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ENVIRONMENTAL IMPACT ASSESSMENT REPORT NON-TECHNICAL SUMMARY (NTS)

IN RESPECT OF

PROPOSED QUARRY DEVELOPMENT

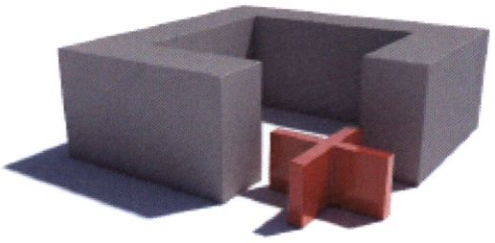
AT

ON A SITE OF C. 47.3HA ON LANDS AT BELLEWSTOWN, HILLTOWN LITTLE, GAFNEY LITTLE AND HILLTOWN GREAT TOWNLANDS, BELLEWSTOWN, CO. MEATH

PREPARED FOR

KILSARAN CONCRETE UNLIMITED COMPANY

JUNE 2022



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Non-Technical Summary of Environmental Impact Statement Update Report

This Non-Technical Summary of the Environmental Impact Assessment Report (EIAR) is provided as part of the application documentation as required by article 94 of the *Planning and Development Regulations, 2001 (as amended)*.

Contact

The preparation of this EIAR has been co-ordinated by Tom Phillips + Associates, Town Planning Consultants, in association with the proposed development's project team as identified in Chapter 1 below:

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Environmental Impact Assessment Report

A copy of the full EIAR is available for reference/purchase at the offices of the Planning Authority, Meath County Council, Buvinda House, Dublin Road, Navan, County Meath, C15 Y291.

1.0 INTRODUCTION

1.1 Preamble

This *Environmental Impact Assessment Report* (EIAR) relates to a proposed development by Kilsaran Concrete Unlimited Company (hereafter referred to as Kilsaran or the Applicant throughout) comprising, *inter alia*, the extension of the life of the current permitted rock quarry[1] at Bellewstown Quarry, Bellewstown, Co. Meath from 10 years to 25 years, as well as the provision of a new dedicated access road to serve the quarry.

In addition, the subject application seeks permission to develop a new dedicated quarry access road facilitating an increase in daily HGV traffic movements to / from the quarry to 81 No. loads per day (with +/-15% fluctuations in the number of loads to and from the quarry proposed to address certain demands on the quarry as and when required, equating to a maximum of 93 No. loads per day) which will cross the Mullagh Road and fields in a northeast direction away from the quarry onto the L1615 across the townlands of Bellewstown, Hilltown Little, Gafney Little and Hilltown Great. This will allow extraction of the available rock reserve at this location over a 25-year period, which is much sought after nationally and internationally, particularly in road and construction projects.

Figure 1.1: Aerial view of the site and its surrounding context, with indicative red line boundary. (Source: Googlemaps.ie, annotated and cropped by TPA 2022.)

The subject site comprises a rock quarry (to the west) and agricultural lands (to the east). The proposed extraction area, subject of this application, is permitted as part of the existing quarry

[1] Permitted by way of substitute consent by An Bord Pleanála (Ref. No. PL17.SU0101) by an *Order* dated 24th October 2018, with the continued extraction at the quarry and its expansion to the north and west of the existing void area was previously permitted by An Bord Pleanála by *Order* dated 24th October 2018 under Ref. No. PL17.QD0013 (in accordance with section 37L of the *Planning and Development Acts, 2000* (as amended)) (hereafter referred to the 37L development).

permission detailed above. The site is generally surrounded by agricultural lands and there are a number of detached dwellings to the south of the site.

As set out in Section 1.3 below, the proposed development is of a type that requires a mandatory *Environmental Impact Assessment (EIA)* – referred to as an EIAR in this document. In addition, a Natura Impact Statement (NIS) is also submitted and this is included as Appendix 6.1 of the EIAR.

Figure 1.2: Aerial View of Subject Site, with indicative boundary outlined in red. (Source: Googlemaps.ie, annotated and cropped by TPA 2022.)

1.2 EIA Process

EIA requirements are governed by Directive 2014/52/EU, which amends the Directive 2011/92/EU. The primary objective of the EIA Directive is to ensure that projects that are likely to have significant effects on the environment are subjected to an assessment of their likely impacts.

EIA forms part of the planning consent process and is carried out by the Competent Authority. An EIAR is prepared by / on behalf of a Developer in respect of a project seeking planning consent. The EIAR thus becomes an integral informing element in the Competent Authority's EIA. The 2014 Directive has introduced strict new requirements in respect of the competency of experts responsible for the preparation of the EIAR (see Table 1.1 below and Appendix 1.1 for details on the experts involved in the preparation of this document).

The EIA process may be summarised as follows:

1. Screening – Is EIA required?
2. Scoping – If EIA is required, what aspects of the environment should be considered?
3. Preparation of EIAR.
4. EIAR informs EIA (as part of the consent process).

1.3 Need for Environmental Impact Assessment Report

The EIA Directives have been transposed into Irish law for the purposes of this planning application by the provisions of Part X of the *Planning and Development Acts, 2000 (as amended)* and Part 10 of the *Planning and Development Regulations, 2001 (as amended)*.

Specifically, with reference to Schedule 5, Part 2, 2(b) of the *Planning and Development Regulations, 2001 (as amended),* an EIAR is a mandatory requirement for the "*Extraction of stone, gravel, sand or clay, where the area of extraction would be greater than 5 hectares*".

The proposed development provides for the continued extraction area of c. 17.3 hectares, which is in excess of the threshold for mandatory requirement of EIA having regard to the above class of development based on an extraction area in excess of 5 hectares. An EIAR is therefore required for this development.

A core objective of this EIAR is to provide the appropriate information and evaluation of the proposed development, having regard to the specific characteristics of the project, the proposed scale of the development and the potential for significant effects arising from the proposed development.

1.4 Purpose of the Environmental Impact Assessment Report

As noted, the 2014 Directive has redefined EIA as a process, whereby an Environmental Impact Assessment Report is a key informing element (this replaces the previous Environmental Impact Statement – EIS).

An EIAR's purpose is to predict and assess likely significant effects (direct and indirect) on the environment arising from the proposed development. It is used during the consent process to inform EIA.

As per Article 5(1) of the amended Directive, an EIAR should provide the following information:

- Description of Project
- Description of Baseline Scenario
- Description of Likely Significant Effects
- Description of Avoidance / Mitigation Measures
- Description of Reasonable Alternatives (and rationale for chosen option)
- A Non-Technical Summary

Annex IV of the Directive sets out a more detailed outline of the information required in an EIAR. The subject EIAR has been prepared in full accordance with these stated requirements of Annex IV.

The preparation of the *Environmental Impact Assessment Report* has been co-ordinated by Tom Phillips + Associates, Town Planning Consultants,[2] in association with other members of the Project Team as identified in Table 1.1 below. Details in respect of the competence of the various experts is set out in Appendix 1.1.

A copy of the full EIAR is available for reference/purchase at the offices of the Planning Authority, Meath County Council, Buvinda House, Dublin Road, Navan, County Meath, C15 Y291.

This *Environmental Impact Assessment Report* (EIAR) relates to a proposed development by Kilsaran Concrete Unlimited Company (hereafter referred to as Kilsaran or the Applicant throughout) comprising, *inter alia*, the extension of the life of the current permitted rock quarry[3] at Bellewstown Quarry, Bellewstown, Co. Meath from 10 years to 25 years, as well as the provision of a new dedicated access road to serve the quarry.

In addition, the subject application seeks permission to develop a new dedicated quarry access road facilitating an increase in daily HGV traffic movements to / from the quarry to 81 No. loads per day which will cross the Mullagh Road and fields in a northeast direction away from the quarry onto the L1615 across the townlands of Bellewstown, Hilltown Little, Gafney Little and Hilltown Great. This will allow extraction of the available rock reserve at this location over a 25-year period, which is much sought after nationally and internationally, particularly in road and construction projects.

[2] Tom Phillips + Associates, Town Planning Consultants, 80 Harcourt Street, Dublin 2, D02 F449
Tel: (01) 478 6055; Fax: (01) 478 6054; E-mail: info@tpa.ie

[3] Permitted by way of substitute consent by An Bord Pleanála (Ref. No. PL17.SU0101) by an *Order* dated 24th October 2018, with the continued extraction at the quarry and its expansion to the north and west of the existing void area was previously permitted by An Bord Pleanála by *Order* dated 24th October 2018 under Ref. No. PL17.QD0013 (in accordance with section 37L of the *Planning and Development Acts, 2000* (as amended)) (hereafter referred to the 37L development).

Figure 1.1: Aerial view of the site and its surrounding context, with indicative red line boundary. (Source: Googlemaps.ie, annotated and cropped by TPA 2022.)

The subject site comprises a rock quarry (to the west) and agricultural lands (to the east). The proposed extraction area, subject of this application, is permitted as part of the existing quarry permission detailed above. The site is generally surrounded by agricultural lands and there are a number of detached dwellings to the south of the site.

As set out in Section 1.3 below, the proposed development is of a type that requires a mandatory *Environmental Impact Assessment (EIA)* – referred to as an EIAR in this document. In addition, a Natura Impact Statement (NIS) is also submitted.

Figure 1.2: Aerial View of Subject Site, with indicative boundary outlined in red. (Source: Googlemaps.ie, annotated and cropped by TPA 2022.)

1.5 Scoping of the Environmental Impact Assessment Report

A non-statutory scoping exercise was conducted for this EIAR to establish what format the EIAR would take and the range and aspects of the environment to be considered and led to a decision on the matters to be addressed and the format to be used (the so-called 'grouped' ER format - see Section 1.6). This exercise was conducted following consultations between the Applicant and its professional advisors.

The scope of the *Environmental Impact Assessment* conducted in respect of the proposed development includes the following:

- The requirements of the EIA Directive (Directive 2011/92/EU, the codified EIA Directive), the *Planning and Development Acts 2000-2015*, and the *Planning and Development Regulations, 2001-2015;*
- European Commission *Impact Assessment Guidelines, 2009*;
- *Guidelines on the recommended information to be contained in Environmental Impact Statements* published by the Environmental Protection Agency (EPA 2002);
- *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements* (EPA 2003);
- *Revised guidelines on the information to be Contained in Environmental Impact Statements (Draft), September 2015;*

- *Advice Notes for Preparing Environmental Impact Statements (Draft), September 2015;*
- *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, May 2022;*
- Regard was also had to the EIA Directive 2014/52/EU adopted on 16th April 2014, and which came into force on 15th of May 2014 and the Circular Letter PL 1/2017 issued by the Department of Housing, Planning, Community and Local Government (15th May 2017); and
- The requirements of Meath County Council, as elaborated in the current *County Development Plan* and as advised by the Officers, to facilitate evaluation of the proposed development.
- The likely concerns of local residents and other third parties.
- The nature, location and scale of the proposal.
- The existing environment, as well as any vulnerable or sensitive features and current uses.
- The likely and significant impacts of the proposed development on the environment.
- Available methods of reducing or eliminating undesirable impacts.
- The *Planning and Development Regulations, 2001 (as amended)* specify the aspects of the environment likely to be significantly affected by the proposed development, including in particular:
  - Population and Human Health, Biodiversity (Flora and Fauna).
  - Soil, Water, Air, Climatic Factors, Noise and Vibration, the Landscape and Visual Impact.
  - Material Assets – Site Services, Traffic and Transportation, Waste Management.
  - Architectural, Archaeological and Cultural Heritage.
  - The inter-relationship between the above factors and an indication of difficulties encountered in compiling the required information.

These considerations are addressed in the EIAR.

1.6 EIAR Methodology and Format

In addition to the 2014 Directive, the subject EIAR has been informed by:

- *Guidelines on the Information to be contained in Environmental Impact Statements (EPA, 2002);*
- *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (EPA, 2003);*
- *Guidelines On The Information To Be Contained In Environmental Impact Assessment Reports* (EPA, May 2022);
- *Draft Advice Notes for Preparing Environmental Impact Statements,* Draft, (EPA draft September 2015a);

- *Draft Revised Guidelines on the Information to be Contained in Environmental Impact Statements* (EPA draft September 2015b);
- *Environmental Impact Assessment of Projects: Guidance on Screening* (European Commission, 2017);
- *Environmental Impact Assessment of Projects: Guidance on Scoping* (European Commission, 2017);
- *Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report* (European Commission, 2017);
- *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment,* (August 2018);
- Guidance of Integrating Climate Change and Biodiversity into Environmental Impact Assessment (European Commission, 2013);
- *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* (Department of Environment, Community and Local Government 2013);
- *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* (Government of Ireland, 2018);
- *Key Issues Consultation Paper on the Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licencing Systems* (Department of Housing, Planning, Community and Local Government 2017);
- *Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions* (European Commission, 1999);
- *Implementation of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment* (European Commission, 2003);
- *Circular PL 05/2018 -Transposition into Planning Law of Directive 2014/52/EU amending Directive 2011/92/EU on the effects of certain public and private projects on the environment (the EIA Directive) And Revised Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* (Department of Housing, Planning and Local Government, 2018);
- *Planning and Development Act 2000*, as amended; and
- *Planning and Development Regulations 2001*, as amended.

