3 POPULATION AND HUMAN HEALTH

3.1 INTRODUCTION

This Environmental Impact Assessment Report (EIAR) has been prepared to accompany a Section 37L application for an existing quarry at Hempstown Commons, Co. Kildare (the 'Proposed Development'). The Proposed Development is located within the administrative boundary of Kildare County Council, (KCC).

This chapter of the EIAR has been prepared by WSP Ireland Consulting Ltd (WSP) and describes the human environment and identifies and assesses potential impacts from the Proposed Development on the surrounding population and human health.

The following assessment was prepared by Lisa Cleary (B.A. (mod), GradIEMA) and Rhian Llewellyn (MGeol, PhD, PIEMA). Lisa is an environmental scientist with over 1 years' experience, and Rhian is a geologist and EIA specialist with over 9 years' experience.

3.1.1 TECHNICAL SCOPE

The technical scope of this assessment is to consider the potential impacts and effects on the surrounding human environment that could result because of the continuation of quarrying related activities carried out at the Proposed Development. This assessment considers the potential sources of change resulting from Proposed Development activities detailed in the Chapter 2 (Project Description). It also records mitigation measures proposed to be undertaken.

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.

3.1.2 GEOGRAPHICAL AND TEMPORAL SCOPE

The geographical study area for the assessment covers the EIA boundary (the Site) (identified on Figure 3-1) and with a study area of 500 m around the EIA boundary. In the context of this EIAR, the EIA boundary contains lands which form the existing quarry area and areas which extend beyond the working areas. The study area defined for the population and demographic trends is the Electoral Division (ED) of Rathmore.

