact assessment reports' also identify that *'the assessment of impacts on population & human health should refer to the assessments of those factors under which human health effects might occur, as addressed elsewhere in the EIAR e.g. under the environmental factors of air, water, soil etc'*;
- Activities or events which could impact persons employed at the site (direct staff and contractors) and members of the community, including non-motorised road users.

These potential impacts for the Proposed Development are considered and assessed in the following sections.

The occurrence of major accidents and disasters has been considered in Chapter 3 (Project Description) of this EIAR.

3.5.1 Population

Potential impacts from the Site which may affect local populations include nuisance from noise, vibration, dusts, landscape and visual impacts, and impacts to groundwater. The potential extent of these will be limited to the local community surrounding the Site. As identified in Section 3.2.5, the geographical study area for the assessment covers the development area and a buffer zone of 500 m from the EIAR study boundary. Assessment of potential impacts to the population of this local community has been based on residents living closest to the Site and within this 500 m buffer area. These potential impacts have been assessed in the respective chapters of: Soils and Geology (Chapter 5), Water (Chapter 6), Air Quality and Climate (Chapter 7), Noise and Vibration (Chapter 8); and Landscape and Visual (Chapter 10).

A total of 39 No. existing residential dwellings are found to be currently within 500 m of the Site boundary. Of those identified, 13 No. residential receptors are located within 250 m of the Site boundary. It is noted that residential development and population in the Rathcoole ED has increased since 1990, and in the latter years this has increased at faster rates than those seen regionally or in the State.

These receptors are valued with a 'High' sensitivity. Based on the assessment of environmental impacts (identified above) in other chapters of this EIAR it is considered that the magnitude of impact on the population dynamics of the local community from the Proposed Development will be '**low**' and '**adverse**'.

The populations within the surrounding area have increased over recent years and it is considered that the Proposed Development will have a **negligible (adverse)** direct or indirect impact on the population size, age distribution, density and household composition in the study area or in the Rathcoole.

Employment levels at the Site have increased over recent years, however the potential direct impact from the Proposed Development on local population growth due to workers migrating to the area is **negligible and adverse**.

3.5.2 Employment

Employment at the Site

The receptor which has potential to experience employment effects is the workforce at the Site and the surrounding area. This includes the construction industry and the local supply chain. No sensitivity values are assigned to receptors with potential to experience employment effects.

The numbers of employees which the Site has directly employed has varied due to increases and decreases of demand for aggregate products from the construction industry. The Site has provided consistent employment for staff and currently the Site employs approximately 42 employees, including direct staff, contractors and truck drivers.

There is also indirect employment in the supply chain to provide material, specialist labour and services for the workforce. Based on the information available at present, it is not possible to quantify the extent of the indirect employment created, however, it is expected to have been in the order of 25 to 33% of direct employment, based on estimated additional jobs created in similar projects. In conclusion, given the size, nature, duration of the Site's operation, and the creation of long-term employment in the surrounding area, it is considered that the Proposed Development will have a **low and beneficial** impact on employment.

Local Businesses

A total of 13 commercial premises were identified within 500 m of the Site boundary.

The commercial enterprises identified in the current surrounds of the Site include:

- Dascher Ireland Ltd;
- Hardware Association Ireland;
- A number of car service and repair business at Windmill View (west of the Site);
- MCD Landscapes;
- Barlett Tree Experts;
- Max Pallet Services;
- Blue Cat AdBlue Solutions; and
- Stanley Asphalt Ltd.

Given the distance from the Site and the nature of the small number of local businesses within the surrounding study area, it is considered that these businesses could continue to operate without substantial harm if affected by a disruption, thereby classifying them with a 'Low' environmental sensitivity value. It is considered that the magnitude of impact from the Proposed Development on these local businesses will be **negligible and adverse**.

Rural Enterprise

As there is no prescriptive guidance, a qualitative assessment of the potential impact of the Proposed Development on rural enterprises has been undertaken using professional judgement. The area is designated for rural development under its land use zoning objective. Several agricultural land holdings that operate as rural enterprises have been identified within the study area. The main potential impact is likely to be from noise, vibration and dust and potential disruption of field drainage systems. It is considered that these practices have a low sensitivity and are of a nature which could continue to operate without substantial harmed if affected by disruption from the Proposed Development.