In addition to these guidance documents, all EU Directives and national legislation relating to the specialist areas (e.g. Biodiversity, Air and Climate, Noise) have been considered under each relevant environmental aspect. Specific guidance is addressed in the relevant chapters of this EIAR.

Environmental Impact Assessment Reports require the assimilation, co-ordination and presentation of a wide range of relevant information in order to allow for the overall assessment of a proposed development. To allow for ease of presentation, and consistency when considering the various environmental factors considered, a systematic structure is used for the main body of the Report.

1.7 EIAR Study Team and Guarantee of Competency and Independence

The *Environmental Impact Assessment Report* was completed by a project team led by Tom Phillips + Associates, who also prepared a number of the chapters.

The members of the team, their qualifications and their respective inputs are outlined below in Table 1.1. The EIAR Chapters as set out in Table 1.1 are provided with Appendices for each section provided immediately thereafter, where applicable. A separate Non-Technical Summary of the EIAR is also enclosed within the inside cover.

In accordance with EIA Directive 2014/52/EU, we confirm that experts involved in the preparation of the EIAR are fully qualified and competent in their respective field. Each has extensive proven expertise in the relevant field concerned, thus ensuring that the information provided herein is complete and of high quality.

Table 1.1: EIAR Chapter Headings and Contributors

CHAPTER	ASPECT OF THE ENVIRONMENT ASSESSED	CONTRIBUTOR
Chapter 1	Introduction	Tom Phillips + Associates (TPA) Name and qualifications: Síne Kelly *Planning Consultant* – BAgriSc (Land Hort) MRUP Adv.Dip. PM MIPI AMILI
Chapter 2	Site Location and Context	Tom Phillips + Associates Name and qualifications: As per Chapter 1.
Chapter 3	Description of the Proposed Development	Tom Phillips + Associates and Kilsaran Concrete Unlimited Company Name and qualifications: Síne Kelly *Planning Consultant (TPA)* – BAgriSc (Land Hort) MRUP Adv.Dip. PM MIPI AMILI Fergus Gallagher *Planning and Environmental Manager* (Kilsaran Concrete Unlimited Company) - B.Eng (Hons) Mineral Surveying, MSCSI, MRICS, FIMQS, Chartered Mineral Surveyor
Chapter 4	Examination of Alternatives	Tom Phillips + Associates Name and qualifications: As per Chapter 1.

Chapter 5	Population and Human Health	Tom Phillips + Associates Name and qualifications: As per Chapter 1.
Chapter 6	Biodiversity	Ecology Ireland Name and qualifications: Dr. Gavin Fennessy *Ecologist* - B.Sc. PhD MCIEEM
Chapter 7	Land, Soils and Geology	AWN Consulting Limited Name and qualifications: Paul Conaghan *Environmental Consultant* – BSc Environmental Science, MSc Environmental Engineering
Chapter 8	Hydrogeology, Hydrology	Hydro Environmental Services Name and qualifications: Michael Gill *Environmental Engineer and Hydrogeologist* - BA, BAI, Dip Geol., MSc, MIEI. David Broderick *Hydrogeologist* - BSc, MSc, H. Dip Env Eng.
Chapter 9	Air + Climate	AWN Consulting Limited Name and qualifications: Ciara Nolan *Environmental Consultant* - BSc (Hons) in Energy Systems Engineering, MSc in Applied Environmental Science, Associate Member of the Institute of Air Quality Management
Chapter 10	Noise and Vibration	AWN Consulting Limited Name and qualifications: Mike Simms *Senior Acoustic Consultant* - BE, MEngSc in Mechanical Engineering, Member of the Institute of Acoustics and of the Institution of Engineering and Technology
Chapter 11	Landscape and Visual Impact	Macroworks Name and qualifications:

		Jamie Ball *Visual Impact Assessment Specialist* - BA LA Hons
Chapter 12	Traffic & Transportation	Traffic Wise Name and qualifications: Julian Keenan *Engineer* - Degree of Bachelor of Engineering (Hons.) in Civil Engineering, Member of the Institution of Engineers of Ireland, Member of the Chartered Institution of Highways and Transportation
Chapter 13	Archaeological & Cultural Heritage	Irish Archaeological Consultancy Ltd Name and qualifications: Faith Bailey *Archaeologist and Cultural Heritage Consultant* - MA, MCIfA, MIAI
Chapter 14	Waste Management	AWN Consulting Limited Name and qualifications: Dr Fergal Callaghan *Environmental Consultant* – BSc Industrial Chemistry University of Limerick, 1991, PhD Chemical Engineering, University of Birmingham, 1998, Member of the Royal Society of Chemistry, Member of the Chartered Institute of Waste Management, Associate member of the Institute of Chemical Engineers Chonaill Bradley *Environmental Consultant* – BSc Environmental Science, Griffith University Australia, 2012, Associate Member, Charted Institute of Waste Management.
Chapter 15	Interactions and Cumulative Impacts	Tom Phillips + Associates Name and qualifications: As per Chapter 1.
Chapter 16	Mitigation and Monitoring	Tom Phillips + Associates Name and qualifications:

		Various EIAR Consultants as above.
Chapter 17	Difficulties Encountered	Tom Phillips + Associates Name and qualifications: As per Chapter 1.
NTS	All Chapters	All contributors listed above.

2.0 SITE LOCATION AND CONTEXT

2.1 Location of the Subject Site

The subject site, aka 'Bellewstown Quarry' and proximate agricultural land, is located in Co. Meath in the townlands of Bellewstown, Hilltown Little, Gafney Little and Hilltown Great. The site comprises the existing rock quarry and a portion of land extending to the northeast on which it is proposed to deliver a new dedicated private quarry access road. The quarry area extends to approximately c. 39.4 hectares. The overall site size (development boundary) is 47.3 hectares, which includes an area of 7.9 hectares to accommodate the new access road to serve the quarry (see Figure 2.2). Figure 2.3 provides the OS Map of the subject site with development boundary provided.

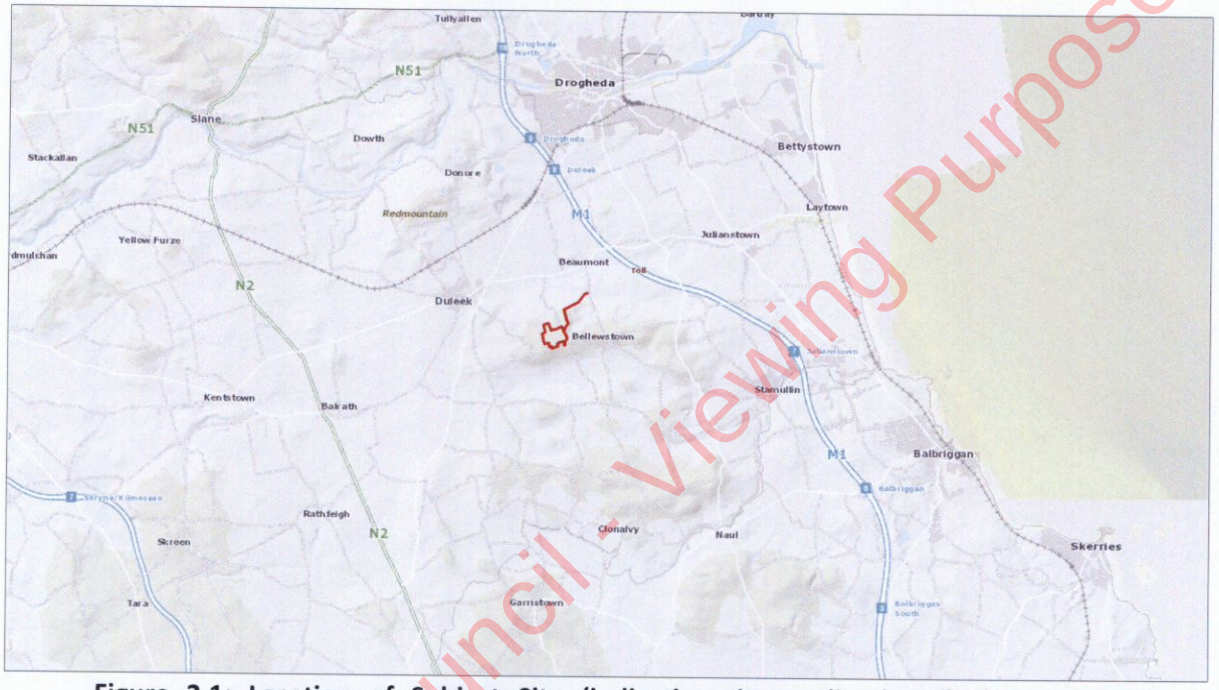

Figure 2.1: Location of Subject Site (indicative site outlined red). (*Source:* Geohive, annotated and cropped by TPA 2022.)

The application site is located c.1.5km west of Bellewstown Cross. The site is c.30Km north of Dublin's metropolitan area and c. 25km North of Swords. In addition, the site is c. 4km southeast of Duleek and c.8 km south of Drogheda Town.

The nearest large urban centre is the town of Drogheda with an estimated population of c. 41,000 people. In addition, the site is also in close proximity to Dublin's metropolitan area with an estimated population of c.1.4 million.

Access to the quarry is currently provided by Mullagh Road (running in a north-south direction and forms the eastern boundary to the subject quarry site) via Carnes Road, to the south of the site. Carnes Road (Local Road L5618) provides access to the site, through Bellewstown Village, from the M1 motorway.

A new private access road is proposed to the northeast of the site, as part of the subject application. This new access road will bypass Bellewstown village removing the need for vehicles to pass through Bellewstown Village to access the quarry.

Figure 2.2: Surrounding Context of Subject Site (indicative site outlined red). (Source: Googlemaps, annotated and cropped by TPA 2022.)

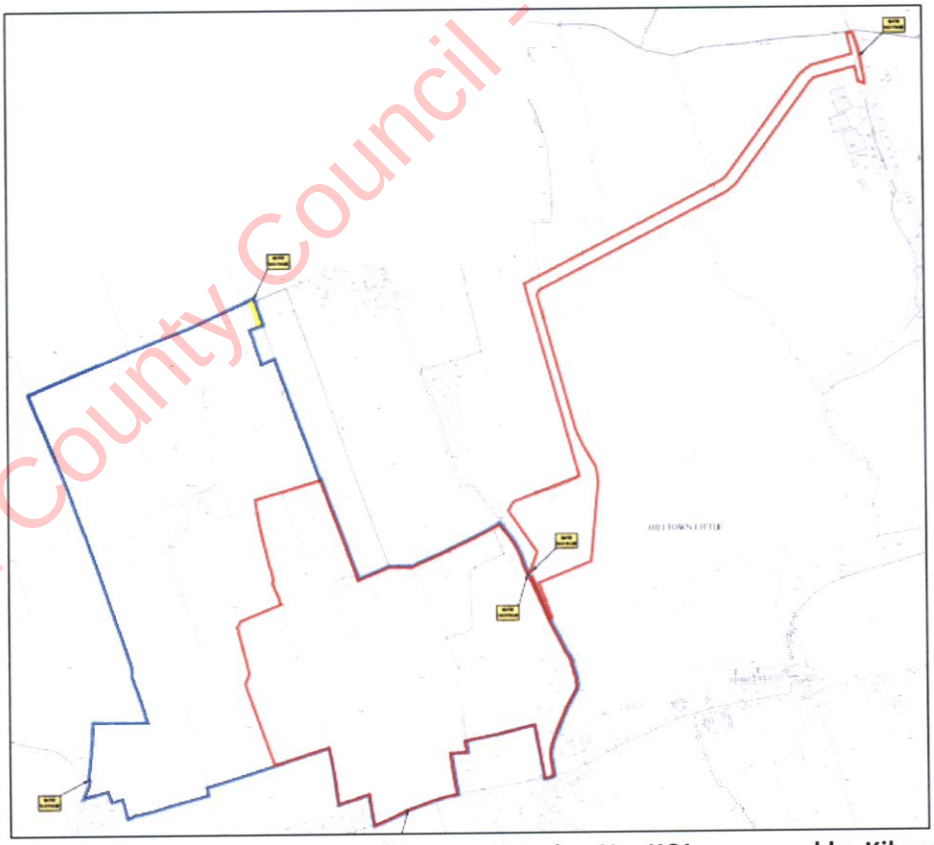

Figure 2.3: Site Location Map. (Source: Drawing No. KC1, prepared by Kilsaran.)