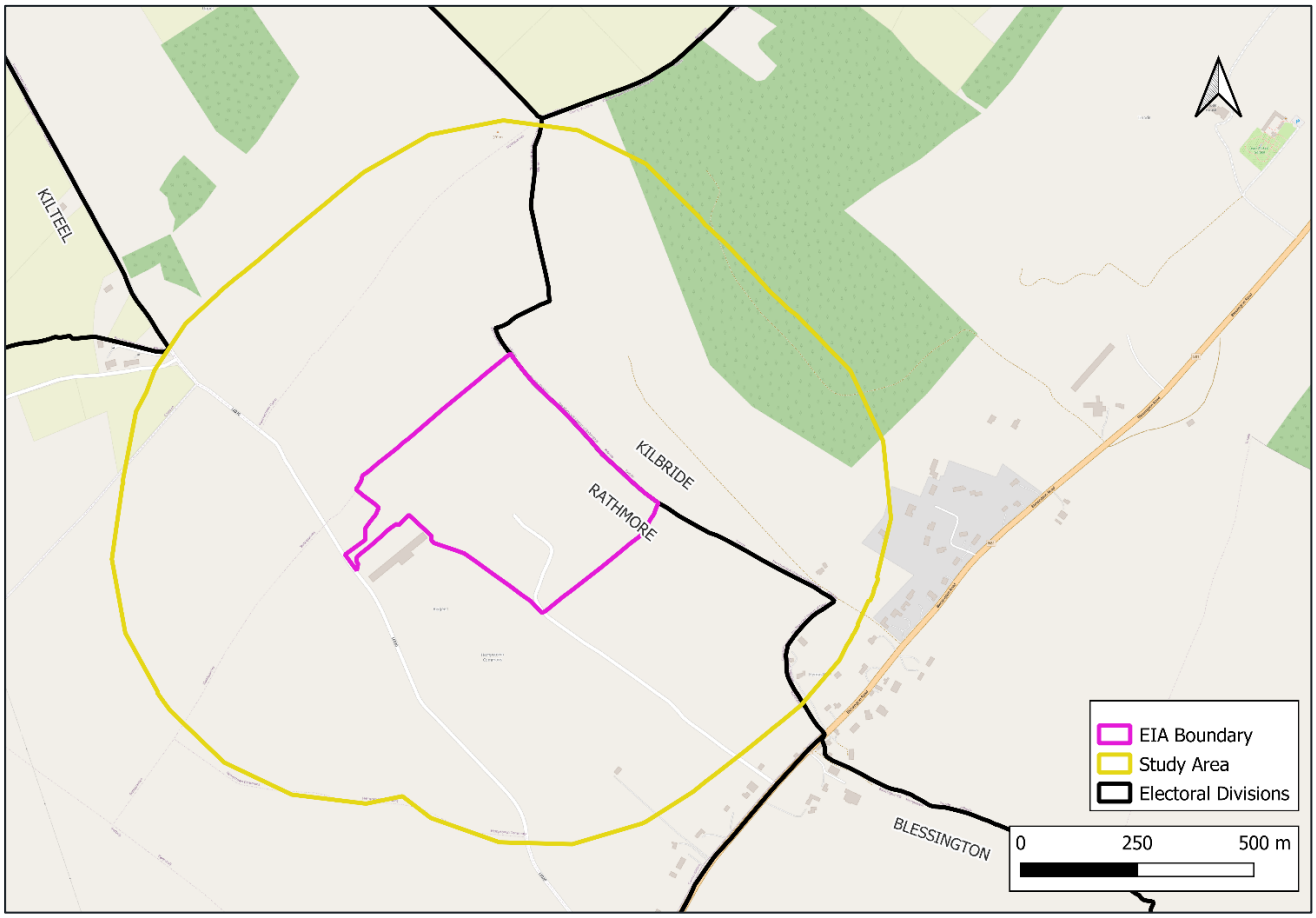

Figure 3-1 - Site study area with electoral divisions.

The temporal scope of this assessment covers the current quarrying activities on the Site and the extension of these permitted activities into the future, within the Section 37L application boundary. Given the phased nature of the extractive industry and the similarities between the construction and operational phases of the Proposed Development, these will be considered together in this chapter as the overall operational phase.

Under the current proposed programme of the Proposed Development, the extraction phase will last for 12 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 2022 'Guidelines on the information to be contained in environmental impact assessment reports'.

The restoration phase of the Proposed Development will follow the extraction phase and will be 2 years in duration, which is 'short-term' - those lasting from one to seven years (EPA, 2022).

3.1.3 PROJECT DESCRIPTION SUMMARY

A full description of the proposed development is provided in Chapter 2 (Project Description) of this EIAR. A high-level summary of the proposed development is provided below.

The proposed development for further extraction of rock is to be within the existing void area with lateral extension of the void proposed in a north-easterly direction. The estimated total quantity of aggregate resource to be extracted in the life-of-quarry is c. 1,757,500 tonnes. A proposed 12 year life-of-quarry requirement is based on an average production rate of ca. 2,929 tonnes per week for

rock. Dry processing of mechanically broken and blast rock onsite will comprise crushing and screening to produce aggregate materials for market.

SQL proposed to relocate the existing office container, wheel wash and water recycling tank, weighbridge to fully within the Application Site to provide space for realignment of the private access lane on SQL lands and to develop dedicated carparking facilities for the quarry operation on SQL owned lands.

The proposed car parking facilities will provide parking for HGVs and private vehicles, including guest parking.

SQL propose to decommission the existing abstraction borehole located off the access road to facilitate the road realignment on their own lands. SQL propose to undertake periodic extraction of groundwater from an abstraction borehole located on Stresslite Precast Ltd to provide water for SQL's closed-loop system wheelwash recycling tank and the mobile bowser.

There will be no direct discharge to surface or groundwater from the quarry operations. Collected waters from the base of the quarry void will continue to be pumped to the primary soakaway (which is connected to an overflow soakaway). It is proposed that the collect waters will pass through a bypass separator prior to discharge to the primary soakaway. It is proposed to extend the existing sump on the quarry floor to provide additional temporary holding capacity for collected waters, if required.

Following end-of-quarry life, a 2 year restoration period is proposed. This is detailed in a Restoration and Habitats Management Plan provided in appendix 2B of Chapter 2 (Project Description) of this EIAR.

3.2 LEGISLATIVE AND POLICY CONTEXT

3.2.1 LEGISLATION

- This assessment has been made with cognisance to relevant legislation, including but not limited to: European Union Directive 2011/92/EU as amended by Directive 2014/52/EU – these Directives required that certain private and public projects which are likely to have significant resultant environmental impacts are subject to a formalised Environmental Impact Assessment prior to their consent;
- European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (SI No. 296 of 2018) which amended the Planning and Development Act, 2000, and the Planning and Development Regulations, 2001. The 2014/52/EU Directive was transposed into Irish law through this Directive;
- The European Communities (Environmental Liability) Regulations 2008 (as amended) - These Regulations (SI 547/2008) transpose EU Directive 2004/35/CE on environmental liability with regard to the prevention and remedying of environmental damage. The purpose of these Regulations is to establish a framework of environmental liability based on the 'polluter-pays' principle, to prevent and remedy environmental damage. The Environmental Protection Agency (EPA) is designated as the competent authority for all aspects of these Regulations; and
- The Environmental Protection Agency Act 1992 and the Protection of the Environment Act 2003 – which detail the requirements associated with general pollution control and activities that come under integrated pollution prevention and control.