The Proposed Development will not create permanent changes to the spatial relationship of rural enterprises to any key infrastructure which could result in damage to the enterprises and compromise their viability, therefore it is considered that the Proposed Development will have a **negligible and adverse** impact.

3.5.3 Amenity

As noted, factors such as air quality, noise nuisance, vibration, traffic and landscape and visual impacts can impact the amenity of an area. These issues have been assessed separately in the respective chapters of this EIAR. Specific impacts on surrounding Material Assets have also been assessed in a dedicated chapter.

There are no community amenity lands or facilities within 500 m of the Site. Community and amenity areas have been identified outside the study area. These lands include a number of golf clubs, public open spaces, parks and sport pitches.

These areas (which include local designated green space / community facilities) are considered valuable to the local communities and have been valued with a high environmental sensitivity. Given the distance of the amenity areas from the Proposed Development it is considered that they would experience a **negligible and adverse** magnitude of impact.

3.5.4 Land Use and Development Patterns

The subject quarry at Windmillhill was first developed in the 18th century and expanded in the 1960's when the Naas - Dublin dual carriageway construction work commenced. Quarrying activities at the Site have gradually increased in the subsequent years. With respect to social considerations, there will be little or no change to local activities in the vicinity of the Proposed Development as a result of the proposed continuation of quarrying activities. The mainstay of local activities will remain agriculturally based.

It is important to acknowledge that aggregate resources can only be worked where they naturally occur. The Proposed Development incorporates a limited land take from surrounding agricultural lands for extractive use. The CSO's Census of Agriculture 2020 identifies that the Utilised Agricultural Area (UAA) in the county of Dublin (excluding commonage) was ca. 37,963 ha. Given that the surrounding agricultural lands transcend the border of Dublin and Kildare the UAA in 2020 for Kildare was noted to be ca. 113,765 ha. (excluding commonage). The proposed extension of the Site into adjacent grassland and agricultural lands encompasses ca. 4.1 ha, (over a total area of ca. 5.16 ha to include screening berms).

These adjacent farmlands are compatible with arable crop production and grazing of livestock for dairy practices and have a 'Low' environmental sensitivity. The proposed loss of ca. 5.16 ha of agricultural lands represents less than ca. 0.0001 % of the UAA in Dublin, and 0.00003 % of the UAA in Kildare based on 2020 figures. This qualitative assessment of land-use impacts has been undertaken using professional judgement. Given the size

of lands proposed to be exploited for extraction and the wide availability of such lands in the locality it is considered that the magnitude of this impact would affect a small number of rural enterprises and would have little damage to these enterprises. The magnitude of impact has been classified as **negligible and adverse**.

As identified in Figure 3.2, the land use zoning objective for the Site and the EIA boundary old land use zoning objective 'RU' (rural). The proposed continued quarrying land use is not at odds with that land use zoning objective in principle. Other mapped objectives are indicated in the Plan, the proposed development extent and location does not impact these mapped objectives. Chapter 11 considers the landscape and visual impact of the proposal and includes consideration of the South Dublin land use assessment. It is considered that the proposed development will not negatively impact land use development objectives of the Plan. It is considered that the Proposed Development provides a considerable opportunity which would be difficult to achieve on an alternate greenfield site. Given the land use development objectives of the Plan in the SDCC County Development Plan 2016 – 2022, and the extent and location of the proposed development, it is considered that these lands have a low sensitivity. It is considered that the magnitude of impact is **low and adverse**.

3.5.5 Human Health, and Health and Safety

Human Health

Potential impacts to human health from the Proposed Development relating to the water environment surrounding the Site include discharges to the underlying groundwater. This could result in a change in water quality depending on the activities that are undertaken. There is the potential for impacted underlying groundwater to migrate to local groundwater wells and affect the users of such water supplies.

Potential impacts to human health with regards to air quality include dust generating activities on the Site. Other impacts include increased concentrations of airborne particles and nitrogen dioxide due to exhaust emissions from diesel powered vehicles/equipment used on-site and other vehicles accessing the Site.

Impacts to human health from excess noise and vibration on-site may result in; hearing loss and various vibration syndromes of workers from high level occupational exposure. Off-site impacts include the annoyance and effects on mental health in the surrounding residential receptors.