2.2 Description of the Subject Site

Bellewstown Quarry site comprises an established quarry, where rock is extracted primarily using explosives to blast exposed rock faces. The excavation comprises three benches, the lowest (Bench 3) at c.98m above Ordinance Datum (AOD), Bench 2 c. 116m AOD and the second higher Bench 1 is at an elevation of c. 129m AOD. A sump, located at the lowest part of the lowest bench, collects surface and groundwater, which is then periodically pumped to a constructed discharge water treatment facility located at the southern boundary of the property.

The field to the south of the quarry acts as a buffer between it and neighbouring residential properties.

Blasted rock is processed using mobile crushing and screening plant to produce various aggregate grades for sale to the construction industry.

The quarry accommodates a number of ancillary structures, which are located to the east of the site close to the existing quarry entrance. These structures include a workshop where plant maintenance is undertaken, office facilities, a shed, a weighbridge / shipping office, a weighbridge, wheelwash and disused bunded fuel storage tanks.

There are no rivers, streams or lakes within the boundary of the site. All surface water within the quarry is captured at the quarry sump, with water being pumped intermittently from the sump (manually controlled) through a discharge water treatment facility to a specific discharge point. The discharged water flows via a culvert under the public road into a land drain, which in turn flows into Lunderstown Stream, which in turn flows into the Nanny River. A groundwater monitoring programme has been in place at the quarry since early 2008. For further information, please refer to Chapter 8 of the EIAR.

Landscaped screening mounds are located around the permitter of the quarry, with site boundaries adjacent Mullagh Road comprising of chainlink fences for added security.

The area of the site that will comprise the dedicated access road comprises agricultural land (tillage). Hedgerows are at the proposed new entry / exit points to the new road in addition to landscaping along the route. A farm is located directly south of the easternmost access / exit point. In the northeast, this part of the site connects with the L1615; in the southwest it connects with the Mullagh Road.

Figure 2.4: Existing Quarry entrance. (Source: Googlemaps.ie.)

2.3 The Existing Quarry

The existing quarry at Bellewstown was permitted by way of substitute consent by An Bord Pleanála (Ref. No. PL17.SU0101). The continued extraction at the quarry and its expansion to the north and west of the existing void area was previously permitted by An Bord Pleanála under Ref. No. PL17.QD0013 (in accordance with section 37L of the *Planning and Development Acts, 2000* (as amended)) (hereafter referred to the 37L development).

Planning permission received under the 37L development was granted for a period of 10 years (Condition No. 3) by An Bord Pleanála on 24th October 2018. Furthermore, Condition No. 4 limited the number of Heavy Goods Vehicle (HGVs) movements per day to 32 No. loads (64 No. two-way) (versus 81 No. loads proposed).

The development permitted under the 37L development consists of the extension of the existing quarry extraction area to c. 17.3 ha and the deepening of the quarry floor to 98mAOD using conventional blasting techniques. Extracted material is processed using mobile crushing and screening plant and stockpiled in advance of haulage. Landscaped overburden and topsoil storage/screening berms are included, together with a landscaping and rehabilitation plan to be fully implemented upon completion of quarrying. Ancillary site works permitted include a new wheelwash, a new septic tank, a new percolation area and two bunded fuel tanks.

The total volume of recoverable reserves within the permitted quarry area is estimated at between 11.0 to 11.5 million tonnes. The 37L development proposed a level of extraction of c. 450,000 tonnes per annum, giving the production life for the extraction area of 25 years, allowing for fluctuations in demand. This anticipated production level was equivalent to an average 81 No. daily truck loads.

In restricting the life of the permission to 10 years (Condition No. 3), and limiting the maximum number of HGV movements to 32 No. loads (Condition No. 4), the Board's *Order* effectively limited the extractable reserve to c. 1.8million tonnes over the 10 year period.

2.4 Surrounding Area

The wider quarry lands, which are not in use for quarrying operations, are in agricultural use, for grazing livestock and for silage production. These fields are enclosed by hedgerows.

Residential properties in the surrounding area are primarily located to the south and southeast of the subject site along Carnes Road. As shown in Figure 2.5, these properties are primarily screened from the quarry operations by a mature stand of trees.

Figure 2.5: Residential Area South of the Subject Site. (Source: googlemaps.ie.)

The subject site is located on the Hill of Crockafotha. As such, the sloping topography of the area, rising from south, ensures the residential properties to the south are further screened from quarry operations.

Significant developments in the area include Bellewstown Golf Club and Bellewstown Racecourse. Horse Racing is an operation of particular significance to the Bellewstown area, with the tradition dating back centuries. The first record of racing here appears in the August edition of the Dublin Gazette and the Weekly Courier in 1726. There was originally a cricket ground in the middle of the race track. Racing continues to occur on an annual basis, taking place during the course of the summer.[4]

[4]Source: https://bellewstownraces.ie/about-us/

3.0 DESCRIPTION OF PROPOSED DEVELOPMENT

3.1 Introduction

This chapter has been prepared by Tom Phillips + Associates in conjunction with Kilsaran Concrete and provides a detailed description of the proposed development together with details of the existing environment.

As set out in Chapter 2 of this EIAR, the subject site is Bellewstown Quarry and proximate agricultural land in Co. Meath located in the townlands of Bellewstown, Hilltown Little, Gafney Little and Hilltown Great. The site comprises the existing rock quarry and a portion of land extending to the northeast on which it is proposed to deliver a new dedicated private quarry access road. The quarry area extends to approximately c. 39.4 hectares. The overall site size (development boundary) is 47.3 hectares, which includes an area of 7.9 hectares to accommodate the new access road to serve the quarry.

3.2 Summary of Proposed Development and Rationale

3.2.1 The Existing Quarry

The existing quarry at Bellewstown was permitted by way of substitute consent by An Bord Pleanála (Ref. No. PL17.SU0101). The continued extraction at the quarry and its expansion to the north and west of the existing void area was previously permitted by An Bord Pleanála under Ref. No. PL17.QD0013 (in accordance with section 37L of the *Planning and Development Acts, 2000* (as amended)) (hereafter referred to the 37L development).

Planning permission received under the 37L development was granted for a period of 10 years (Condition No. 3) by An Bord Pleanála on 24th October 2018. Furthermore, Condition No. 4 limited the number of Heavy Goods Vehicle (HGVs) movements per day to 32 No. loads (64 No. two-way) (versus 81 No. loads (162 No. two-way) proposed).

The development permitted under the 37L development consists of the extension of the existing quarry extraction area to c. 17.3 ha and the deepening of the quarry floor to 98mAOD using conventional blasting techniques. Extracted material is processed using mobile crushing and screening plant and stockpiled in advance of haulage. Landscaped overburden and topsoil storage/screening berms are included, together with a landscaping and rehabilitation plan to be fully implemented upon completion of quarrying. Ancillary site works permitted include a new wheelwash, a new septic tank, a new percolation area and two bunded fuel tanks.

The total volume of recoverable reserves within the permitted quarry area is estimated at between 11.0 to 11.5 million tonnes. The 37L development proposed a level of extraction of c. 450,000 tonnes per annum, giving the production life for the extraction area of 25 years, allowing for fluctuations in demand. This anticipated production level was equivalent to an average 81 No. daily truck loads.

In restricting the life of the permission to 10 years (Condition No. 3), and limiting the maximum number of HGV movements to 32 No. loads (Condition No. 4), the Board's *Order* effectively limited the extractable reserve to c. 1.8million tonnes over the 10 year period.

3.2.2 The Proposed Development

The proposed development seeks to extend the life of the current permitted quarry from 10 years to 25 years (as originally proposed 37L development) and proposes to develop a new dedicated quarry access road to facilitate an increase in the permitted number of HGV loads to and from the quarry from a maximum of 32 No. per day to an average of 81 No. per day (with +/-15% fluctuations in the number of loads to and from the quarry proposed to address certain demands on the quarry as and when required, equating to a maximum of 93 No. loads per day).

Access to the quarry is currently provided from the local road (Mullagh Road) that runs in a north-south direction and bounds the eastern portion of the quarry site. In order overcome the Board's concerns regarding impacts on the local community, the subject development proposes the provision of a new private road, as well as new entry / exit points onto this new road, to serve the quarry. The existing quarry access / exit point will be relocated c. 25m southwards. The development will consist of the continued provision of the office, shed and car park area. In addition, to facilitate the development, it is proposed to remove existing the weighbridge and wheelwash and provide a new wheelwash closer to the new entrance to the quarry, as well as providing a new shipping office (21 sq m). An extra weighbridge will be provided, resulting in a total of 2 No. to serve the quarry. It is proposed to demolish the existing weighbridge office (29 sq m) and workshop (123 sq m). A new powerhouse (46 sq m) is proposed to facilitate a mains electricity supply for use by pumps, plant and machinery in the future. The bunded and covered fuel tanks, septic tank and percolation area permitted under the 37L development have not yet been implemented. The septic tank will be installed and commissioned to treat the wastewater from the toilet contained on the proposed new shipping office.

This new private road will reduce the impacts on the local community by redirecting the HGV traffic away from Bellewstown Village. The new road will cross the Mullagh Road and fields in a northeast direction away from the quarry. The road is approximately 1.7km long starting at the Mullagh Road and has a minimum width of c. 6m increasing to up to 9.25m wide on some internal bends. The new link road will also be used by the farmer whose lands it crosses to provided internal access to their farm for agricultural purposes. We refer to Chapter 12 of this EIAR for further detail. This road will allow an average number of 81 No. daily loads from the quarry to facilitate an extraction level of approximately 450,000 tonnes per annum. The total extraction period proposed is 25 years, with an additional year required to facilitate restoration works.

The imposition of Condition No. 3 of the Board's *Order* in relation to the 37L development came as a result of the recommendations made in the *Quarries and Ancillary Activities Guidelines for Planning Authorities*, April 2004 prepared by the Department of the Environmental, Heritage and Local Government regarding the lifespan of planning permissions. Specifically, Section 4.9 of the Guidelines states that:

> *"Where the expected life of the proposed quarry exceeds 5 years it will normally be appropriate to grant permission for a longer period (such as 10 - 20 years), particularly where major capital investment is required at the outset. In deciding the length of the planning permission, planning authorities should have regard to the expected life of the reserves within the site. The purpose of setting a finite period is not to anticipate that extraction should not continue after the expiry of that period, but rather to enable the planning authority, in conjunction with the developer and environmental authorities, to*

review changes in environmental standards and technology over a decade or more since the original permission was granted."

To address any concerns regarding the environmental impacts arising from the quarry, this EIAR provides updated Mitigation and Monitoring measures (see Chapter 16).

3.3 Planning History

A brief overview of the planning history of the quarry is provided in the following Sections.

3.3.1 Historical Overview

Bellewstown quarry commenced operation prior to 1st October 1964. The location of a quarry is clearly marked on the Ordnance Survey map from 1909 and the revision of that map made between 1958 and 1982. Activities at the quarry have continued to this day. This is illustrated by Ordnance Survey aerial photographs flown in 1973, 1995, 2000 and 2004.

Meath County Council operated the quarry in the early 1960s. The quarry was subsequently operated by a number of parties up to the time a former owner, Mr. John Gallagher purchased the quarry in 1982 and operated it from 1982 to 2006. It was purchased at auction from Mr. Gallagher by Kilsaran. Kilsaran has operated the quarry from 2006 to date.

A change made to the *Planning Acts* introduced a requirement for the owner or operators of certain quarries to apply for registration under section 261. An application for registration was made on 27th August 2004 by the then owner John Gallagher.

No conditions were issued by the Planning Authority within the statutory period under section 261.

Under Section 261A (3)(a) of the *Planning and Development Acts 2000* (as amended), Meath County Council, directed the quarry owner/operator to apply to An Bord Pleanála for substitute consent in respect of the quarry under section 177E of the *Planning and Development Acts 2000* (as amended).

3.3.2 Substitute Consent Application (ABP Ref. PL17.SU0101)

The substitute consent application was submitted to An Bord Pleanála on the 3rd June 2014 (PL17.SU0101) and was accompanied with a remedial Environmental Impact Statement and a remedial Natura Impact Statement.

An Bord Pleanála granted substitute consent in an *Order* dated 24th October 2018. (A copy of the Board's *Order* is attached at Appendix 3.2.)

3.3.3 Section 37 Planning Application (ABP Ref.PL17.QD0013)

Section 37L (of Part 21) of the *Planning Acts* made provision for applications to be made to An Bord Pleanála in conjunction with an application for substitute consent for further development of a quarry as a quarry. A Section 37L application, which included an

Environmental Impact Statement (EIS) and Natura Impact Statement (NIS), was lodged with An Bord Pleanála on 14th January 2016.