3.2.2 RELEVANT POLICIES AND PLANS

- The National Planning Framework (Project Ireland 2040) includes National Policy Objective 60 to "Conserve and enhance the rich qualities of natural and cultural heritage of Ireland in a manner appropriate to their significance".
- The Kildare County Development Plan 2023-2029 was adopted on 9th December 2022. The key policies and objectives of this current plan are listed in Section 2.7.5 of the Project Description (Chapter 2).

3.2.3 RELEVANT GUIDANCE

This assessment has been made with guidance from the 'Guidelines on the information to be contained in environmental impact assessment reports', published by the EPA in May 2022.

3.3 ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

3.3.1 ASSESSMENT AIMS

Having regard to the EPA's 2022 guidance; 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.

3.3.2 QUALITATIVE ASSESSMENT METHOD

As identified in Chapter 1 (Introduction) of this EIAR, a common framework of assessment criteria and terminology has been used based on the EPA's draft Guidelines on the Information to be Contained in EIARs (EPA, 2022). 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 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.

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
	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

Group	Receptor / resource	Designated value (sensitivity) of receptor / resource
	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

A description of the significance categories used is provided in Table 3-3. Effects that are either Large or Profound are considered to be **Significant**, and effects that are Moderate, Slight or Imperceptible are considered to be **Not Significant**. How the level of effect is determined, based on the environmental value and magnitude of impact, is explained in Section 1.8.2 of Chapter 1.

Table 3-3 - 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.

Significance Category	Typical Description
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

3.4 BASELINE CONDITIONS

3.4.1 SURROUNDING ENVIRONMENT

The Site is located in the east of County Kildare, south of the border with Co. Wicklow. The Site is located within the townland of Hempstown Commons and located north of the N81, ca. 4 km to the northeast of Blessington. As noted, the Site is located with Rathmore ED, the boundary of which has been provided in Figure 3-2.

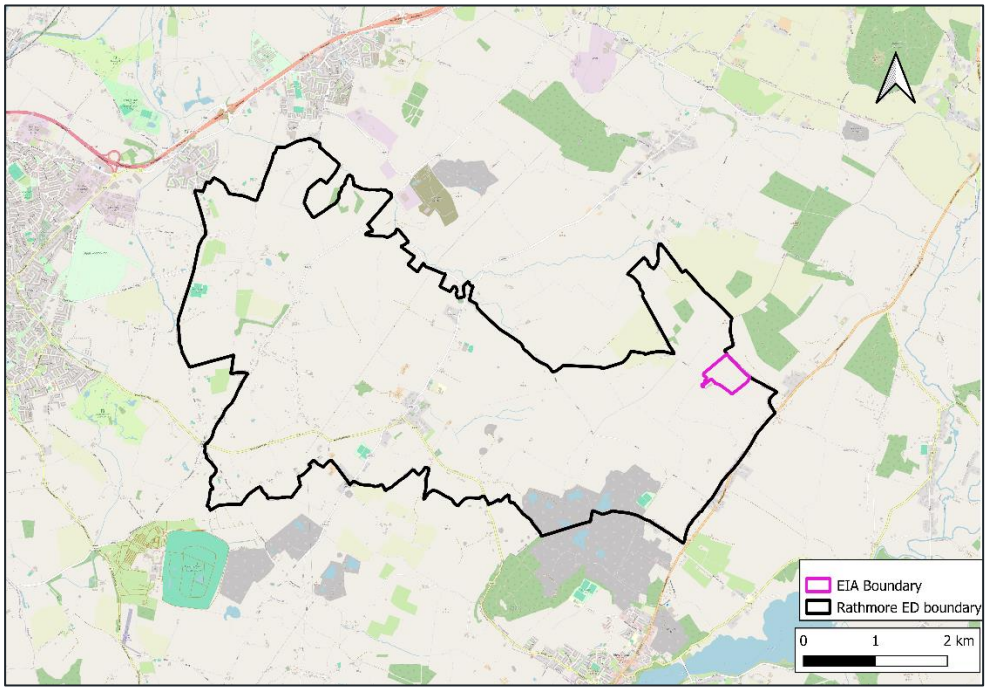

Figure 3-2 - Rathmore ED boundary

The lands contiguous to the boundaries of the Site are in agricultural use, predominantly pasture lands and industrial, with a precast concrete manufacturing facility (Stresslite Floors Ltd.) immediately adjacent to the west of the Site. There are scattered residential properties in the vicinity of the Site, primarily concentrated along the Local Road L6030. The nearest school and church to the Site is located within Kilbride ca. 3 km to the east of the Site.

