

3. HUMAN BEINGS.....	2
3.1 Introduction.....	2
3.2 Methodology.....	2
3.3 Description of Local Area.....	2
3.3.1 Nearest Settlement	3
3.4 Existing Environment	3
3.4.1 Population	4
3.4.2 Employment & Unemployment	7
3.4.3 Settlement Patterns.....	8
3.4.4 Land Use	9
3.4.6 Health and Safety	10
3.5 Predicted Impacts of Quarry	11
3.6 Cumulative Impact.....	12
3.7 Mitigation Measures	12
3.7.1 Population	12
3.7.2 Employment	13
3.7.3 Health and Safety	13
3.8 Monitoring	14
3.9 Reinstatement.....	14

3. HUMAN BEINGS

3.1 Introduction

Human Beings are a very significant element of the “environment” and existing or potential impacts of a development on humans or on their socio-economic status must be comprehensively addressed. The principal concern in this respect is that human beings should experience no significant diminution in any aspect or aspects of “quality of life” as a consequence of the presence of the quarry.

The impact of the existing quarry development on Human Beings will be assessed under the following headings: -

- Population
- Employment
- Settlement Pattern
- Land Use
- Ballybofey-Stranorlar Bypass
- Health and Safety

Other impacts on Human Beings will be addressed in other Chapters of this rEIS, i.e. Noise, Air, Material Assets etc.

3.2 Methodology

This assessment has been carried out by way of a desk based study in which the following information sources were consulted: -

- Population and employment reports published on www.cso.ie
- OSI aerial photographs and Maps
- Planning application records available on www.donegalcoco.ie

3.3 Description of Local Area

The quarry is located approximately 2 km North East from the town of Stranorlar. The local area is rural agricultural environment, an area of low rolling hill landscape in east Donegal with elevations ranging from circa 40m OD to approximately <100m OD. The area surrounding the quarry consists of enclosed pasture fields and to the North east boundary mixed forestry plantation.

A small lake Lough Alaan (bird sanctuary) is located 1.5 km to the south west of the quarry. The Ballybofey and Stranolar Golf course is situated to the southeast. 1.5 km from the quarry to the south is the Stranolar County Hospital and the N15 national road connecting Stranolar to Lifford. The area close to the hospital is residential, becoming rural residential to the eastern suburbs of Stranolar town at Corcam.

3.3.1 Nearest Settlement

The closest town to the operational quarry is Stranorlar which is twinned with Ballybofey, with Ballybofey to the western bank and Stranorlar located on the eastern bank of the River Finn. The Donegal County Development Plan 2012 - 2018, classifies Ballybofey/Stranorlar as Tier 2 strategic towns.

Stranorlar

The town of Stranorlar has two primary schools, Robertson National School, opposite the Church of Ireland on Golf Course Road at Glebe, Stranorlar and St. Mary's National School, adjacent to St Mary's Catholic Church on Main Street Stranorlar. Both schools educate children from 4 years to 12 years of age. Two local Secondary schools provide education for the older children, St. Columba's College (Secondary School) and Finn Valley College. There are a number of churches in close proximity to the town centre, a Bus Eireann station, Athletics Club facilities, SME industrial units, and retail outlets.

The River Finn is a main Salmon Fishing River located 1.75 Km south of the quarry. The land area close to the quarry is agricultural, used mainly for dairy and beef cattle pasture.

3.4 Existing Environment

Although located in close proximity to the twin-towns of Ballybofey and Stranorlar, Gortlettragh is a relatively sparsely populated area located c 2.5km east of Stranorlar. Only one house is located within a 500m radius of the extraction area/quarry faces. The house is located c300m to the east/southeast of the quarry along the local road. There are 6 houses located between 500m and 750m to the west of the quarry, including the homes of the two quarry operators and their father who commenced the quarry operations. A further two houses are located within 750m of the quarry to the east. All of the houses are one-off houses, the majority of which are built in a ribbon development format and are accessed directly from the local roads in the area.



Figure 3.1 Houses located within 500m and 750m of all quarry faces from www.googlemaps.com

Despite being located c 2.5km from Stranorlar town the Gortletteragh area is characteristic for having low density and dispersed housing which is typical of much more remote for rural areas.