The scheme proposed the horizontal and vertical extension of the quarry within the substitute consent area (ABP Ref. PL17.SU0101) and beyond into adjacent agricultural land. The development proposed comprised the extension of the existing quarry extraction area to c. 17.3 ha, the deepening of the quarry floor to 98mAOD using conventional blasting techniques, the processing of extracted material using mobile crushing and screening plant, product stockpiles, proposed landscaped overburden and topsoil storage/screening berms, landscaping and rehabilitation plan, and ancillary site works including a new wheelwash, a new septic tank and two bunded fuel tanks within a planning application area of c. 39.4 hectares. Permission was sought for a period of 25 years.

An Bord Pleanála granted permission for the development by *Order* dated 24th October 2018 subject to 18 No. conditions. Planning permission received under the 37L development was granted for a period of 10 years (Condition No. 3) by An Bord Pleanála on 24th October 2018. Notable Conditions applicable to the operation of the quarry include Condition Nos. 1, 2, 3 and 4. (A copy of the Board's *Order* is attached at Appendix 3.3.)

Condition No. 1 states:

> *"1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application submitted to An Bord Pleanála on the 14th day of January, 2016, except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.*
>
> *Reason: In the interest of clarity."*

Condition No. 2 states:

> *"2. This grant of planning permission for further quarry development relates only to the extension of the existing quarry extraction area to 17.3 hectares and the deepening of the quarry floor to +98mOD in accordance with the details submitted with the application on the 14th day of January 2016.*
>
> *Reason: In the interest of clarity."*

To reiterate, Condition No. 3 permits a 10 year life for the quarry i.e. to 23 October 2028 (not including section 251 and section 251A of the *Planning and Development Acts, 2000* (as amended) regarding the '9-day Christmas-time extension' or the additional 56 No. days introduced for the life of each permission due to Covid-19, respectively) :

> *"3. This permission is for a period of 10 years from the date of this Order.*
>
> *Reason: In order to enable the ongoing impacts of the quarry on the environment and the amenities of the area to be reviewed. having regard to the circumstances then pertaining."*

Condition No. 4 limits the number of Heavy Goods Vehicle (HGVs) load movements per day to 32 No. loads (64 No. two-way) versus 81 No. loads (162 No. two-way) proposed.

"4. The number of Heavy Goods Vehicles serving the site shall not exceed 32 loads (64 movements) per day and no more than 20 movements in any hour during each working day.

Reason: Having regard to the planning history of the site, the Board is not satisfied, based on the information provided, that the proposed traffic level (81 loads/day) can be accommodated on the local road network, in its existing condition, without excessive impacts on the amenities of the local community."

3.3.3.1 The Subject Development's Relationship with the 37L Development

The subject application seeks permission to extract the quarry for a period of 25 years, whilst seeking permission for the provision of a private access road, which will alter the access and egress route to and from the quarry to address the Board's concerns regarding traffic impacts on the local community.

The provision of the new road will allow an average of 81 No. loads per day to facilitate an extraction level of approximately 450,000 tonnes per annum, as originally sought in the Section 37L development. Extending the life of the quarry to 25 years, plus an additional year to allow for restoration, will also ensure that the full resource of the quarry is utilised.

The subject EIAR, as well as the enclosed NIS, outlines a suite of mitigation and monitoring measures that will reduce any environmental impacts arising from the quarry and all ancillary development, including the new private road. These update those measures presented in the EIS submitted with the 37L development. The mitigation measures devised in each chapter of this EIAR are presented at Chapter 16 Mitigation and Monitoring.

It is proposed, in the event of a grant of permission for the development proposed, that Kilsaran will develop and implement an Operational Mitigation Management Plan, reviewing this every 5 years up to the end of the quarry's 25 year life and submitting same with the Local Authority for agreement on a 5-yearly basis. A sample Table of Contents for this Plan is attached at Appendix 3.1. It is proposed that this Plan will document over the previous 5 years:

- History of environmental performance of the quarry;
- History of any complaints received in the previous 5 years;
- Any issues arising of note;
- Any remedial actions required to address issues arising;
- Details of new proposed mitigation and / or proposed amendments to mitigation measures to improve the environmental performance of the quarry.

3.4 Operation of the Project and the Proposed Development Sought in the Context of the Existing, Permitted Quarry Development

3.4.1 Volume Calculations and Duration of Development

Following extensive site investigation works, the volume of overburden and rock to be extracted from the quarry site is estimated to amount to between 11 and 11.5 million tonnes.

To reiterate, the anticipated level of extraction will be 450,000 tonnes per annum. Allowing for minor deviations from this as a result of changes in market, the production life of the proposed extraction area is 25 years. A further 1 year is being sought to facilitate restoration works.

3.4.2 Methods of Extraction

There are three broad stages in the quarrying process to produce aggregates for the construction industry:

1) Blasting of rock faces;
2) Crushing of Rock; and
3) Stockpiling of Rock.

Each of these steps is summarised below.

3.4.2.1 Blasting of Rock Faces

To extract the aggregate, the active rock face must be blasted using explosives.

The blast charges will be placed at regular intervals. It is proposed that there would be between 15 to 20 blast events per year, which equates to not more than one every two weeks. Currently, Kilsaran employs specialist blast contractors who design and carry out each blast in the quarry. All blasts at the site are subject to a specific design, which is carried out in accordance with the relevant standards, which establish best practice and safety.

Each blast is specifically designed to release a quantum of rock from the working quarry face. In this regard, a pre-determined grid of vertical holes is drilled on top of the quarry face to a required depth. The intervals between the drill holes are specifically designed having regard to the explosives to be placed within each of the holes and the depth of the rock, which is sought to be released. There are pre-determined intervals or delays in the detonation of explosives in the drilled holes. This process minimises vibration arising from the blasting and increases the efficiency with which the rock can be removed. The shot-firing of the blasts and the explosives used are monitored by the Quarry Manager.

Twenty four hours advance warning will be given to the neighbouring residences within 500m of the quarry prior to blasting and a strict safety procedure will be observed on site up to and after each blast.

It is proposed to maintain the existing on site protocol for blasting in cooperation with the blasting contractor and in accordance with current international best practice. The protocol is incorporated into the *Environmental Management System* for the quarry. The protocol considers all activities related to blasting, especially the selection of explosives (including more water-resistant forms such as slurries or emulsions), storage and handling controls, blast design considerations and loading controls.

3.4.2.2 Crushing of Rock

Once blasting has occurred, hydraulic excavators and wheel loaders feed the blasted rock into the mobile primary crusher, which is located on the quarry floor. There are two crushing stages, primary crushing and secondary crushing. Each crusher consists of a set of electrically operated rotating drums, which function to reduce the particle size of the rock to a scale that can be easily transported using belt conveyors. The primary crusher reduces the rock size to a maximum diameter of 100mm. The secondary crusher reduces the rock size to a maximum diameter of 50mm. Mobile screening units are used to screen the crushed rock into various size fractions depending on the grade of aggregate being produced.

3.4.2.3 Stockpiling of Rock

The crushed and screened rock will either be available for immediate loading onto a road haulage vehicle(s) or is stockpiled within the extractive areas and arranged according to its size. The rock will be dispatched from the site depending on customer demand.

3.4.3 Office and Facilities

There is a brick built single story office located close to the quarry entrance . Bunded fuel tanks are located southwest of this office; however, these are no longer in use. A similar but smaller building, adjacent to the weighbridge is used as the weighbridge and shipping office.

Other structures on the site include a workshop/garage and a lean-to store. It is proposed to demolish the workshop (123 sq m) as part of the proposed development. Bunded and covered fuel tanks permitted as part of the 37L development located to the west of the workshop have yet to be constructed.

A new shipping / weighbridge office (21 sq m) will be provided beside the two new weighbridges (with the existing weighbridge removed) as part of the redesign of the existing entrance area layout, and the existing weighbridge office will be demolished (58 sq m). The existing wheelwash will also be removed and replaced close to the weighbridges.

The septic tank permitted as part of the 37L development has not yet been implemented. Once installed and commissioned it will serve the new weighbridge office resulting in the existing septic tank being decommissioned.

There is a designated car parking area available for employees and visitors adjacent to the site entrance. The car park is of sufficient size to accommodate at least 30 cars.

3.4.4 Quarry Working Hours

It is proposed that the development will be operated in the same way as the existing permitted quarry operation. Rock breaking is currently not permitted prior to 08:00, in this regard, extraction and processing of rock at the quarry will take place between 08:00 and 18:00 hours on Monday to Friday and between 08:00 and 14:00 hours on Saturdays.

The 07.00 hrs start each working day facilitates the loading and haulage operation. The 07:00 start also spreads the haulage operation over the day and enables the early supply of materials to the construction industry, in line with industry demands.

No operation takes place on Sundays or Bank Holidays other than pumping, which will take place intermittently, and some occasional maintenance works.

3.4.5 Employment

Extending the life of the quarry to 25 years and increasing the number of loads that can leave the quarry per day, will secure the long term employment of seven people (Manager, Assistant Manager, one Shipper, two Shovel Drivers and two General Operatives) directly on-site, with five full-time Kilsaran Truck Drivers and up to twelve Truck Owner-Drivers associated with the aggregate haulage aspect of the development.

Therefore, the proposal will secure employment of 24 people for the duration of the extraction development i.e. 25 years.

3.4.6 Transport and Access – New Road to Facilitate an Increase in HGV Movements

An analysis of traffic associated with the development, an assessment of the scale of the impacts from the development, and a prediction of any impacts associated with the proposed development are detailed in Chapter 12, Transport and Traffic, of this EIAR.
Trucks associated with the quarry development are a mix of articulated and rigid body types. Chapter 12 lists the vehicle types that will be associated with the development.

The existing site entrance is used for access into and out of the quarry. All exiting loads are weighed on the existing weighbridge .

However, under the subject proposal, on exiting the quarry site, rather than travelling south down the Mullagh Road onto the local road in the south (referred to as Bellewstown Road), which links with the R152 in the west and the R132 in the east, the trucks will travel along a new proposed private road, the entrance to which will be on the east side of the Mullagh Road traversing existing agricultural land for c. 1.7km northeast away from the quarry, and exiting on the west side of the L1615 north of existing farm buildings. The L1615 then meets the R150 in the north.

The existing quarry access / egress point will be moved southwards and new access / egress points will be created into the agricultural fields, one at each end of the new road. Security gates and lifting barriers will be provided at each of these access / egress points ensuring that the road cannot be accessed by members of the public. Boundary fencing will also be provided at these points. In addition, an existing stone wall to the south of the east access / exit point at farm buildings will be extended to meet the new entrance / exit point.

The provision of this proposed link road will facilitate a shorter connection to the national road network and thereby also ensure that HGV's accessing Bellewstown Quarry will bypass Bellewstown village as well as the residences along the Bellewstown Road. As such, the new road will facilitate increased movements of HGVs from and to Bellewstown Quarry without resulting in negative adverse effects on the local community, thus addressing the Board's reason for attaching Condition No. 4 to the 37L development. It is anticipated that as a result

of the proposed road upgrades, an increase in the number of HGV movements to an average 81 No. daily load movements (with fluctuations of +/-15% in the number of loads to and from the quarry, equating to a maximum of 93 No. loads per day proposed, taking into account given that quarries are demand driven) can be facilitated over the quarry's life of 25 years. (See Chapter 12 Traffic for further detail.)

The new private access road will also be used by the farmer whose lands it crosses to provided internal access to their farm for agricultural purposes.

The wheelwash facility is utilised at the quarry and undergoes maintenance and upgrading as required. It is proposed to remove the existing wheelwash and provide a new wheelwash aligned with traffic utilising the amended site entrance arrangements. The use of the new wheelwash before HGVs leave the site eliminates the risk of mud, grit and dust being carried from the development onto the public road. In the event of material being spilled on the public road the quarry operator will ensure that spilled material is removed from the road surface in a safe and timely manner as soon as they notice or are notified that a spillage has arisen.

Regular sweeping of the entrance area and public road in the vicinity of the entrance is employed and will continue to be so during the operation of the quarry.

3.4.6.1 Public Road Improvements

Other development works are required to facilitate the proposed development, as well as improving road infrastructure generally for the area. The Applicant has agreed these in principle with Meath County Council.

These works include proposals to improve the carriageway of the L1615 including the application of a new surface overlay on the L1615 from its junction with the R150 to the entry / exit point of the proposed link road.

A structural survey undertaken on Beaumont Bridge has revealed that strengthening and repair works are required to ensure the safe movement of all vehicles over the River Nanny on the L1615 as well as improving the carriageway over the bridge.

Chapter 12 Traffic of the EIAR describes these works in detail.

These public road works will not just facilitate the development, they will be of significant benefit to all road users by ensuring the safe use of the bridge whilst improving general road safety of the L1615.