The companion chapters of this EIAR define and assess the predicted impact of the Proposed Development and set out mitigation measures from the perspective of discreet environmental factors. These chapters have determined that the assimilative capacities of those environmental factors are sufficient, with mitigation measures, to accommodate the Proposed Development without significant negative impacts, and it is therefore considered that the human health will be protected. However, for this assumption to be drawn the mitigation measures set out in each chapter of the EIAR must be implemented.

Air Quality

Potential air quality impacts to human health from the Proposed Development have been assessed in Chapter 7 (Air Quality and Climate) of the EIAR. The factors relevant to human health considered in the assessment are the generation of fugitive and combustion emissions (dust, PM₁₀, PM_{2.5}, NO₂ and SO₂) from site activities.

Fine particulates such as PM_{2.5} and PM₁₀ have a potential for negative effects on human health and arise primarily from vehicle emissions and may thus arise during the operation of this proposal. Of these finer particulates, the IAQM (2016)¹ guidance states that quarries are more likely to experience suspended dust in the sub-coarse fraction (PM₁₀-PM_{2.5}) as opposed to the fine (PM_{2.5}) fraction. The suspension of fine particulates is proposed to be managed through the same mitigation measures employed for the management of deposited dust.

¹ IAQM; Guidance on the Assessment of Mineral Dust Impacts for Planning, 2016;

A quantitative assessment of combustion emissions related to the asphalt manufacturing site was undertaken as part of the rEIAR submitted as part of the substitute consent application. Detailed dispersion modelling was undertaken using the latest version (Version 5.2.2) of CERC ADMS5 dispersion modelling software, to predict concentrations of NO_x, NO₂, SO₂, PM₁₀ and PM_{2.5} at nearby sensitive receptors. The assessment concluded that the impacts from the operation of the plant on local receptors was Not Significant. As there are no proposed changes to the operation of the asphalt plant at the Site, impacts from the combustion emissions are considered to be not Significant and are therefore not considered further.

A traffic screening and quantitative operational phase assessment of effects from road traffic emissions has been undertaken in accordance with the Environmental Protection UK/Institute of Air Quality Management guidance document 'Land –Use Planning & Development Control: Planning for Air Quality' (EPUK/IAQM 2017), as part of the rEIAR submitted for the Site's Substitute Consent Application. Detailed dispersion modelling using ADMS-Roads was undertaken to determine the effect of the Proposed Development on traffic derived pollutants, nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}), at nearby sensitive receptors. The assessment concluded that the impact of traffic on local receptors was not Significant. As there are no proposed changes to traffic flows associated with this application (and vehicle emissions are predicted to improve with time due to improvements in technology and emissions), impacts from traffic emissions are considered to be Not Significant and are therefore not considered further.

Considering the likelihood that most airborne particulates are deposited within 200 m (as presented in Chapter 7 (Air Quality)), and the conservative modelling carried out for the asphalt plant and traffic with the existing and Proposed Development, it is considered that impacts of air emissions from the Proposed Development on human health will be not significant.

Water

The main potential risks associated with the proposed continuation of quarrying activities at the Site to the water environment (and subsequently human health) are identified to be: the release of hydrocarbons to surface water and groundwater, and the use of the waste water facilities on-site. Deficient management of site activities during the assessment period have the potential to impact underlying groundwater and neighbouring residential groundwater supplies.

A total of four groundwater monitoring wells are used to monitor groundwater quality and levels across the Site. Water quality monitoring undertaken in 2020 is provided in Chapter 6 (Water). Whilst some parameters show elevated concentrations in the samples taken, there is no evidence of migration of contaminants from the Site in groundwater and therefore there is no perceived hydraulic connectivity or degradation of off-Site groundwater quality due to the proposed activities at the Site. It is also noted that hydrocarbons were not detected in any of the 2020-2021 samples indicating good practices with regards to fuel management and vehicle maintenance at the Site and it is proposed to continue such activities. Irish Water public mains water supply also passes under the Site entrance road but is not considered to be in hydraulic connectivity with the Site and will not be impacted by the Proposed Development activities.

It is therefore considered that there will be no significant risk of water related impacts from the Site on the surrounding human health.

Noise and Vibration

The impact of the Proposed development in terms of noise and vibration is assessed in Chapter 8 of this EIAR. Noise and vibration can have direct impacts on human health (i.e. damage to hearing from long term exposure, and the development of vibration syndromes such as hand-arm vibration syndrome, vibration white finger or carpal tunnel syndrome). Such risks and impacts to employees will continue to be managed on-site through the health and safety management system and by the use of personal protective equipment during certain tasks (including hearing protection).