3.4.1 Population

The Central Statistics Office (CSO) is the Government agency responsible for the collection and publication of most Irish official statistics. The CSO disseminates the results of its statistical inquiries through a number of different statistical publications.

In this assessment, the following CSO based releases and publications were consulted to get both a historic and up to date picture of the current population of Ireland, Donegal and the Gortletteragh area during the period covered by the substitute consent process in the life of this quarry:-

- Census of Population 2002, 2006, 2011 and 2016;
- Small Area Population Statistics 2011 and 2016 (SAPS).

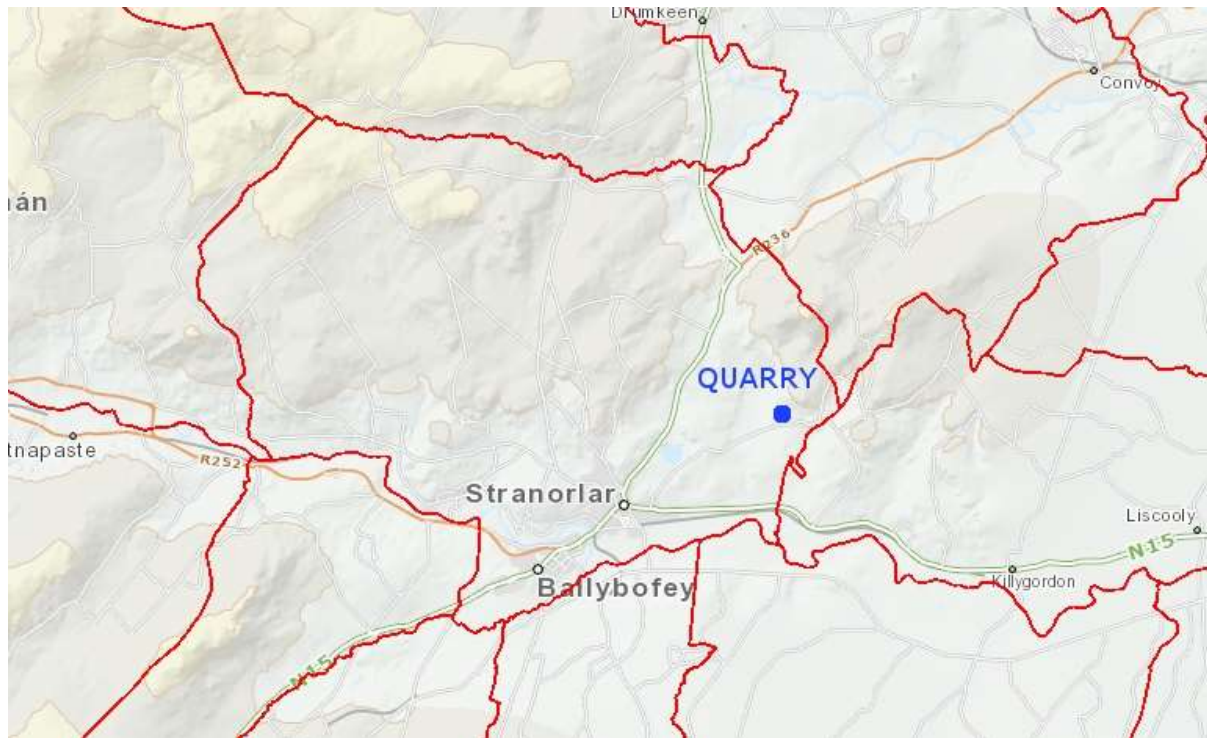


Figure 3.3 Stranorlar Electoral Division

Source: www.cso.ie

Gortletteragh is located within the Stranorlar Electoral District in the Stranorlar Local Electoral Area (EA), one of 5 LEA's in County Donegal. The majority of the population live in the twin towns of Ballybofey and Stranorlar to the southwest of the quarry as shown in figure 3.1 above. Table 3.1 below demonstrates the change in population at State, County, Local Electoral Area and Electoral Division level for the last 3 census periods - 2002-2006, 2006-2011 and 2011-2016.