It is proposed that these works outlined above (and referred to throughout this EIAR and accompanying NIS as "public roadworks") will be carried out by Kilsaran under licence from Meath County Council's and on the Local Authority's behalf in accordance with the *Roads Act, 1993* (as amended) in the event of a grant of permission for the proposed development. The works are assessed in the context of potential cumulative impacts in conjunction with the subject proposal in the relevant Sections of this EIAR.

3.4.6.2 Cut and Fill Arising from the Proposed Road's Construction

In constructing the proposed link road, to decrease and increase ground levels, land will need to be excavated (c. 789m3 of materials) as well as infilled (c. 1,169m3 of materials), respectively, as and where needed. It is intended that the any materials excavated at the site will be used to fill in areas that require it. Where additional materials are required to infill land, these will comprise 380m3 and will be obtained from the quarry. Please refer to Chapter 14 Waste which discusses this further.

3.4.7 Utilities and Services

There is an existing connection to the Electricity Supply Board's National Grid that is used to supply electrical power to the office, workshop and other ancillary installations etc.

The processing plants are powered directly from on-board generators.

A new powerhouse is proposed to facilitate a mains electric supply for use by pumps, plant and machinery in the future.

Effluent from the toilet, wash hand basins and sinks is directed via the foul sewer to the existing septic tank. Once the new septic tank is installed as per the permitted 37L development, the services infrastructure will be redirected to the new septic tank in accordance with that permission.

Drinking water is drawn from a private well located to the northwest of the main office building.

3.4.8 Quarry Safety and Security

There are a number of safety and security measures in place for the existing quarrying operations on the subject site. The boundaries of the site are securely fenced with a mix of mature hedgerows, stonewall, chainlink and stock-proof fencing, thereby discouraging inadvertent access to the quarry. New boundaries comprising fences, walls and gates will be provided as part of the proposed development. These fences will be monitored and maintained on a regular basis as required under the *Safety, Health and Welfare at Work (Quarries) Regulations 2008*.

Soil has been used to create a physical barrier along significant sections of the site boundary and appropriate warning signs will be displayed at visible locations along the boundary at appropriate intervals.

The proposed new road will be private and only used to serve the quarry. The existing and proposed amended site entrances to the site have/will have lockable gates to prevent unauthorised access outside of the working hours. During operating hours, the gates will be unlocked and an electronic barrier system will be installed to prevent unauthorised use of the road. A closed-circuit television system (CCTV) is installed at the quarry entrance.

Upon cessation of quarrying as part of the reinstatement works a row of boulders will be placed along the eastern (potentially accessible) edge of the excavation to negate the potential for vehicles to be rolled into the quarry. An agricultural fence will be installed around

the edge of the excavation, to act as a visual indicator of the edge and a physical barrier for people and animals. The road will remain and serve as agricultural access to the fields on cessation of quarry activities.

3.5 Decommissioning & Rehabilitation

The cessation of commercial rock extraction at year 25 provides an opportunity to create new habitat and contribute to the promotion of biodiversity.

The restoration plan for the quarry area was permitted under the 37L development and confirmed as acceptable to the Local Authority[5] through compliance with Condition No. 15 of the 37L permission (see Appendix 3.4 of the EIAR). It is proposed to continue to propose this Restoration Plan on cessation of the quarry. These landscaping proposals provide for the natural regeneration of vegetation in certain areas together with additional hedge and tree planting. This planting will augment existing well-established planting located on existing perimeter screening mounds to the south and east.

On cessation of the quarry at year 25, new proposed mounds will be constructed along the extended southern, western and northern limits of excavation and will be planted in accordance with the Landscaping Plan enclosed as part of this application. All hard standing areas and plant, will be removed at the end of the quarrying activities. The area of land accommodating the proposed road and entrances will remain to serve the agricultural land and for the landowner's (or the agricultural land user's) use only. As detailed in Chapter 11 of the EIAR, the majority of the internal worked quarry faces will not be visible from outside views.

[5] As per Meath County Council email received by Kilsaran, dated 25th February 2019.

4.0 EXAMINATION OF ALTERNATIVES

4.1 Introduction

This chapter of the *Environmental Impact Assessment Report* has been prepared by Tom Phillips + Associates and details the rationale underpinning the proposed development and an examination of alternatives.

The proposed development comprises the extension of the life of the current permitted rock quarry[6] at Bellewstown Quarry, Bellewstown, Co. Meath from 10 years to 25 years on foot of a permission received for the continued extraction at the quarry and its expansion to the north and west of the existing void area, by An Bord Pleanála under Ref. No. PL17.QD0013 (in accordance with section 37L of the *Planning and Development Acts, 2000* (as amended)) (hereafter referred to the 37L development). In addition, the subject application seeks permission to develop a new dedicated private quarry access road, facilitating an increase in daily HGV traffic movements to / from the quarry to 81 No. loads per day, which will cross the Mullagh Road and fields in a northeast direction away from the quarry onto the L1615 across the townlands of Bellewstown, Hilltown Little, Gafney Little and Hilltown Great. This will allow extraction of the available rock reserve at this location over a 25-year period, which is much sought after nationally and internationally, particularly in road and construction projects.

4.2 Rationale for the Proposed Development

The proposal to continue the existing quarry operations on the subject site is based on the need to safeguard the existing operations and employment. In this regard, the proposed development is intended to safeguard the aggregate reserve on the subject site and the significant capital investment already made at the site.

Such proposals are supported by the Department of the Environment, Heritage and Local Government's *Quarries and Ancillary Activities – Guidelines for Planning Authorities* (2004), which state the following regarding proposals for quarry extensions:

> *"In considering whether a further permission should be granted, the planning authority should have regard (inter alia) to the following factors:*
>
> *a) The extent of the remaining mineral resources; and*
> *b) The extent of existing capital investment in infrastructure, equipment, etc."*[7]

In addition, the *Guidelines* state that:

> *"In deciding the length of the planning permission, planning authorities should have regard to the expected life of the reserves within the site."*

The total volume of recoverable reserves within the permitted quarry area is estimated at between 11.0 to 11.5 million tonnes. The 37L development proposed a level of extraction of c. 450,000 tonnes per annum, giving the production life for the extraction area of 25 years,

[6] Permitted by way of substitute consent by An Bord Pleanála (Ref. No. PL17.SU0101) by an *Order* dated 24th October 2018.
[7] Department of the Environment, Heritage and Local Government (2004), *Quarries and Ancillary Activities – Guidelines for Planning Authorities*, p. 30 – 31.

allowing for fluctuations in demand. This anticipated production level was equivalent to an average 81 No. daily truck loads.

However, planning permission received under the 37L development was granted for a limited period of 10 years (Condition No. 3) by An Bord Pleanála on 24th October 2018. Furthermore, Condition No. 4 limited the number of Heavy Goods Vehicle (HGVs) movements per day to 32 No. loads (64 No. two-way) (versus 81 No. loads (162 No. two-way) proposed). The presence of these Conditions on the Board's *Order* effectively limits the extractable reserve to c. 1.8million tonnes over the 10-year period.

The proposed development seeks to extend the life of the current permitted quarry from 10 years to 25 years (as originally proposed 37L development) and proposes to develop a new dedicated quarry access road to facilitate an increase in the permitted number of HGV loads to and from the quarry from a maximum of 32 No. per day to an average of 81 No. per day (with +/-15% fluctuations in the number of loads to and from the quarry proposed to address certain demands on the quarry as and when required,). This will ensure that the rock reserves in the permitted area are extracted and utilised to its full extent.

This new road will reduce the impacts on the local community by redirecting the HGVs away from Bellewstown Village. The new road will cross the Mullagh Road and fields in a northeast direction away from the quarry. The road is approximately c. 1.7km long starting at the Mullagh Road and has a minimum width of c. 6m increasing to up to 9.25m wide on some internal bends. The new road will also be used by the farmer whose lands it crosses to provided internal access to their farm for agricultural purposes. Importantly, the provision of this road will address the Board's concerns regarding the traffic impact of the development on the surrounding area.

Given the extent and quality of rock reserves in the existing quarry and permitted extension area, together with the significant capital investment already made at the site, the proposed quarry extension is considered appropriate and in accordance with the provisions of the *Guidelines*.

4.3 Main Alternatives Studied

4.3.1 Alternative Locations

The existing quarry is already fully permitted and fully operational. The Applicant has already provided a significant capital investment in the existing quarry and in this regard, the proposed development is not footloose, and an alternative location is not considered to be viable or make best use of the existing reserves in the local area. The proposed continuance and extension of the existing quarry at the subject site is considered to be the most appropriate development. The extension of the quarry also had regard to those sensitive receptors in the vicinity of the subject site which informed the location of the quarry within the overall landholding of the Applicant.

In addition, as a result of Section 261 and Section 261A of the *Planning and Development Acts, 2000* (as amended), a large number of quarries across Ireland that do not have the requisite permissions and particulars in place or that have significant negative impacts on the environment, will be required to cease operations. As a consequence, the importance of the high-quality rock reserve on this site for use in construction activities cannot be underestimated.

4.3.2 Alternative Designs/Layout

The experience of the Applicant gained in the operation of the existing quarry has provided input into the proposed development, particularly around the increase in the number of loads per day from the quarry and the associated design of the access road, and the need to reduce traffic impacts on the local area. A number of alternative proposals have been investigated.

The road design that now forms part of the development proposal was chosen as it was considered to provide for the optimum solution in terms of reducing traffic impacts associated with the operation of the quarry, which also lends itself to creating the least visual impact in the surrounding area.

4.3.3 Alternative Mitigation Measures

The mitigation measures outlined in this EIAR, where appropriate, have been developed by competent experts relevant to the aspect of the environment under consideration and represent best practice with a view to avoiding or otherwise minimising potential impacts on the environment.

There are no predicted residual impacts once mitigation measures have been successfully applied and as such alternative mitigation is not considered necessary.

4.3.4 "Do Nothing" Alternative

The "do nothing" alternative would involve the continued operation of the existing quarry to its permitted footprint and depth and the use of the adjoining lands for agricultural purposes until such time as the existing planning permission expires. This may have an adverse impact on the local economy given the level of direct and indirect employment provided.

4.4 Conclusion

The selection of an alternative location for the proposed development is not applicable, given that the quarry is already in operation and the adjoining lands are considered to have significant reserves to continue this operation. The quality of the remaining rock reserves, as well as the capital investment on site means that the proposed development is not footloose and cannot be accommodated in an alternative location. By continuing extraction from the existing and permitted site, cumulative impacts are minimised.

5.0 POPULATION AND HUMAN HEALTH

This chapter has been prepared by Tom Phillips + Associates and details the impacts on Population and Human Health arising from the proposed development.

The area in which the subject site is located is predominantly rural in character and characterised by an undulating landscape. Agriculture is the dominant land use in the surrounding area.

Residential development in the vicinity of the subject site is confined to a band of single houses located along the local County Road to the South of the subject site. The closest dwellings to the extraction area are located c. 75m to the south.

The site is set back from the public road and is largely screened from view by the intervening higher ground as well as trees and hedgerows vegetation. Further details of the receiving environment are provided in Chapter 2 of this EIAR.

The subject site at Bellewstown which is located within the northern half in the Electoral Division of Ardcath (ED No. 043). In the 2016 Census, this ED had a population of 1,949 No. persons representing a population percentage change of +2% from the 2011 total population of 1911 No. persons. This percentage change in population is lower than the neighbouring EDs.

Employers in the area include Commerce and Trade services in Ardcath. The Census 2016 data illustrates that 25.2% of the population in Small Area (Ardcath ED) are involved in Commerce and Trade industry, while only 9.3% are involved in the agricultural, forestry or fishing industry and 3.8% in Public Administration. The next most significant industry is of Professional Services, employing 16.1% of working population while the remaining industries employ c. 10 to 12%.

At the time of the 2016 census, some 6.9% of the labour force in Ardcath ED are classed as 'Unemployed'. This figure is higher than Ashbourne Municipal District and County Meath which had unemployment rates at this time of 5.9% and 4.5%, respectively.

The proposed development seeks to ensure that this employment level is maintained at the quarry and will support direct and indirect employment for years moving forward. In addition to this the proposal will secure employment of 24 persons for the duration of the extraction development i.e., 25 years.