There are 17 No. third-party residential dwellings are found to be currently within 500 m of the EIA boundary, of these 5 No. receptors are located within 250 m of the EIA boundary. There are 3 No. non-residential receptors within 500 m of the EIA boundary. These receptors are mapped in Figure 3-3 below. There is a property owned by the applicant located within their land holding which has been identified.

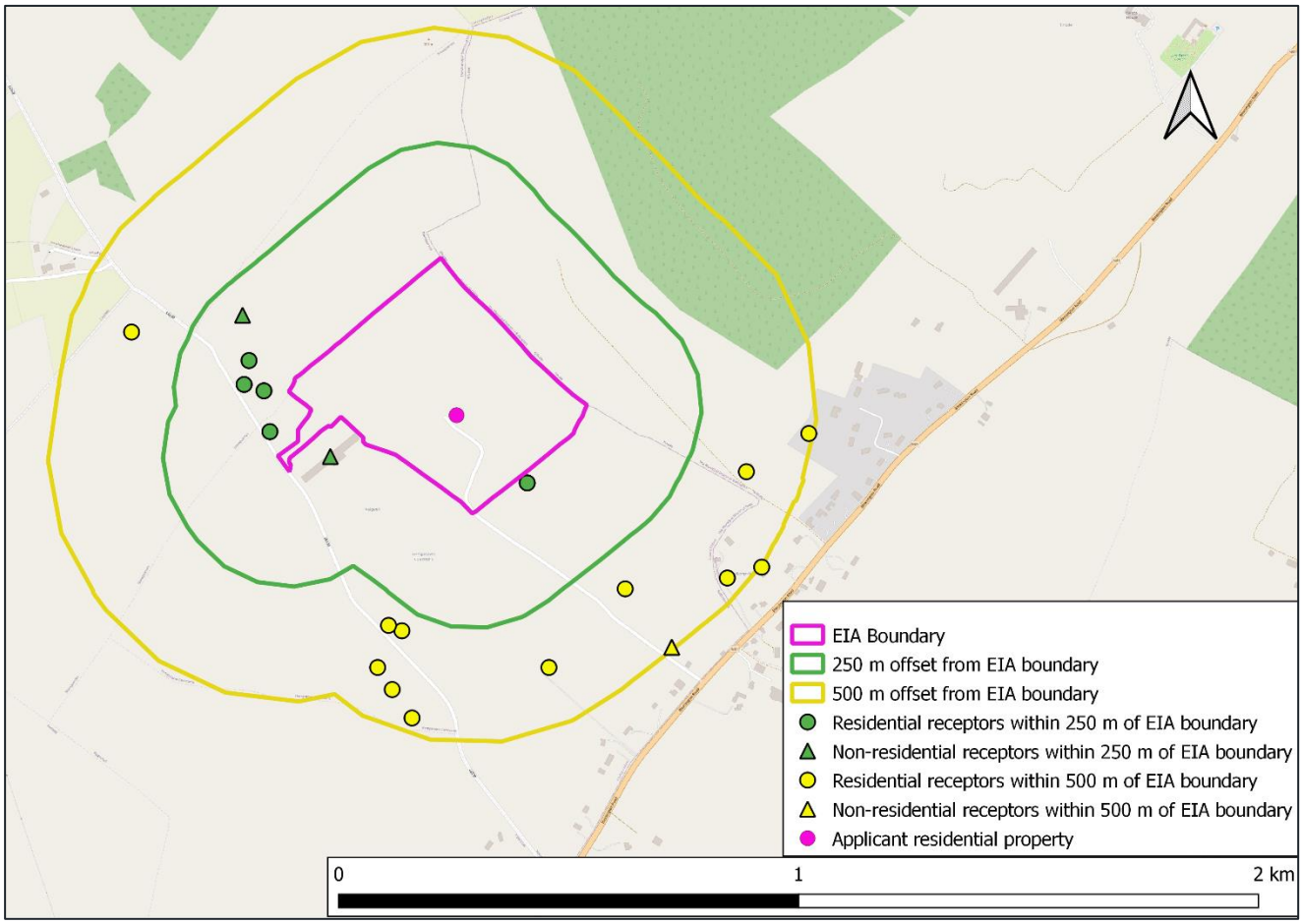

Figure 3-3 - Receptors mapped within study area.