Table 3.1: National, County and Local Population 2002, 2006 and 2011

	2002	2006	2011	2016
Ireland	3,917,203	4,239,848 (+8.11%)	4,588,252 (+7.82%)	4,761,865 (+3.78%)
Donegal	137,575	147,264 (+7.03%)	161,137 (+9.41%)	159,192 (-1.22%)
Stranorlar Local Electoral Area			26,133	25,889 (-0.94%)
Stranorlar ED	4,122	4,149 (-0.60%)	4,536 (+9.3%)	4,524 (-0.27%)
Small Area 057137016			413	423 (+2.42%)

In a reversal of trends that saw the population of Donegal grow strongly from 2002 to 2011, the period from 2011-2016 recorded a population decrease of 1.22% at a time when the national

population grew by 3.78%, which was significantly more than had been projected by the CSO as it had projected significant outward migration in the intercensal period. In the same period the population of the Stranorlar Local Electoral Area decreased from 13,120 in 2011 to 12,881 in 2016, decrease of 1.85%. Within the Electoral district that includes both Stranorlar and Ballybofey, the loss of populate was only 12 persons or -0.27% and contrary to the prevalent pattern of population loss, the small area which the quarry is located, recorded a slight increase from 413 to 423 residents or a 2.42% increase in population from 2011-2016.

In 2016, Stranorlar Electoral District's share of the Stranorlar LEA population was 17.47%, which in turn has 16.26% of the county population.

The 2011 and 2016 Census have further broken down statistics into individual units knows as 'Small areas'. Patton Bros. Quarry is located within 'Small Area' 057137016', which despite being sizeable in comparison to adjoining small areas and proximate to Ballybofey and Stranorlar, had a population of only 423 persons in April 2016, 10 more than in April 2011. Figure 3.2 shows the geographical extent of the 'Small Area'.