With respect to national employment figures, (ESRI) *Quarterly Economic Commentary (ESRI QEC) – Spring 2022* anticipates that the national unemployment rate as a percentage of the total labour force is expected to fall to 4.8% in 2023 from 6.3% recorded in 2022[8]. The report further states that:

> *"Improvements in the labour market are ongoing with **unemployment continuing to fall and likely to decline to 5.0 per cent by the end of 2022.** The public finances will benefit from the performance of the economy and this year the **General Government Balance (GGB) is set to be positive for the first time since 2019.** However, there are significant **downside risks for the public finances owing to the geopolitical crisis.**"* (Our emphasis) (Source: *ESRI Quarterly Economic Commentary, Spring 2022.)*

[8] *ESRI (Spring 2022) Quarterly Economic Commentary.*

The consumption forecast improvement predicted previously has been affected by two major economic forces since early 2022, 'the improving COVID-19 epidemiological situation' and the 'deteriorating geopolitical conflict in Ukraine'. As a result, although a robust recovery in Irish consumption was evident throughout 2021, the geopolitical situation in Ukraine is expected to negatively impact consumption decisions at greater levels and further increase inflation. Inflation in 2022 is expected to reach 6.7% while falling to 5.0 % in 2023. However, consumption is still expected to grow by 5.6 % in 2022 and 4.2 % in 2023 owing to the rebound from the pandemic couple with increased household savings over the last two years.

The potential impacts between human beings and Air & Climate, Noise & Vibration, Landscape & Visual, Water, Traffic and Waste are further detailed in Section 5.0 of the EIAR. In summary, it is considered that there will be no further impact experienced on the environmental sensitivities in the area over and above that experienced at the existing quarry in relation to Air & Climate, Landscape & Visual, Water, Traffic and Waste.

6.0 BIODIVERSITY

The Biodiversity Chapter describes the habitats, flora and fauna present at the site of the proposed continuation and extension of an existing quarry at Bellewstown, Co. Meath. Ecology Ireland Wildlife Consultants Ltd. (Ecology Ireland) completed a comprehensive desktop review and detailed field surveys to inform an ecological impact assessment of the proposed development. The EIAR outlines the various stages of the proposed project, describing the development of a new access track and the ongoing quarrying operations at the site, prior to restoration according to the quarry restoration plan.

The proposed development site is not located within any designated Natura 2000 site or nationally designated conservation site. There are five Natura 2000 sites located within 15km of the applications boundary, the most proximate of which are situated over 6km away from the quarry: River Nanny Estuary & Shore SPA (004158; 6.2km) and River Boyne and River Blackwater SAC (002299; 6.2km). The site is located within the River Nanny catchment. All surface water within the quarrying area flows towards the sump and pumped onwards from there to a settlement pond, hydrocarbon interceptor and reedbed prior to discharge. Recharge to local groundwater is minimal due to local geology. The surface water discharge location is into the Lunderstown Stream c. 1km south of the quarry site and the discharge volume is according to EPA licence (10/02). The River Nanny flows onwards to the River Nanny Estuary & Shore SPA. Following the hydrological route from the discharge into the Lunderstown Stream the SPA site is c. 20km downstream of the quarry. There is no direct hydrological link between the site and the other designated sites situated with 15km of the proposed development.

The habitats and vegetation which occur within the survey area are generally considered to be of relatively low botanical value. Of the habitats recorded the most botanically interesting are the areas of broadleaved woodland, however most of these woodland areas have been established recently, being mostly planted for screening purposes within the past 40 years. None of the habitats which were recorded correspond to ecologically important habitats listed in Annex I of the EU Habitats Directive (European Commission, 2013). In addition, none of the plant species recorded within the survey area are listed on the 2015 *Flora Protection Order* and none are considered to be rare in a local context.

Rabbit was the only non-volant mammal species directly observed on site. Frequent field signs of Fox was recorded and a single Badger latrine was noted during site walkovers, but there were no setts or dens present within the application boundary. No potential roosting features (PRFs) were identified for bats during the field assessment and the passive detector recorded the occurrence of four bat species foraging and commuting at the site.

In total, 23 bird species were recorded in the study area during the field surveys representing a fairly typical farmland bird assemblage. The greatest diversity of birds present was recorded associated with the hedgerows, trees and field boundaries within and in the vicinity of the application site. There were very few birds recorded from the open fields, including the arable field traversed by the proposed new access road.

Common Frog was recorded during walkover surveys in the field south of the extraction area close to the broadleaved woodland.

Potential impacts on the flora, habitats and fauna species arising from the proposed development are assessed. Mitigation measures and biodiversity enhancement commitments

are presented appropriate to the nature of the site, the development and the wider receiving environment. For instance, the potential for hydrological effects on groundwater and/or contaminated surface water run-off are considered in detail. It is concluded that the embedded environmental controls and dedicated mitigation measures described in the EIAR (and accompanying Natura Impact Statement) will be effective in addressing these risks such that there is negligible residual risk of impact upon any Natura 2000 sites.

Mitigation commitments preclude the clearance of vegetation during the bird breeding season. New hedgerow will be established, including along the new access track. The hedgerows will be planted with native trees and hedgerow plants with a grassy verge that will be maintained according to the guidance in the All-Ireland Pollinator Plan. Bat roost boxes and bird nest boxes will be erected and there are commitments to monitor the progressive restoration process, with follow up ecological surveys in Year 1 and Year 5 of the development.

The residual negative impacts on habitats and associated species in the wider area are considered, *neutral imperceptible* in the long term. With the implementation of the environmental controls, mitigation and proposed enhancement measures (as well as the restoration and landscaping plan) it is concluded that the residual impacts on birds, mammals (including bats) and other fauna will be highly localised and slight negative in the short-medium term and neutral imperceptible in the medium-longer term.

7.0 LANDS, SOILS & GEOLOGY

This chapter assesses and evaluates the potential impacts of the development on the land, soil and geological aspects of the site and surrounding area. In assessing likely *potential* and predicted effects, account is taken of both the importance of the attributes and the predicted scale and duration of the likely effects.

Reference to the relevant geological information, the 1:100,000 scale Sheet No.13 – Bedrock Geological Map of Meath (Geological Survey of Ireland (GSI)), indicates that the site and surrounding area is underlain by Ordovician age felsic volcanic rocks. The rock succession exposed within the Bellewstown Quarry comprises predominantly volcanics deposits and diorite with mudstone, chert, and greywacke. Permeabilities are increased in the volcanic flows by columnar jointing which has opened up the otherwise hard rocks. The joints within the quarry face are infilled by rock debris and clay.

The GSI has identified a large section of the application site as a County Geological Site (CGS). This development presents an opportunity for cooperation between the quarrying industry and the GSI to help further the understanding of the Nations geological past. The existence of the quarry will not detract from the identified site but will add vital knowledge enriching our understanding of geological heritage. On cessation of quarrying, exposed sections of the strata will act as learning tools for future generations.

The GSI presently classifies the bedrock aquifer in the region of the subject site primarily as having an (E) – Extreme Vulnerability status or with rock at or near the ground indicating little to no soil cover of the underlying bedrock which is to be expected in a quarry area such as this. The removal of the localised subsoil and rock will result in a local loss of natural material. As noted there will be no additional extractions from the currently operation quarry than those permitted in the 37L permission of 2018 Proposed excavation depths are to 98 mAOD. The area to be extracted will expose rock faces and not have any impact on the importance of the site for geological heritage.

Based on the TII methodology (2009) methodology (refer to Appendix 7.2), the importance of the geological features on this site are rated as High. This is based on the geological value present at a local scale. Furthermore, the type of soil and geological environment across the development site is considered 'Type A - Passive geological/ hydrogeological environments' due to the site being underlain by a 'Poor aquifer and historically stable geological environment.

In constructing the proposed link road, to decrease and increase ground levels, land will need to be excavated (c. 789m^3 of materials) as well as infilled (c. 1,169 m^3 of materials), respectively, as and where needed. It is intended that the any materials excavated at the site will be used to fill in areas that require it. Where additional materials are required to infill land, these will comprise 380 m^3 and will be obtained from the quarry.

During operation, mitigation measures will comprise: management of stockpiles to avoid runoff laden with silts to waterways. Storage of bulk diesel and any waste oils in designated areas and fully contained. Staff are trained to manage any accidental releases to ground. Where any contaminated soil is encountered it will be disposed of to a licensed facility

Following implementation of mitigation measures the predicted impact during the operation of the quarry for 25 years will be *long-term*, *imperceptible* and *neutral.*

At closure the restoration plan for the extended quarry area will be restored in line with the restoration plan which was permitted under the 37L development save for the restoration of the area around and subject to the new road. On cessation of the quarry at year 25, new proposed mounds will be constructed along the extended southern, western and northern limits of excavation and will be planted in accordance with the Landscaping Plan given in Chapter 11 – Landscape of this EIAR. All hard standing areas and plant, will be removed at the end of the quarrying activities. Any material required for removal will be screened and disposed to a licenced material if required. The quarry faces preserved in accordance with status as County Geological Site will not be visible from outside views. The predicted impact following restoration will be *long-term*, *imperceptible* and *neutral*.

8.0 WATER (HYDROLOGY AND HYDROGEOLOGY)

The existing quarry site for which further development is being sought is located approximately 1.2km to the west of Bellewstown, Co. Meath. The proposal also includes a new access road and site entrance located to the northeast of the quarry. The proposed route of the access road is along private agricultural tillage land.

Regionally the proposed site is located in the River Nanny surface water catchment (Nanny-Delvin. The majority of the quarry site including the proposed site entrance access road and quarry continuation area are located in the Nanny(Meath)_SC_020 sub-catchment while the southern section of the site including the quarry discharge point is located in the Lunderstown Stream sub-catchment. The quarry is located in bedrock that has been classified as a Poor Aquifer (i.e. the rock is not permeable).

There are no natural surface water drainage features within the existing quarry site boundary or proposed continuation area and all surface water runoff drains towards the sump area. Rainfall landing within the site is wholly contained in the quarry before been pumped from the site via the quarry sump to the settlement pond and reed bed for licensed discharge to the Lunderstown Stream via a drainage ditch. Due to the Poor Aquifer status of the local bedrock and the elevated nature of the site, groundwater inflows to the quarry are very low.

The groundwater level monitoring data indicates that the groundwater catchment to the quarry is localised to the site and this is not expected to change significantly as a result of the continuation. Overall groundwater volumes pumped from the existing quarry make up a very small proportion of the overall quarry discharge. No significant groundwater inflows are anticipated as a result of the continuation.

No amendment to the existing discharge licence is being sought. Discharge from the quarry will continue to be passed through an adequately sized settlement pond, reed bed filter and hydrocarbon interceptor during the continuation phase.

With regard the proposed access road and site entrance, there will be a requirement for quarry traffic to use a wheel wash prior to exiting the site via the proposed new road and site entrance. This will prevent sediment build-up on the road surface. The road will also be swept regularly to maintain a clean surface. Runoff from the proposed new road entrance will be diverted to a soakaway.

Due to the low permeability of the rock for continued extraction and localised groundwater catchment to the quarry, further significant effects on groundwater levels or quality are not anticipated and therefore significant impacts on local well supplies is not anticipated. This distance between the local wells and quarry continuation area will remain the same as the lateral extension is not in the direction of the local wells.

No significant effects on the surface water or groundwater environment as a result of the development will occur. Monitoring of quarry discharge (volumes & quality), on-site groundwater levels and off-site groundwater levels will continue to ensure no significant effects are occurring.

There is no proposal to amend the existing discharge licence limits in terms of volume or discharge quality and therefore no additional potential impacts are anticipated on downstream waters in terms of surface water quality or flows. Therefore, the proposed

development is not anticipated to contribute to hydrological cumulative effects in the River Nanny or downstream designated sites such as the River Nanny Estuary & Shore (SPA).

Due to the fact that there will be no alteration of the quarry discharge regime (primary pathway to downstream watercourses) and no significant alteration of the hydrogeological regime, the potential for cumulative effects with the proposed new access road and public road improvement works is very low. There will also be no effect on the WFD status of receiving waters.

9.0 AIR AND CLIMATE

The potential air quality and climate impacts associated with the proposed development are detailed within Chapter 9 of the EIAR. In terms of the existing air quality environment, data available from similar environments indicates that levels of dust, particulate matter less than 10 microns (PM_{10}) and less than 2.5 microns ($PM_{2.5}$) are generally well below the National and European Union (EU) ambient air quality standards.

The existing climate baseline can be determined by reference to data from the EPA on Ireland's total greenhouse gas (GHG) emissions and compliance with European Union's Effort Sharing Decision "EU 2020 Strategy" (Decision 406/2009/EC). Data from the EPA in 2020 predicts that Ireland will exceed its 2019 annual limit set under the EU's Effort Sharing Decision (ESD), 406/2009/EC1 by 6.98 Mt. For 2019, total national greenhouse gas emissions are estimated to be 59.9 million tonnes carbon dioxide equivalent (Mt CO_2eq). This is 4.5% lower than emissions in 2018. However, emissions are predicted to continue to exceed the targets in future years.