3.4.2 POPULATION

The Site is located within the ED of Rathmore, which has an area of ca. 24.31 km2.

Table 3-4 summarises population statistics for the State, Leinster, Kildare and the Rathmore Electoral Division (ED). The percentage population increase has been calculated between the Census periods of 2016 and 2022 (Table 3-5).

Over the census period 2016 to 2022, the population increase observed in Rathmore ED was lower than the population increase observed in the county, regionally and nationally. It is unclear why this is the case but may be considered to be due to the rural nature of Rathmore ED.

Table 3-4 - Populations recorded during the 2016 and 2022 census period, (Central Statistics Office).

Region	2016	2022
Ireland (National)	4,761,865	5,149,139
Leinster	2,634,403	2,870,354

County Kildare	222,504	247,774
Rathmore ED	1,142	1,175

Table 3-5 - Population dynamics (% change) from 2016 to 2022, (Central Statistics Office).

Region	2016 - 2022
Ireland (National)	8.13 %
Leinster	8.96 %
County Kildare	11.36 %
Rathmore ED	2.89 %

A total of 17 No. existing third-party residential dwellings are found to be currently within 500 m of the EIA boundary, of these 5 No. receptors are located within 250 m of the EIA boundary. The number of residences is based on a review of aerial photography during the assessment period, DCCAE Eircode mapping and a local authority planning permission search.

3.4.2.1 Population Age Distribution

Table 3-6 summarises the percentage population distribution by age for the State, County Kildare and Rathmore ED for the 2016 and 2022 census periods.

Table 3-6 - Population Age Distribution, (Central Statistics Office)

Year	Area	% Aged 0-14	% Aged 15-29	% Aged 30-44	% Aged 45-64	% Aged 65+
2022	Ireland (National)	20.1	18.2	21.3	24.1	16.3
2016	Ireland (National)	21.1	19.2	22.1	23.3	14.3
2022	County Kildare	23.0	17.5	22.0	23.0	14.5
2016	County Kildare	24.0	18.5	23.0	22.0	12.5
2022	Rathmore ED	22.5	16.0	21.5	25.0	15.0
2016	Rathmore ED	23.5	17.0	22.5	24.0	13.0

3.4.2.2 Population Density

Table 3-7 summarises population densities for the State, Leinster, Co. Kildare, and the Rathmore ED. The population densities have been calculated between the Census periods of 2011, 2016 and 2022.

As expected from the increased populations, the population densities also increased in the State, province and county areas of the Census periods. The population density of the Rathmore ED is much lower than that observed in the state and Province and County which reflects the rural nature of the area.

Table 3-7 - Population Density (persons per square kilometre) from 2016 and 2022, (Central Statistics Office)

Area	Size (km^2)	Population Density 2016	Population Density 2022
Ireland (National)	70,273	67.76	73.27
Leinster	19,800	133.05	144.97
County Kildare	1,695	131.27	146.18
Rathmore ED	24.2	47.19	48.55

3.4.2.3 Households

Table 3-8 summarises the number of households and persons per household for the State, Kildare and the Rathmore ED. The statistics have been calculated for the Census periods 2016 and 2022.

It can be noted that the average size of households in Rathmore ED and Kildare are above the average household sizes identified in the State for the same periods.

Table 3-8 - : Households from 2016 to 2022, (Central Statistics Office).

Area	2016			2022		
	No. of households	No. of people	Average no. of people per household	No. of households	No. of people	Average no. of people per household
Ireland (National)	1,702,289	4,676,648	2.7	1,841,152	5,149,139	2.8
Kildare	73,596	220,923	3.0	82,793	247,774	3.0
Rathmore ED	353	1,170	3.3	367	1,175	3.2

3.4.3 EMPLOYMENT

3.4.3.1 Employment at the Site

The Site has provides direct and indirect employment. Direct jobs include the workforce employed by the applicant 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. Direct employment is in the categories of plant operators (4 No.), and administrative staff at the weighbridge (2 No.).