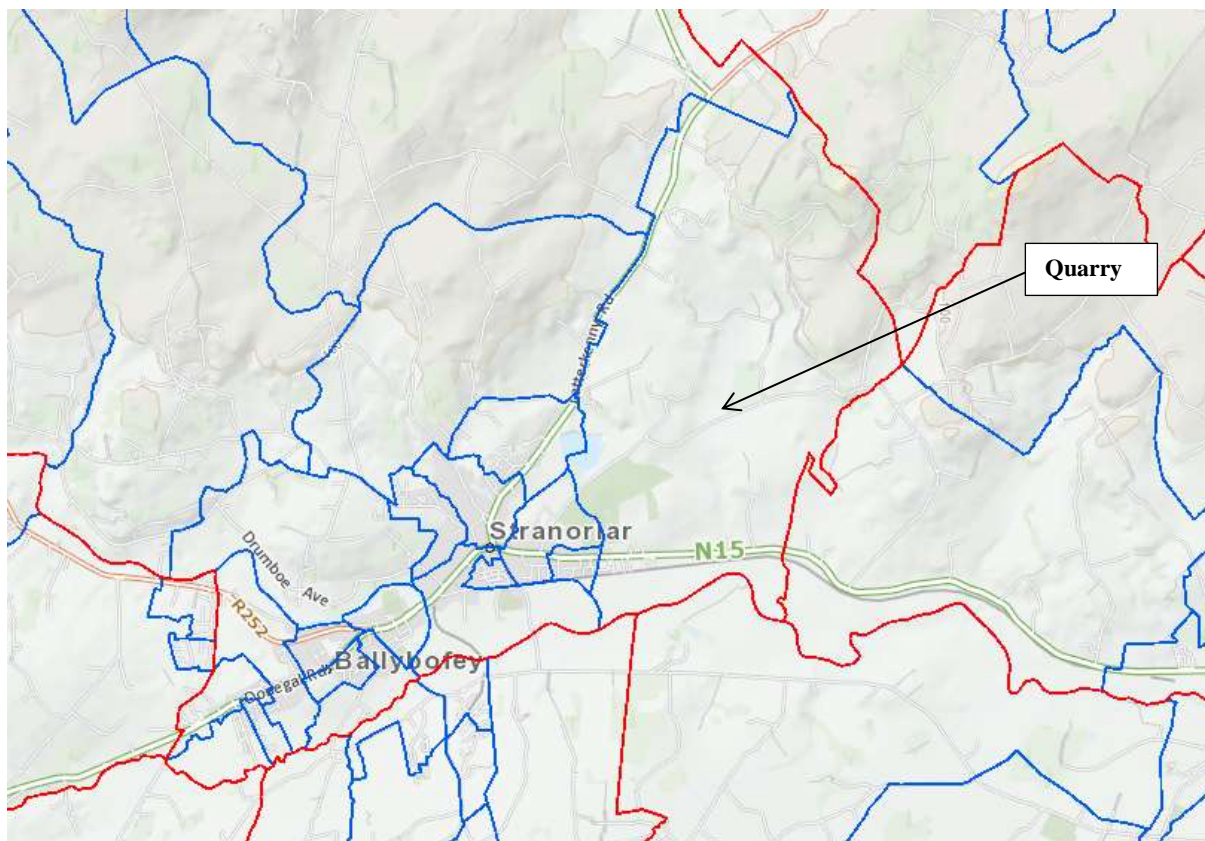


Figure 3.4 Small Area 0571370163 with site shown

Source: www.cso.ie

3.4.2 Employment & Unemployment

The quarry currently has 3 full-time and 3 part-time workers. Indirect employment is also generated in terms of maintenance fitters, fuel delivery personnel and general suppliers of goods and services to the quarry.

Table 3.2 below provides details of unemployment levels in Ballybofey in various months since 2002. The lowest level of unemployment was reached in the Ballybofey area was in October 2005 when 687 people signed on the live register, while the peak was in August 2011 when 2,924 persons were recorded. There is a noticeable summer peak when students sign on. The peak and trough at county level were only one month out of sync with Ballybofey indicating that local employment and unemployment patterns followed countywide patterns.

When we examine figures for March of each year, it shows that unemployment increased in County Donegal over the period from November 2005 (low) to July 2011 by 283%. Within the Ballybofey area the increase was significantly more at 426% meaning that the Ballybofey area was affected much more than other areas within the county. The employment levels at Patton Bros Quarry has been maintained despite the fall in employment in the county and nationally.

Table 3.2 Live Register Numbers in County Donegal and Ballybofey

Month / Year	County Donegal Live Register	Ballybofey Area Live Register
July 2017	13,719	1,949
March 2017	13,556	1,910
March 2016	15,944	2,099
March 2015	17,632	2,330
March 2014	19,179	2,509
March 2013	20,849	2,662
March 2012	21,038	2,657
August 2011	23,079	2,924
July 2011	23,223	2,884
March 2011	21,711	2,630
March 2010	21,274	2,599
March 2009	17,978	2,348
March 2008	10,352	1,074
March 2007	8,696	782
November 2005	8,202	698
October 2005	8,322	687
March 2004	10,037	830
March 2003	9,964	4,978
March 2002	10,108	1,019

The 2016 Census of Population provides a detailed breakdown of the industries in which persons from both Stranorlar ED and Small Area 057137016 work. Table 3.3 provides details of the results.

Table 3.3 Persons at work by industry in Stranorlar ED and Small Area 057137016 in April 2016

Persons at work by industry	Stranorlar ED	Small area 057137016
Industry	Number	Number
Agriculture, forestry and fishing	62	9
Building and construction	77	4
Manufacturing industries	126	6
Commerce and trade	315	24
Transport and communications	88	3
Public administration	102	6
Professional services	400	23
Other	348	19
Total	1,518	94

The percentage of the total population of Stranorlar ED which was working in April 2016 stood at 33.55% while 94 or 22.22% of the 423 residents of Small Area 057137016 were in employment. A further 96 persons (22.70%) are under 18 years of age while 127 (30.02%) are over 65 years of age. These figures would indicate that as much as 25.06% of the population were unemployed in Small Area 057137016 on the occasion of Census 2016. Of the 200 people of working age, only 47% (94 out of 200) were in employment, which is considered low.