Air Quality

Impacts to air quality associated with the development will result from day-to-day quarrying activities, movement of vehicles on site and processing of materials. Air dispersion modelling was carried out using the United States Environmental Protection Agency's regulatory model AERMOD. The aim of the study was to assess the contribution of operational emissions of dust, PM_{10} and $PM_{2.5}$ from the proposed and existing operations at the quarry to off-site levels of release substances. This study was carried based on worst case predicted levels of operation at the quarry.

The worst-case dust deposition level at the site boundary including background peaks at 72 mg/(m^2*day) which is 21% of the TA Luft Limit Value of 350 mg/(m^2*day). With regard to PM_{10}, the modelling assessment has found that ambient PM_{10} concentrations (including background) are in compliance with the relevant limit values, reaching at most 31% of the 24-hour limit value (measured as a 90.4th%ile) and 24% of the annual limit value at the worst-case residential receptor. With regard to $PM_{2.5}$, the modelling assessment has found that ambient $PM_{2.5}$ concentrations (including background) are in compliance with the relevant limit values, reaching at most 24% of the annual limit value at the worst-case residential receptor.

Dust and particulate matter emissions from the quarrying activities on site have been assessed to be long-term, negative and imperceptible. The proposed development will not significantly increase the number of vehicles travelling to and from the site on a daily basis. Therefore, road traffic emissions associated with vehicles accessing the site are predicted to have a long-term, neutral and imperceptible impact on local air quality.

Climate

There is the potential for CO_2 emissions associated with vehicles accessing the site to impact climate. The traffic generated by the development was reviewed and it was determined that potential impacts to climate are long-term, neutral and imperceptible.

Human Health

Air dispersion modelling of operational activities at the site was undertaken to assess the impact of the development with reference to EU ambient air quality standards which are based on the protection of human health. As demonstrated by the modelling results, emissions of PM_{10} and $PM_{2.5}$ as a result of the development are compliant with all National and EU ambient air quality limit values and, therefore, will not result in a significant impact on human health.

Mitigation Measures

As the quarrying activities have an imperceptible impact on air quality and climate, no additional mitigation measures other than those currently in place are proposed.

Overall, the proposed development is predicted to have an imperceptible impact on both air quality and climate.

10.0 NOISE AND VIBRATION

An environmental noise survey has been carried out to establish existing levels of environmental noise in the vicinity of noise sensitive receivers surrounding the Bellewstown Quarry site.

Appropriate noise and vibration criteria for the proposed development have been identified in accordance with the following documents,

- Environmental Protection Agency (EPA) publication, Environmental Management in the Extractive Industry (Non-Scheduled Activities, 2006); and
- Department of Environment, Quarries and Ancillary Activities, Guidelines for Planning Authorities 2004.

The proposed noise and vibration Emission Limit Values (ELVs) adopted for the development are in line with the emission limits stipulated in Conditions 9 and 10 of the grant of planning for the existing Bellewstown Quarry issued by An Bord Pleanála (planning ref: 17.QD.0013).

The assessment has concluded that noise levels associated with the existing permitted quarrying activities in combination with the proposed new access road will be below the noise limit value at the nearest noise sensitive locations. The implementation of best practice noise mitigation measures will form part of site management practices to minimise the potential for noise impacts at the nearest noise sensitive locations.

There is potential for vibration impacts associated with blasting activities; continuing current practice, all blasts will be designed to ensure the vibration limit value is not exceeded at sensitive dwellings. The implementation of practical control measures will ensure that vibration impacts associated with blasting remain controlled to avoid significant impacts to the surrounding environment.

The operational impacts associated with the existing permitted quarry and the proposed new access road are considered not significant and to be below the noise and vibration ELVs.

Monitoring of noise and vibration emissions will be carried out in accordance with the relevant current planning conditions to ensure continued compliance with operational noise and vibration ELVs.

11.0 LANDSCAPE AND VISUAL IMPACT

11.1 Introduction & Methodology

This LVIA report describes the landscape context of the proposed development and assesses the likely landscape and visual impacts of the scheme on the receiving environment. Although closely linked, landscape and visual impacts are assessed separately.

Production of this Landscape and Visual Impact Assessment involved a desk study to establish an appropriate study area, fieldwork to establish the landscape character of the receiving environment and assessment of the significance of the landscape and visual impacts of the development. A 2km radius study area has been selected for this impact assessment in order to balance between potential significant impacts (most potential within 1km) and the need to examine a number of sensitive receptors (such as public amenities/facilities and population centres) within the wider landscape context.

11.2 The Receiving Environment

The proposed development is located within 'Landscape Character Area 9 Bellewstown Hills,' according to the Meath Landscape Character Assessment. This area is identified as having a 'Very High' Landscape Value, 'Medium' Landscape Sensitivity and 'Regional' Landscape Importance. While there are four County Meath designated 'Protected Views & Prospects' across Bellewstown Hill (i.e., less than 2km from the site), none are of relevance to the proposed development, owing to the respective designated direction of views.

Within the site, an existing quarry has been in place - in various iterations and sizes - for over a century and is cut in terraces below the pre-existing/surrounding terrain at the rim of quarry. The predominant land use in the vicinity of the site is that of intensively-managed agricultural farmland with the fields consisting of a mix of agricultural uses and a variety of sizes and boundary types. The only town or village within the study area is the small, linear village of Bellewstown, approx. 1km to the east of the site and which is also located on the broader ridgeline of this low, wide Bellewstown hill. Next to the village and within approx. 600m east of the site is Bellewstown Racecourse. Within the course, there is a GAA pitch/club, a pitch & putt course and an oval-shaped walkway/path popular with local walks and runners.

11.3 Landscape Impacts

In terms of landscape impacts, quarrying has long been present, alongside settlement and agriculture, within this much-modified and ever-evolving landscape. The quarry site displays a robust set of features that will help to assimilate, absorb and integrate itself into the surrounding landscape of the study area. It is worth noting that the quarry extension has already been permitted under a previous development application; what is being proposed for the quarry is mostly an extension of time from 10-25 years. Consequently, the significance of landscape impact is not considered, on balance, to be any greater than Imperceptible for the western section of the site.

Within the eastern section of the site, it is proposed to construct an approx. 1.73 km long and minimum 6m wide new private access road, across private land, to reduce the daily presence of quarry vehicles across local roads. This will also entail the proposed creation of two new

entrances to/from the new private road. Accompanying this proposed private road will be over 1.6km of new native hedgerows and over 5 hectares of new native woodland that will be planted during the construction stage of the proposed development. Consequently, the significance of landscape impact is not considered to be any greater than Moderate-slight for the eastern section of the site, while the significance of impact on landscape character of the study area is not considered to be any greater than Slight.

11.4 Visual Impacts

Regarding visual impacts, 11 viewpoints were selected for assessment representing a range of viewing angles, distances and contexts. The Visual Impact Assessment of these viewpoints established that visibility of the proposal relates mostly to the proposed new entrance to the existing quarry, and the associated quarry infrastructure within approx. 50m of that entrance, as well the proposed 1.7km long access road proposed for the eastern section of the site, which also entails two new access/exit points onto local roads almost 1 km apart. The assessment resulted in an 'Imperceptible/neutral' or 'Slight-imperceptible/positive' residual visual impact significance/ quality of effect in 9 out of the 11 locations. Where a 'positive' quality of effect was deemed in such instances, it is because the scale, discernment and placement of the proposed native planting associated with the proposal is, residually, likely to enhance the setting.

As a result, overall, the range of potential residual visible impacts that are likely to be generated as a result of the proposed development is notably low, especially in light of the site's largely hilltop location. Indeed, this is a distinctively low range of likely visual impacts for most proposed developments; even more so for a rock quarry with a proposed approx. 1.7km-long road.

11.5 Cumulative Impacts

Regarding cumulative impacts: because the quarry extension is already permitted, the main cumulative impacts that have the potential to arise from the proposed development are those derived from the proximity and scale of the proposed new access road and associated entrances. The extent of excavations and fill associated with the new access road will be tempered somewhat by the considerable scale of planting associated with the scheme. Indeed, when taken in the context of the presence of a large operational quarry and multiple roads in the area, the proposed development represents a modest intensification of existing land use (i.e., additional road). Thus, it was deemed that the proposed development is not considered to give rise to any significant cumulative impacts.

11.6 Summary

Overall, the proposed development is not considered to give rise to any significant landscape or visual impacts.

12.0 TRAFFIC

Chapter 12 'Traffic' is prepared by Trafficwise Ltd., Traffic and Transportation Planning Consultants and provides an assessment of the receiving road network and likely traffic impact both positive and negative arising from the proposed development of Bellewstown Quarry. Trafficwise Ltd. has carried out various traffic studies at the application site in the past, amongst which has been a detailed road network and traffic assessment undertaken in 2008 when the quarry was active and was operating at a rate of extraction comparable to that currently proposed. That study included a detailed haul route assessment together with detailed weighbridge records and classified junction turning count surveys which comprehensively characterised the traffic generation of Bellewstown Quarry.

A series of junction turning count surveys were undertaken in May 2021 and a comprehensive topographical survey of the proposed haul route was undertaken in September 2021 to inform the EIAR traffic study and the preparation of this Chapter. The methodology adopted in the preparation of the traffic assessment parallels that of previous studies, which methodology had been discussed and agreed as appropriate at pre-planning scoping meetings with the Local Authority Roads Department. The aim of Chapter 12 is to provide the Planning Authority with sufficient roads and traffic related information to determine the recent past and likely future traffic characteristics of the development and the potential traffic impacts arising from the proposed development. Chapter 12 is structured generally in accordance with the TII '*Traffic and Transport Assessment Guidelines*' (2014).

The existing site is located on L56172 Mullagh Road in the townlands of Hilltown Little and Bellewstown. The east-west running local road that connects to the southern end of Mullagh Road at Hilltown Little is Local Road L5618 Carnes Road, this road runs through Bellewstown Cross to the east connecting to Julianstown, to the west is Duleek. The Mullagh Road runs in a north-south direction and forms the eastern boundary quarry site. Measured along the Mullagh Road, the existing site access is located approximately 550m northwest of the L5618 Carnes Road. Carnes Road forms a short portion of the southern site boundary. The site is highlighted red in Figure 12.1.

Figure 12.1: Local Site Location.

An important difference from the past/current operation is that the proposed development seeks to provide additional roads infrastructure connecting the site access on L56172 Mullagh Road to L1615 at a proposed new junction approximately 1km south of Regional Road R150. The primary objective of the proposed new road infrastructure is to reduce impact on the receiving local road network. The proposed new link road is identified in Figure 12.1 by a dotted 'yellow' line whilst the proposed new haul route is highlighted 'red'.

Historically traffic generated at the quarry site was not restricted in any way by planning conditions. The existing road network has catered for traffic movements to and from Bellewstown Quarry for over half a century and for volumes of traffic that are comparatively elevated from the current scenario. The proposed new private road will reduce the impacts on the local community by redirecting development generated HGV traffic away from Bellewstown Village and reducing the linear mileage on the receiving local road network to a dedicated haul route measuring 1 km along Local Road L1615. The current unrestricted haul route network is proposed to be used only by a very small number of trucks on occasion for supply to the immediate local market. Chapter 12 provides a comprehensive appraisal of the existing greater network of haul routes and is intended as a desktop aid to the Planning Authority in assessing the benefit to receiving roads environment of Bellewstown together with the impact upon the identified future haul route comprising 1.7km or new private link road and 1 km of L1615.

In addition to the construction of a proposed new link road Chapter 12 identifies a suite of infrastructure improvement works required to accommodate existing and future HGV traffic flows. The suite of improvements includes carriageway strengthening and widening together with road re-surfacing and bridge strengthening works at Beaumont Bridge. The need for such works to accommodate existing HGV traffic is confirmed by comprehensive and detailed assessment. The proposed works in the public road are those of road improvement and maintenance. Such improvement that can be carried out by the Road Authority is reasonably considered to include carriageway strengthening, carriageway widening and bridge strengthening. These works have been agreed in principle with Meath County Council and will be done separately to this process and Kilsaran will contribute financially to them or they will carry out the road improvement and bridge works on behalf of Meath County Council subject to agreement and subject to the appropriate licences, whichever Meath County Council decides. The suite of works to the public road is identified in Chapter 12, Section 12.3.12. These separate works involve the maintenance and improvement of a 1 km section of L1615 between the proposed new link road and the R150 and strengthening works to Beaumont Bridge near the R150 junction, such strengthening work having been identified as required regardless of the current proposed development.

Construction Phase Impact

As the site is currently operational, and the proposed development is for continuation of quarry operations on-site there will no construction phase impacts arising directly from the site of Bellewstown Quarry save for such minor and short-term works required for the construction of internal infrastructure such as the new weighbridges.