Noise and vibration from the Proposed Development can also have indirect impacts to surrounding residential developments through annoyance and effects on mental health. The noise environment monitored at the Site was identified to be dominated by road traffic on the N7 motorway, with a lesser contribution from the current operations at the quarry which were sporadic and only faintly audible.

In Chapter 8 (Noise and Vibration), a conservative worst-case scenario noise prediction was carried out for two scenarios to identify impacts from proposed operations:

- Scenario 1 – excavation and mobile processing of material; and
- Scenario 2 – loading and moving trucks.

The scenarios of excavating and processing materials are the typical daytime operations proposed at the Site. The loading and moving trucks scenarios are those activities which may take place earlier on the morning or after the main excavation activities have ceased for the day. Scenario 1 has been evaluated against the daytime target level, and Scenario 2 has been evaluated against the night-time target level. Predicted noise levels at all sensitive locations are below the respective daytime and night-time target levels for these conservatively predicted operational scenarios.

Vibration monitoring undertaken at the eastern and western boundary of the quarry determined there were no exceedances in the specified vibration limits. It should be noted that this vibration monitoring was close to the blasting activities, and actual vibration levels at receptors would be lower. Blasting management protocols and measures will be maintained on site and probability of adverse health effects due to blasting activities is low.

It is considered that with the employment of the proven mitigation measures at the Site, noise and vibration emissions from the proposed development will not have a significant effect on human health in the local environs.

Health and Safety

The Developer as business owner will be ultimately responsible for the health and safety management of the Proposed Development. The predominant health and safety concerns for the human environment surrounding the Proposed Development relates to the potential for humans and livestock to stray into the quarry area, and also from blast related activities.

With regard to the health and safety of workers on the Site, activities are subject to health and safety legislation such as the Safety, Health & Welfare at Work Act (2005, as amended), along with the secondary legislation or statutory instruments under that Act, including the Safety, Health and Welfare at Work (General Application) Regulations 2007- 2020, and the Safety, Health and Welfare at Work (Quarries) Regulations 2008.

Compliance with the HSA Safe Quarry Guidelines (Health and Safety Authority's (HSA; 2020) 'Safe Quarry. Guidelines to the Safety, Health and Welfare at Work (Quarries) Regulations 2008') will limit the potential for unplanned events in the form of instability in the quarry faces. The Developer is committed to providing appropriate information, training and supervision to employees who will be operating at the Application Site, and their Safety Statement is reviewed annually at the Site. A visit was carried out by the HSA on 08 March 2021 which raised four items. These items were with regards to: work at heights, undertaking a geotechnical assessment of the quarry, providing an internal traffic management plan to the HSA, and including signage in certain areas to remind drivers to remain in cabs during loading. The Developer has commissioned work to address these site-visit findings and is compiling a response to the HSA. Any recommendation from these works will be implemented in the Proposed Development.

All site employees, contractors and subcontractors are required to wear a minimum personal protective equipment (PPE) whilst on-site, these are steel toed boots and a high visibility jacket or vest. Other task specific

PPE which will be used at the Application Site includes safety glasses/goggles, hard hats, gloves and hearing protection.

The Proposed Development is well located and can be easily served by emergency services if required. The closest Accident and Emergency unit operates out of Tallaght University Hospital, Dublin 24. Fire emergency services for the Site operate from the relevant on call units in the Rathcoole and Tallaght area.

These staff and local populations are both valued with a 'High' sensitivity receptors. Based on the assessment of impacts (identified above) and embedded management measures employed at the Site, it is considered that the Proposed Development will have a **negligible (adverse)** direct or indirect impact on health and safety.