3.4.3 Settlement Patterns

The previous sections have addressed the population and employment statistics for the area. This section will address the local settlement pattern, which consists entirely of one off-housing. The Census Small Area Population Statistics (SAPS) indicated that 117 (93.60%) out of 125 houses within Small Area 157137116, were occupied houses on Census night 2011, while a further two were temporarily absent. This level of vacancy (4.80%) suggests that the area is a place where few if any holiday homes are located and houses are predominantly permanently occupied.

Table 3.4: Dwellings Occupancy/Vacancy rate on Census Night - April 2016

Area	Total Housing	Occupied	Vacant	Temporarily Vacant
Donegal	83,931	58,964 (70.25%)	22,992 (27.40%)	1971 (2.35%)
Stranorlar Local Electoral Area	11,202	9,329 (83.28%)	1,618 (14.44%)	255 (2.28%)
Stranorlar ED	2,127	1,693 (79.60%)	371 (17.44%)	63 (2.96%)
Small Area 157137116	125	117 (93.60%)	6 (4.80%)	2 (1.6%)

The vacancy rate within both the Electoral Area and Electoral District is much less than the county wide vacancy rate but the vacancy rate in the small area is less than one-fifth of the rate of the county as a whole, and is also much lower than the general Stranorlar area.

The housing stock of small area '157137116' represents just 0.15% of the total housing stock of the county, while it contains 0.27% of the population of the County and has an occupancy level of 2.67 persons per occupied unit in the ED and 3.61 within the 'Small Area' (excluding unoccupied houses) compared to 2.70 per unit in the County.

46 (39.31%) of the 117 permanently occupied houses in 'Small Area' 157137116 were constructed since 2000 after the quarry commenced operating. No houses have been built since 2011. Figure 1.1 above details that only one house is located within 500m of the quarry with seven houses located between 500m and 750m of the quarry.

3.4.4 Land Use

With the exception of lands used for private residential use, all land in the immediate vicinity of the quarry is classified as 'Pasture (231)' while the forested land is classified as 'mixed forest (313)', as per the Corine land survey carried out by the EPA on behalf of the European Environmental Agency (2012 Corine).

Within the substitute consent site all of the pasture land cover has been removed and what remains are various stone layers with some exposed soil layers at or close to the edges. The nature of land cover and vegetation are discussed in more detail in Chapter 4 – Flora and Fauna, Chapter 5 – Soils and Geology and Chapter 6 – which addresses Water.

3.4.5 N15 Ballybofey-Stranorlar Bypass

The Donegal County Development Plan 2012-2018 contains a route reserve for the proposed Ballybofey-Stranorlar bypass which has been proposed for many years. An application for permission for the bypass was refused by An Bord Pleanála in 2009 (05.HA.0009), although the Board did agree that the general route of the proposed road was appropriate.

The route reserve of the proposed road is set out in Figure 3.5 below and is proposed to be built c200m west of the quarry.

Blast events: Residential dwellings within townland of Gortletteragh should be forewarned of date and time of blast events.

For personal and general public visiting the quarry.

Ground Stability: Rock face and ground stability should be evaluated on a regular basis, by qualified personal, to protect personal working within the quarry and public safety issues relating to ground stability conditions during all phases of the existing and proposed project.

Quarry faces are managed and maintained to remove all significant rock overhangs, loose material and rocks within the face to prevent danger and to establish a solid, stable rock face. Over hanging rocks should be dislodged so that they either fall safely in a controlled manner into the rock trap or are removed in the bucket of the machine.

Benches: A safe working height should be implemented through the introduction of face benches.

Quarry Access: The existing quarry is fenced and gated and locked when site operations are closed for weekends and holidays.

Warning signs indicating quarry operations and access are located at the main public road. Additional warning signs are located at the main access point to the site. Other warning signs are placed within the site:

- No unauthorized personal beyond this point
- Reminders to wear protective clothing, hard hats
- Information on H&S requirements

3.5 Predicted Impacts of Quarry

This section provides a description of the likely significant effects of the quarry on the following: -

Despite the fact that the population of the local area had increased since 2002 but has fallen slightly between 2011 and 2016, 10 new houses have been built in the area in the 16 year period. No new houses have been built within 500m of the quarry in that period. The existing development, which involves the getting of stone and employed 6 people, has had a positive impact on local employment levels in a place where unemployment is high and supports the construction industry by providing raw materials.