3.4.3.2 Principal Status

Table 3-9 summarises the employment status of the persons aged 15 years or older in County Kildare and the Rathmore ED. Between the period of 2016 and 2022 it is evident that the percentage of those 'At Work' has stayed relatively consistent within the respective populations. This is likely corresponding to the rise in population during the period. If the sum of the 'Long term unemployed' and 'Short term unemployed' categories from 2022 is compared to the 'Unemployed having lost or given up previous job' category from 2016, we can see that unemployment has dropped in County Kildare but has remained at approximately the same level in Rathmore ED during the period of 2016 to 2022.

Table 3-9 - Principal Status of Persons 15 years and older in County Kildare and Rathmore ED, in 2016 and 2022, (Central Statistics Office)

Status	Kildare 2016	Kildare 2022	Rathmore ED 2016	Rathmore ED 2022
At work	56.79%	59.06%	59.76%	59.40%
Retired	11.18%	13.06%	10.92%	14.80%
Student	12.17%	11.81%	15.33%	14.59%
Looking after home/family	8.57%	6.89%	9.59%	6.89%
Unable to work due to permanent sickness or disability	3.70%	3.91%	1.43%	0.92%
Long term unemployed	N/A	2.24%	N/A	1.64%
Short term unemployed	N/A	1.57%	N/A	1.02%
Unemployed having lost or given up previous job	6.46%	N/A	2.98%	N/A
Looking for first regular job	0.83%	0.81%	0.00%	0.51%
Other	0.31%	0.65%	0.00%	0.21%

3.4.3.3 Employment industry

Table 3-10 summarises the percentage of persons aged 15 years or older per employment industry in County Kildare and the Rathmore ED. Given that this ED is mainly rural and does not contain any

towns or cities it is expected that the percentage of the population involved in agriculture, forestry and fishing would be more than the county average. Employment industries where the percentage of persons in Rathmore ED are above the county average include; agriculture, forestry and fishing, building and construction, commerce and trade, and public administration. The 'Other' employment category was found to be lower in Rathmore ED than the county average, therefore it is considered that the employment industries of the working population of Rathmore ED are better described in the defined criteria.

Table 3-10 – Percentage of persons in work by industry, 2022 (Central Statistics Office)

Industry	Kildare	Rathmore ED
Agriculture, forestry and fishing	2.58%	5.71%
Building and construction	6.97%	9.69%
Manufacturing industries	11.80%	10.38%
Commerce and trade	26.93%	30.62%
Transport and communications	9.20%	8.30%
Public administration	6.36%	8.65%
Professional services	23.62%	19.55%
Other	12.55%	7.09%

3.4.3.4 Local employment centres

As previously described, the Site is situated adjacent to the Kildare-Wicklow border, north-west of the N81 secondary road. The Site is in close proximity to town centres such as Blessington, Kilbride and Naas.

The Site is also well positioned in the greater Dublin area and this location in a regional context has continued influence on the economic activity of the area. Public transport linkages and the N81 road provide vital linkages and strengthen the area's status as a commuter zone and also as a centre for economic investment and activity.

Using the N81 road, Dublin city centre is only 50 minutes away by car, while Blessington can be reached in approximately 5 minutes. Naas is only a 20-minute drive using the R410 road. Such ease of access increases the attractiveness of the area as a commuter destination for the greater Dublin area.

3.4.4 AMENITY

The immediate area surrounding the Site is primarily agricultural land and therefore has limited amenities. A large proportion of public amenities, recreational clubs/areas, and areas of tourism value in the vicinity of the Site are concentrated in and around the town of Blessington. Some of the main areas have been identified and described in this section.

Sport and recreational grounds within the vicinity the Site include the Blessington Association Football Club, which is located approximately 2 km south-west of the Site; the Blessington Gaelic

Athletic Association is also located approximately 3.5 km to the south-west and the Kilbride GAA club, approximately 3km to the south east of the Site

The Pollaphuca Reservoir (Liffey Lake) is located east of Blessington, ca. 4 km south from the Site. It offers opportunities for sports and recreation with the Three Castles Rowing Club and The Avon Activity Centre. It also acts as an attractive area for walking and mountain biking along tracks such as the Blessington Greenway.

There are two formal gardens open to visitors, June Blake's Garden and Hunting Brook Gardens, 1.8 km and 2 km to the east of the Site respectively. June Blake's Garden also offers holiday accommodation on site.

The above clubs and amenities are utilised by the wider east Kildare and west Wicklow areas and not just limited to the local population of surrounding area.