Table 3.19: Evaluation of Initial Impacts and their Effect Significance

Receptor	Sensitivity	Source of Impact/Description of Change*	Impact Magnitude*	Level of Operational Effects *
Local Populations / Communities	High	Change in local population community size, age distribution, density and household composition due to nuisance environmental emissions from the Site.	Negligible (adverse)	Slight
Local Populations / Communities	High	Change in local population community size, age distribution, density and household composition due to quarry workers migrating to the area.	Negligible (adverse)	Slight
Local Employment	High	Provision of continuing employment at the Proposed Development.	Low (positive)	Slight
Local Businesses	Low	Change and disruption to trading conditions for local commercial and industrial businesses.	Negligible (adverse)	Imperceptible
Rural Economies	Low	Impacts to rural enterprise from nuisance, changes in spatial relationship of such enterprises.	Negligible (adverse)	Imperceptible
Land Use and Development	Low	Land take from rural agricultural enterprises.	Negligible (adverse)	Imperceptible
Land Use and Development	Low	Land take from indicative Traveller Accommodation identification.	Low (adverse)	Slight
Amenity	Low	Nuisance impacts from factors such as air quality, noise, vibration, traffic and landscape and visual on community lands, sports and recreation areas, tourism and religious centres.	Low (adverse)	Slight
Employees / Contractors	High	Health and safety management practices which may impact direct employees and sub-contractors at the Proposed Development.	Negligible (adverse)	Slight

Receptor	Sensitivity	Source of Impact/Description of Change*	Impact Magnitude*	Level of Operational Effects *
Local Populations / Communities / Non-motorised Road Users	High	Health and safety management practices which may impact members of the public including non-motorised road users.	Negligible (adverse)	Slight
Human Health	High	Discharges and the introduction of contamination to the underlying groundwater thereby changing water quality.	Negligible (adverse)	Slight
Human Health	High	The generation of fugitive and combustion emissions (dust, PM ₁₀ , PM _{2.5} , NO ₂ and SO ₂) from site activities thereby changing air quality.	Low (adverse)	Slight
Human Health	High	Noise and vibration from Site activities impacting surrounding residential receptors through annoyance and effects on mental health.	Low (adverse)	Slight

* Taking account of embedded mitigation

3.6 Cumulative Impacts

There are no similar extractive industries in the surrounds of the Proposed Development which may contribute to cumulative impacts.

Given the nature and scale of the N7 National Road it is considered that this dominates the baseline environment surrounding the Proposed Development. It is considered that the Site provides a contribution of effects to those of the roadway however it is considered that the potential cumulative air, noise and water effects on human health surrounding the Proposed Development are not significant.

Beyond the County Development Plan, that does not indicate significant alteration to current land uses in the study area, there have been no other relevant plans or projects identified in the vicinity of the Proposed Development, it is considered that in-combination effects as a result of the proposed works with regard to other plans or projects is not significant.

3.7 Do-Nothing Scenario

If consent was not achieved and no further works were carried out within the Site this would result in a cessation of any potential impacts from bio-physical factors affecting the human environment surrounding the Site (water, air quality, noise and vibration). It is considered that such impacts would be **negligible (positive)** and would result in **Slight** effects to the local populations and communities (high sensitivity).

The cessation of activities would also result in an adverse effect on those workers who are directly and indirectly employed by the Site. It is considered that such impacts would be **low (adverse)** and would result in **Slight** effects to this workforce (high sensitivity).

As noted previously, one of the predominant health and safety concerns for the environment surrounding the Proposed Development relates to the potential for humans and livestock to stray into the quarry. An incomplete and unrestored quarry may pose a number of hazards, such as unsafe rock faces and open water bodies. The complete cessation of activities in a do-nothing scenario would still require the Developer to maintain appropriately secure Site boundaries to restrict access. The impacts of the Site on the surrounding health and safety are therefore considered to be **low (adverse)** and would result in **Slight** effects to the local populations and communities (high sensitivity).

3.8 Mitigation Measures

No remedial measures other than those detailed in the below chapters of this EIAR are required:

- Chapter 5 – Land, Soils and Geology;
- Chapter 6 – Water;
- Chapter 7 – Air Quality and Climate;
- Chapter 8 – Noise and Vibration;
- Chapter 10 – Landscape and Visual Impact; and
- Chapter 11 – Traffic.

3.9 Monitoring

The chapters identified in the above Section 3.8 have included monitoring measures as appropriate (including water, air, noise, and vibration). On this basis, no specific monitoring is required in relation to population and human health during the operation of the Proposed Development.

3.10 Residual Effects

The assessment concludes that the Proposed Development will not give rise to significant adverse effects on human environment surrounding the Site. In all cases the residual effect will be **Not Significant and not greater than Slight**.

3.11 Difficulties Encountered

There is a lack of census data from the interim period of 2016 to the present. The next census was proposed to take place in 2021 however due to the Covid-19 pandemic this has been postponed to 2022.

No other particular difficulties were encountered in the preparation of this chapter of the EIAR.

3.12 References

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