In rural areas such as Gortletteragh, houses are built primarily on family lands and there has been no discernible change to that pattern with many of the applications closest to the quarry (between 500m and 750m to the west of the quarry) being made by family members of the quarry owners.

Another reason why there has been limited residential development in the vicinity is that the proposed Ballybofey/Stranorlar bypass which if developed, will run in close proximity to the quarry to its west.

The quarry currently has three full-time and three part time employees. Indirect employment is also generated in terms of maintenance fitters, fuel delivery personnel and general suppliers of goods services and professional services such as accountants, while wages earned are spent in the local economy.

The maintenance in employment levels at the quarry is counter to the national trend in employment levels, particularly for activities associate with the construction industry. In time, depending on the nature of work contracts won, there may be scope for the direct employment of additional personnel which would have a positive impact for the local area.

The removal of a small area of Pasture (8.34ha) to facilitate the development of the quarry, has not had a significant impact on land use in the area

In addition to works already completed, provided that appropriate mitigation measures are carried out, the operation of the quarry will not have any negative impact on land uses outside of the site.

3.6 Cumulative Impact

Notwithstanding the fact that the Ballybofey-Stranorlar bypass has been planned since the early 2000's, there are no current plans or information available for the proposed road. There are no other industrial operations in the vicinity of the site that would have generated a cumulative impact upon human beings.

3.7 Mitigation Measures

This section will address mitigation measures in relation to Population, Employment, Settlement Patterns and Land Use. Other mitigation measures will be addressed in later chapters in respect of other issues that may affect Human Beings.

3.7.1 Population

Only one house is located within 500m of the existing quarry site. As part of the short term landscaping proposals for the site, it is recommended that an additional landscaping berm is constructed along the eastern landholding boundary which will help eliminate the remaining potential limited visual impact of the development as well as reducing potential noise, vibration and dust impacts on the property. This berm measure should be a permanent feature and will form part of the restoration programme as the quarry progressively becomes exhausted.

Site operation will be during normal day working hours 08:00 – 18:00 Monday to Saturdays as previously conditioned under planning reg. ref. 09/60062.

3.7.2 Employment

As an employment source in the area, the continued operation of the quarry will help sustain jobs in an area where the unemployment level remains high, despite having fallen from a peak in 2011 to 1,949 in July 2017. Therefore, no mitigation measures are considered necessary.

3.7.3 Health and Safety

The site boundaries are not entirely fenced at present and are marked in parts by vertical faces. In the event that substitute consent is granted for the quarry, additional fencing should be installed along the perimeter of the site while the site should be progressively reinstated to eliminate the risk of accidental falls along the perimeter.

Additional warning signs should also be erected on the perimeter regarding the nature of the work carried out in the quarry and the associated risk of injury that may occur as a result of access by unauthorised personnel.

The existing operational quarry has already introduced a range of Environmental Management processes into the working of the quarry. If substitute consent is granted, it is recommended that in addition to the matters being addressed at present, a new up dated Quarry Management Plan that incorporates S.I. No 28 of 2008 and other Quarry Good Practice guidelines that include ongoing Environmental Management and Safe Environmental management practice training for the quarry staff. An enhanced Environmental Management System (EMS) should be put in place that will address all of the following areas, many of which are addressed in more detail in the remainder of this rEIS: -

- Public Safety and Security
- Visual Amenity
- Ecological Management
- Noise Emissions
- Emissions to Air
- Fuel
- Water Discharge
- Management of Waste
- Transport
- Restoration and After use

Existing Health and Safety practice should be maintained.

Only allow trained and quarry personal into the Quarry Working area

3.8 Monitoring

No proposed monitoring relating to the population aspects of the study area are deemed necessary. All other monitoring to be carried out should address any potential concerns that may arise for human beings.

3.9 Reinstatement

No reinstatement measures relating to the aspects of human beings addressed in this chapter are deemed necessary.