3.4.5 LAND USE

The Site comprises lands which are currently used for quarrying activities and are classified in Corine Landcover (EPA, 2018) as 'Mineral Extraction Sites' (Figure 3-4).

The lands surrounding the Site can be characterised as rural in nature, with land uses in the area being agricultural, industrial, forestry and single-house residential. The lands contiguous to the boundaries of the Site are in agricultural use, predominantly pasture lands and industrial, with a precast concrete manufacturing facility (Stresslite Floors Ltd.) immediately adjacent to the west of the Site. The boundaries of the lands owned comprise hedgerows and areas of scrub.

There are 17 no. scattered residential properties (including the residential property owned by the applicant) within the study area, primarily concentrated along the Local Road L6030 and off the N81.

There are no waste licenced or IE/IPC Licenced facilities within 1 km of the Site.

Figure 3-4 - Corine Landcover classification

3.4.6 HUMAN HEALTH

Table 3-11 summarises the general health of the percentage of persons the State, Kildare and the Rathmore ED. In the 2022 Census there was a greater percentage of persons in the Rathmore ED (91.2 %) who classified themselves as being in 'Good' or 'Very Good' health in comparison with the average for the State (82.9 %).

The percentage of persons who classified themselves as being in 'Bad' or 'Very Bad' health in Rathmore ED (1 %) was lower than those in the State and Kildare (1.7 % and 1.5 % respectively).

Table 3-11 – General Health percentage of the population (Central Statistics Office)

General Health	State (%)	Kildare (%)	Rathmore ED (%)
Very Good	53.2	56.8	61.9
Good	29.7	29.2	29.3
Fair	8.6	7.7	6.2
Bad	1.4	1.2	0.7
Very Bad	0.3	0.3	0.3

General Health	State (%)	Kildare (%)	Rathmore ED (%)
Not Stated	6.7	4.7	1.7

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

- Dillonsdown (waste facility), 2.7 km south-west
- Roadstone Dublin Remediation Landfill, 3.0 km south-west
- Glassco Recycling Limited, 3.3 km north-west
- Arthurstown Landfill, 4.7 km north-west
- PDM timber Treatment Limited, 4.9 km north.

There are no upper or lower tier SEVESO sites within 5 km of the Site. The closest SEVESO site is Johnston Logistics Ltd, which is an upper tier SEVESO site and is located approximately 7 km to the north of the Site.

3.4.6.1 Health and Safety

The Site Manager is responsible for safety management on the Site. Shillelagh Quarries Ltd. are committed to health and safety at their operations. The Shillelagh Quarries Ltd. (SQL) site manager is responsible for the working environment, traffic management, emergency procedures, first-aid arrangements and safe systems of work.

3.5 CHARACTERISTICS OF THE DEVELOPMENT

The EIAR has been prepared to accompany a Section 37L for the continuation and extension of quarrying activities at the Site. The lands, the subject of this EIAR extend to 10.03 ha. and are located within the EIA project boundary for the EIAR (18.45 ha).

A continuation of activities at the Site are proposed with a lateral extension to the northeast. Proposed activities will involve the extraction of the rock (greywacke) using excavation techniques, which include drilling and blasting, and rock-breaking.

SQL propose to relocate the existing office container, wheel wash and tank, weighbridge within the Site to provide space for realignment of the private access lane on SQL lands and to develop dedicated carparking facilities for the quarry operation on SQL owned lands. SQL propose to decommission the existing abstraction borehole located off the access road to facilitate a road realignment on their own lands. SQL propose to undertake periodic extraction of groundwater from an abstraction borehole located on Stresslite Precast Ltd to provide water for SQL's closed-loop system wheelwash recycling tank and the mobile bowser.

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

The lands surrounding the Site can be characterised as rural in nature, with land uses in the area being agricultural, industrial and single-house residential. The lands contiguous to the boundaries of the Site are in agricultural use to the east and west. To the north, lands adjacent to the Site are used for the aggregate extractive industry. To the south, lands are in use by a precast concrete manufacturing company (Stresslite Precast Ltd.) There are scattered residential properties in the vicinity of the Site, primarily concentrated to the south of the site along the Local Road L6030.

3.6 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 and other industry;
- 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; and
- 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 14 (Major Accidents and Disasters) of this EIAR.

3.6.1 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 3.1.2, the geographical study area for the assessment covers the EIA boundary 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 (Chapter 7), Noise and Vibration (Chapter 8); and Landscape and Visual (Chapter 10).