The proposed development includes the construction of a private access road and junctions with Mullagh Road and L1615. There will also be site preparatory works which include the movement to earth and transport of road construction materials. Notwithstanding that these activities will require a greater number of personnel on site, it is considered highly unlikely that the daily HGV traffic arising during construction will exceed the average 81 no. HGV trips

applied for in the operational phase so specific capacity analysis for the construction period is not considered necessary.

The road improvement and bridge strengthening works identified in Chapter 12 are presented for the consideration of Meath County Council as works appropriate to the maintenance of the existing roads infrastructure to satisfactorily and safely accommodate opposed HGV traffic volumes both existing and forecast under the proposed scenario. The road improvement and bridge strengthening works would be carried out by Meath County Council under the appropriate licence and would be completed prior to commencement of the proposed development. It follows that no traffic arising from the road works and bridge strengthening works would be coincident with development construction traffic.

Prior to the commencement of the proposed development there will be some short-term direct impact arising on L1615 arising from the Meath County Council road widening and strengthening works and these impacts will be commensurate with general road maintenance type works. These works will be prioritised to provide access to the construction site for the new private access/link road and to avoid construction traffic being required to use the receiving local roads around Bellewstown.

There will be no residual impact.

Operational Phase Impact

The existing quarry at Bellewstown was permitted by way of substitute consent previously by An Bord Pleanála (Ref. No. PL17.SU0101). The continued extraction at the quarry and its expansion to the north and west of the existing void area was permitted by An Bord Pleanála under Ref. No. PL17.QD0013 (in accordance with section 37L of the *Planning and Development Acts, 2000* (as amended)) (hereafter referred to the 37L development). Planning permission received under the 37L development was granted for a period of 10 years (Condition No. 3) by An Bord Pleanála on 24th October 2018. Furthermore, Condition No. 4 limited the number of Heavy Goods Vehicle (HGVs) movements per day to 32 no. loads (64 no. two-way) (versus 81 no. loads (162 no. two-way) then proposed).

The proposed development seeks to extend the life of the current permitted quarry from 10 years to 25 years and proposes to develop a new dedicated quarry access road to facilitate an increase in the permitted number of HGV loads to and from the quarry from a current maximum of 32 No. per day to an average of 81 No. per day and a maximum of 93 No. loads per day.

The Road Safety Authority record of collision statistics for the period 2005 to 2016 shows that the receiving road network and the haul route has a good safety record. No collisions involving HGVs have been recorded in the Road Safety Authority records.

The forecast daily traffic generation of the site under the current proposal is approximately equal to the generation rate that prevailed in 2008 when no significant road widening or local improvements had been envisaged by Meath County Council as necessary to accommodate site traffic.

Regional Road R150 junction with L1615 is lightly trafficked and from observation alone can be seen to operate well within capacity. Given the forecast peak hour generation of 9 no. HGV trips, the proposed development will not give rise to capacity concerns at this junction.

The other junctions on the haul route are the new crossroad junction of the development access with the Mullagh Road L56172 and the new junction of the access road with L1615 near Laburnum Farms. The geometry of these junctions accords with current best practice, sightlines are satisfactory and the volume of traffic throughput at these junctions will not be significant and it follows that the forecast volumes of operational traffic generation are not such as to be of concern with respect to junction capacity.

Under the 'do-something' scenario most of the receiving road network will benefit from a reduction in HGV traffic. The forecast increase in traffic will be manifest along the proposed new 1.7 km site access road and over the 1 km northern section of L1615 and on Regional Road R150. The forecast increase in HGV traffic on L1615 is approximately 80 HGV trips per day (160 movements). The current HGV traffic flow recorded on L1615 is 37 No. HGV movements.

The impact of the proposed development traffic on the R150 is of the order of an increase of between 24-36% in the HGV content of flows between Annagor/Beaumont and Duleek. Development traffic using the R150 will travel toward Duleek, turning left onto Regional Road R152 to travel south. The R152 currently accommodates approximately half of the existing HGV traffic arising from the quarry so the relative increase experienced by the proposed development equates to approximately 66 No. HGV trips per day.

Any residual impacts on traffic capacity on the receiving road network can be categorised as imperceptible.

13.0 ARCHAEOLOGY AND CULTURAL HERITAGE

This chapter has been prepared in order to assessment the impact, if any, on the archaeological, architectural and cultural heritage resource of a proposed quarry extension at Bellewstown, County Meath. The assessment was carried out by Faith Bailey (MA, BA Hons, MIAI, MCIfA) of IAC Archaeology.

The proposed development is located within several open fields and an existing quarry in the townlands of Bellewstown, Hilltown Little, Gafney Little and Hilltown Great, County Meath. There are 12 recorded archaeological sites within a 500m radius of the proposed development area, including two sites within the boundary of the proposed developed area. These comprise an unclassified barrow (ME027-035), which has previously been subject to investigation, and a recently identified ring-ditch (ME027-114), which was identified from satellite imagery and subsequently added to the SMR and is scheduled for inclusion in the next revision of the RMP.

There are no protected structures, NIAH buildings, Architectural Conservation Areas, or topographical files recorded within the study area of the site. The nearest protected structure comprises Collierstown House (RPS 910006) c. 880m to the east-southeast and the nearest NIAH building consists of Saint Teresa's Roman Catholic Church (NIAH 14320002) c. 1km to the east.

The field inspection identified a previously unrecorded archaeological artefact, a possible saddle quern, within Area 2. While this artefact was ex-situ due to agricultural field clearance, it remains of significance. Furthermore, the field inspection noted a number of areas within the proposed development area where the site remains undisturbed greenfield. These areas can be considered to be of high-archaeological potential, given the high number of recently recorded archaeological features in the vicinity of the site.

The unclassified barrow recorded within the proposed development area (ME027-035) has previously been subject to archaeological excavation. Therefore, there are no further potential impacts to this monument as a result of the construction of the proposed development.

A recently recorded ring-ditch (ME027-114) is located within the proposed development area. There is potential for a direct negative very significant impact on this site caused by works associated with the construction of the perimeter screening mound in this location.

There may be direct negative impacts on previously unrecorded archaeological features or deposits that have the potential to survive beneath the current ground level, particularly in the greenfield areas of the site. This includes the recently identified possible saddle quern. This will be caused by ground disturbances associated with the construction of the proposed development. Impacts may range from moderate to very significant.

In advance of construction, a geophysical survey and test trenching will be carried out on all greenfield areas forming part of the development, including the site recorded ring-ditch (ME027-114). Subject to the results of these surveys further mitigation may be required including preservation in situ and/or preservation by record.

The possible artefact (a saddle quern) identified during the field inspection of the proposed development area will be recovered prior to the commencement of construction and

deposited with the National Museum of Ireland, as this artefact, under the National Monuments Acts 1930 to 2014, is automatically in the ownership of the State.

All ground disturbances associated with the proposed development will be monitored by a suitably qualified archaeologist. If any features of archaeological potential are discovered during the course of the works further archaeological mitigation may be required, such as preservation in-situ or by record. Any further mitigation will require approval from the National Monuments Service of the DoHLGH.

No operational impacts upon the archaeological, architectural or cultural heritage resource are anticipated and as such no mitigation is required.

In order to facilitate the proposed development improvement works are required at Beaumont Bridge.

Beaumont Bridge is a recorded monument (RMP ME027-008) and a protected structure (RPS 91005). The required works may result in a direct, negative impact on the bridge structure (and watercourse that it crosses). Impacts may be very significant in nature. In order to mitigate any direct impacts, a full archaeological and built heritage assessment should be carried out on the bridge prior to any works going ahead, along with an underwater archaeological assessment (carried out under licence to the DoHLGH). Detailed design for the works will require input from a Grade 1 Conservation Architect. This will ensure that the required safety works are carried out in a sympathetic manner appropriate for the conservation of the bridge.

Following the completion of all mitigation measures, there will be no significant residual impacts upon the archaeological, architectural or cultural heritage resource.

14.0 WASTE MANAGEMENT

AWN Consulting Ltd. carried out an assessment of the potential impacts associated with waste management during the construction and operational phases of the proposed development. The receiving environment is largely defined by Meath County Council as the local authority responsible for setting and administering waste management activities in the area through regional and development zone specific policies and regulations.

During the construction phase, typical C&D waste materials will be generated which will be source segregated on-site into appropriate skips/containers, where practical and removed from site by suitably permitted waste contractors to authorised waste facilities. Where possible, materials will be reused on-site to minimise raw material consumption. Source segregation of waste materials will improve the re-use opportunities of recyclable materials off-site.

There will be soil, stones and made ground excavated to facilitate construction of new foundations, underground services, and the installation of the proposed road. The development design team have estimated that c. 798 m3 of material will need to be excavated to do so. It is currently envisaged that all material will be able to be retained and reused onsite for landscaping and fill, the remaining material, there will be no need to remove material offsite reuse on site. If material needs to be removed offsite it will be taken for appropriate offsite reuse, recovery, recycling and / or disposal.

A carefully planned approach to waste management and adherence to the site-specific Construction and Demolition Waste Management Plan (Appendix 14.1) during the construction phase will ensure that the effect on the environment will be short-term, neutral and imperceptible.

During the operation phase, waste will be generated from the operator. All waste materials will be segregated into appropriate categories and will be stored in appropriate bins or other suitable receptacles in a designated, easily accessible areas of the site. Waste will be collected from the designated waste collection areas by permitted waste contractors and removed off-site for re-use, recycling, recovery and/or disposal.

The site is already in operation and the extension will not alter how was is handled onsite. Waste segregation (at source), storage and collection of wastes generated within the development during the operational phase will include dry mixed recyclables, organic waste, mixed non-recyclable waste, glass, plastic, cardboard, metal, waste oil and filters, waste batteries, green waste from landscaping, WEEE, and chemicals. The current site management strategy operation complies with all legal requirements, waste policies and best practice guidelines.

Provided the mitigation measures outlined in Chapter 14 are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted effect of the operational phase on the environment will be long-term, neutral and imperceptible.

15.0 INTERACTIONS AND CUMULATIVE IMPACTS

15.1 Introduction

This section of the EIAR has been prepared by Tom Phillips + Associates and deals with likely interactions between effects predicted as a result of the proposed development.

As a requirement of the *Planning and Development Regulations 2001 (as amended),* not only are the impacts on the individual elements of the environment considered, but so too are the interactions between those elements. The interactions between human beings, flora and fauna, soil and geology, hydrogeology, air and climatic factors, noise and vibration, landscape, material assets, archaeological and cultural heritage have been assessed below.

Those interactions have been considered in detail in the relevant Chapters preceding. This Chapter outlines the areas both where interactions occur, and where they are considered to be of a scale, which may be potentially significant.

15.2 Interactions

It is noted that all aspects of the environment are likely to interact to some extent and to various degrees of complexity. The likely significant interactions between factors arising from the proposed development are set out in the matrix provided as Table 15.1 below and discussed in further detail in Chapter 15.

Table 15.1: Matrix of Interactions Between Environmental Factors

	Archaeology, & Cultural Heritage	Population & Human Health	Biodiversity	Land, Soils & Geology	Hydrology / Hydrogeology	Air Quality/ Climate	Noise & Vibration	Landscape & Visual	Traffic	Waste Mgmt
Archaeology & Cultural Heritage				✓						
Population & Human Health					✓	✓	✓	✓	✓	✓
Biodiversity					✓	✓				
Land, Soils & Geology					✓					✓
Hydrology / Hydrogeology										✓
Air Quality/ Climate									✓	
Noise & Vibration									✓	
Townscape & Visual										
Traffic										✓
Waste Mgmt										

16.0 MITIGATION AND MONITORING

Mitigation and monitoring measures are detailed in the various chapters of the EIAR. A complete list of all mitigation and monitoring measures is also contained within Chapter 16 of the EIAR. These measures will ensure that any identified potential significant impact is avoided / reduced to an acceptable level.

17.0 DIFFICULTIES ENCOUNTERED IN COMPILING ANY SPECIFIED INFORMATION

In general, no significant difficulties, in terms of technical deficiencies or lack of sources of information, were encountered in compiling the specified information contained in the EIAR.

The proposed development seeks to extend the life of the current permitted quarry from 10 years to 25 years (as originally proposed 37L development) and proposes to develop a new dedicated private quarry access road to facilitate an increase in the permitted number of HGV loads to and from the quarry from a maximum of 32 No. per day to an average of 81 No. per day (with +/-15% fluctuations in the number of loads to and from the quarry proposed to address certain demands on the quarry as and when required, equating to a maximum of 93 No. loads per day).. The assessment provided for the proposed development has had regard to the documentation compiled and submitted as part of previous applications at the site and the Planning Authority Reports which formed part of the analysis for those applications.

References to published sources of information are acknowledged in the text. A list of all consultants involved in the compilation of information for this Assessment Report is provided in Chapter 1.

The full impact analysis was carried out by experienced consultants and the best available methods were employed to forecast environmental effects.