A total of 17 No. existing third-party residential dwellings are found to be currently within 500 m of the Site boundary. Of those identified, 5 No. residential receptors are located within 250 m of the Site boundary. It is noted that residential development and population increases in the Rathmore ED are lower than those observed 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 (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 Rathmore ED.

The potential direct impact from the Proposed Development on local population growth due to workers migrating to the area is '*negligible* (*adverse)'*.

3.6.2 EMPLOYMENT

3.6.2.1 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 Site provides consistent employment for staff and currently the Site employs approximately 6 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.

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 (beneficial)'* impact on employment.

3.6.2.2 Local businesses

A total of 3 No. commercial premisses were identified within 500 m of the Site boundary.

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 (adverse*)'.

3.6.3 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 (adverse)*' magnitude of impact.

3.6.4 LAND USE

The existing operational quarry has been in use since the mid 1940's, and quarrying activities in the lands on the opposite side of the L6030 have been identified on the OSI 1888-1913 mapping. Quarrying activities in the vicinity of the Site have gradually increased in the subsequent years. With respect to social considerations, there has been little or no change to local activities as a result of quarrying activities in the vicinity of the Site since operations began, with the mainstay of local activities being agriculturally based. Therefore, as quarrying is an established practice, the continuation of extraction activities as part of the Proposed Development is considered to have a '*negligible (adverse)*' impact on land use compared with the current dynamics.

It is important to acknowledge that aggregate resources can only be worked where they naturally occur. The proposed continuance of activities does not incorporate an additional land take from surrounding agricultural lands, however agricultural lands are widely available in the locality. It is considered that this change in land type and form will have an '*Imperceptible'* effect on the local land-use.

3.6.5 HUMAN HEALTH

Potential impacts to human health from the effects of the Site 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 combustion emissions due 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 asses the predicted impact of the 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 considered that the human health has been protected. However, for this assumption to be drawn, the mitigation measures set out in the chapters Soils and Geology (Chapter 5), Water (Chapter 6), Air Quality (Chapter 7), Noise and Vibration (Chapter 9); and Landscape and Visual (Chapter 11) of the EIAR must be implemented.

3.6.5.1 Health and Safety

The Site Manager 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.

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 Naas General Hospital, Naas, Co. Kildare (and also Tallaght University Hospital, Dublin 24). Fire emergency services for the Site operate from Blessington Co. Wicklow.

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 3-12 - Evaluation of Initial Impacts and their Effect Significance

Receptor	Sensitivity	Source of Impact/Description of Change	Impact Magnitude	Level of Effect
Local Populations / Communities	High	Change in local population community size, age distribution, density and household composition due to nuisance environmental emissions from the Site.	Low (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 (beneficial)	Slight
Land Use and Development	Medium	Land take from rural agricultural enterprises.	Negligible (adverse)	Imperceptible
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.	Negligible (adverse)	Imperceptible
Employees / Contractors	High	Health and safety management practices which may impact direct employees and sub-contractors on site.	Negligible (adverse)	Slight
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	Negligible (adverse)	Slight

Receptor	Sensitivity	Source of Impact/Description of Change	Impact Magnitude	Level of Effect
		groundwater thereby changing water quality.		
Human health	High	The generation of fugitive and combustion emissions (dust, PM10, PM2.5, NO2 and SO2) from site activities thereby changing air quality.	Negligible (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
Health and Safety - Employees / Contractors	High	Health and safety management practices which may impact direct employees and sub-contractors on site.	Negligible (adverse)	Slight

3.7 MITIGATION MEASURES

No mitigation 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.

3.8 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'*.

3.9 CUMULATIVE EFFECTS

The cumulative effects associated with other permitted / under construction third-party developments have been considered in Chapter 15 of this EIAR. Cumulative effects are considered to be **Not Significant**.

3.10 MONITORING

The chapters identified in the above Section 3.7 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.

3.11 DIFFICULTIES ENCOUNTERED

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

3.12 SUMMARY AND CONCLUSIONS

To conclude, the activities at the Site as part of the Proposed Development are not likely to cause any significant adverse effects to the human environment surrounding the Site.

3.13 REFERENCES

Central Statistics Office. 2024. CSO Visual. Available at: Interactive Data Visualisations | CSO Ireland (Accessed 19 November 2024).

EPA. 2022. Guidelines on the information to be contained in Environmental Impact Assessment Reports.