1 Introduction, Scope, and Methodology

WSP Ireland Consulting Ltd. (WSP) have been commissioned to undertake this Environmental Impact Assessment Report (EIAR) to accompany an application under Section 37L of the Planning and Development Act 2000, as amended ('37L application').

This application is submitted on the instruction of Bison Quarries Limited (BQL) who is 'the Applicant' for the 37L application.

It is noted that this EIAR has been prepared in tandem with an retrospective EIAR (rEIAR) to accompany an application for substitute consent for the same site under the Planning and Development Act, 2000 as amended by the same applicant.

1.1 Background of the Proposed Project

The application seeks permission for the restoration of a disused quarry through import of clean soil and stone to agricultural use at Coolsickin or Quinsborough Co. Kildare, (the 'Proposed Project').

It is not intended to carry out further quarrying works on the Site. The Proposed Project seeks to import infill (clean soil and stone) to the quarry void space and restore the site to tie in with existing topographical levels of surrounding lands. All soils to be imported are to be greenfield or equivalent greenfield. The lands will return to agricultural use following restoration.

The lands on which the Proposed Project is located (the 'Application Site'[1], or) are within the townland of Coolsickin or Quinsborough, Co. Kildare.

The Application Site is situated approximately 9 km west of Kildare town and approximately 2.7 km northeast of Monasterevin.

The Application Site area of approximately 6.63 ha encompasses the proposed working areas, temporary site facilities, and private access road. The proposed fill area is approximately 6.05 ha. The Application Site is located entirely within the EIAR unit (i.e. lands within the EIA Boundary) which extends to approximately 10.62 ha.

Figure 1-1 shows the regional location of the Application Site, whilst Figure 1-2 presents the Application Site (shown as 37L Planning Application Boundary) and Environmental Impact Assessment (EIA) Boundary.

Lands within the Application Site and EIA Boundary[2] were acquired by the Applicant in 2022 and include:

[1] Note on terminology used within this EIAR: the boundary of the Application Site (or 'Site') is also referred to at the 37L Planning Boundary within this EIAR.

[2] Note on terminology used within this EIAR: 'EIA unit' refers to lands located within the EIA Boundary.

- A disused quarry, comprising a quarry void containing collected waters and associated historical working/stockpiling areas. These are located within the north of the Application Site and EIA boundary; and
- Agricultural land (tillage) and a private access road. These are located within the south of the Application Site and EIA boundary. The private access road provides access from the north section of the Application Site to the public local road located to the south of the Application Site.

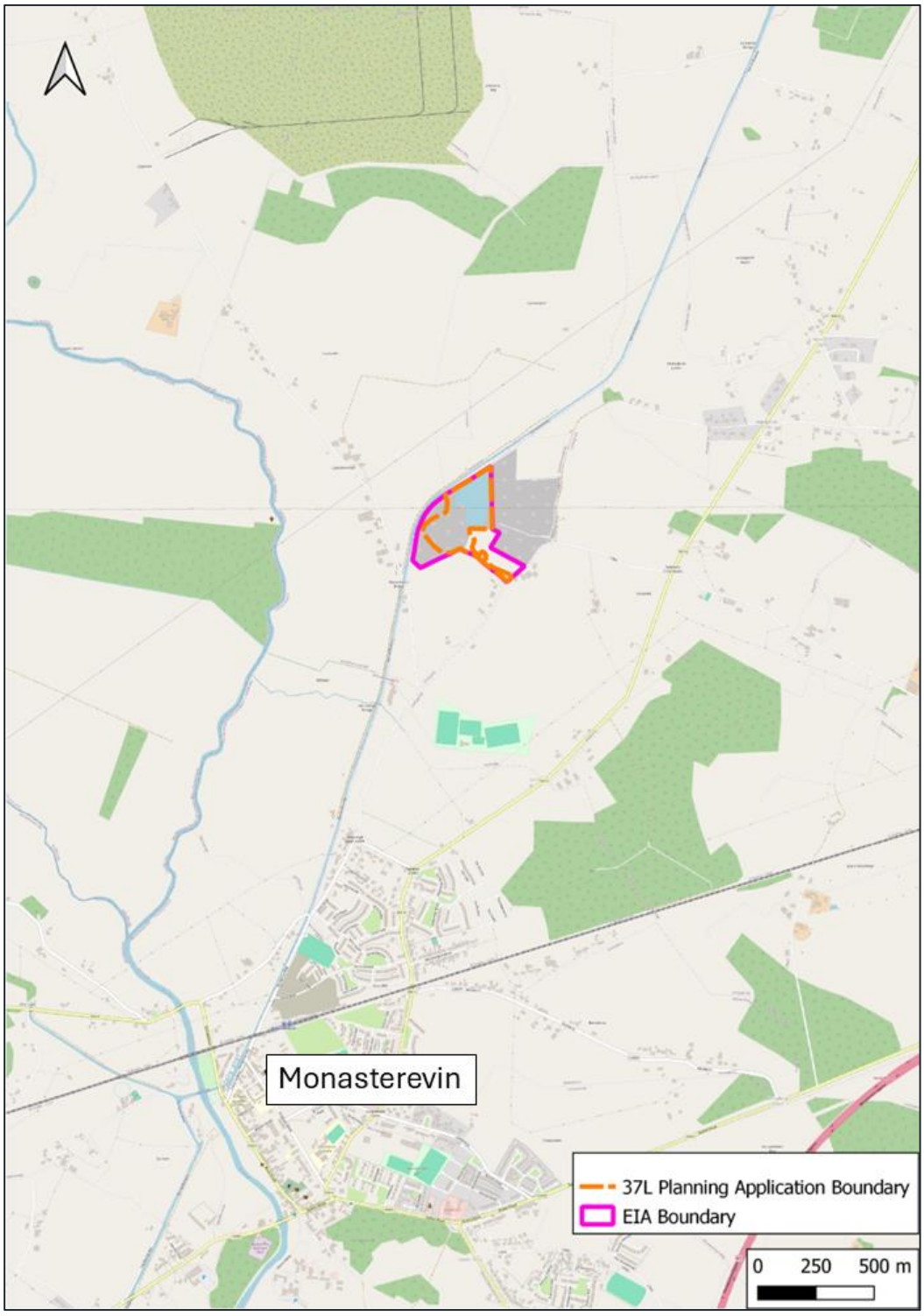

Figure 1-1 – Location of the Proposed Project, Section 37L Planning Application Boundary (Application Site) and EIA Boundary.

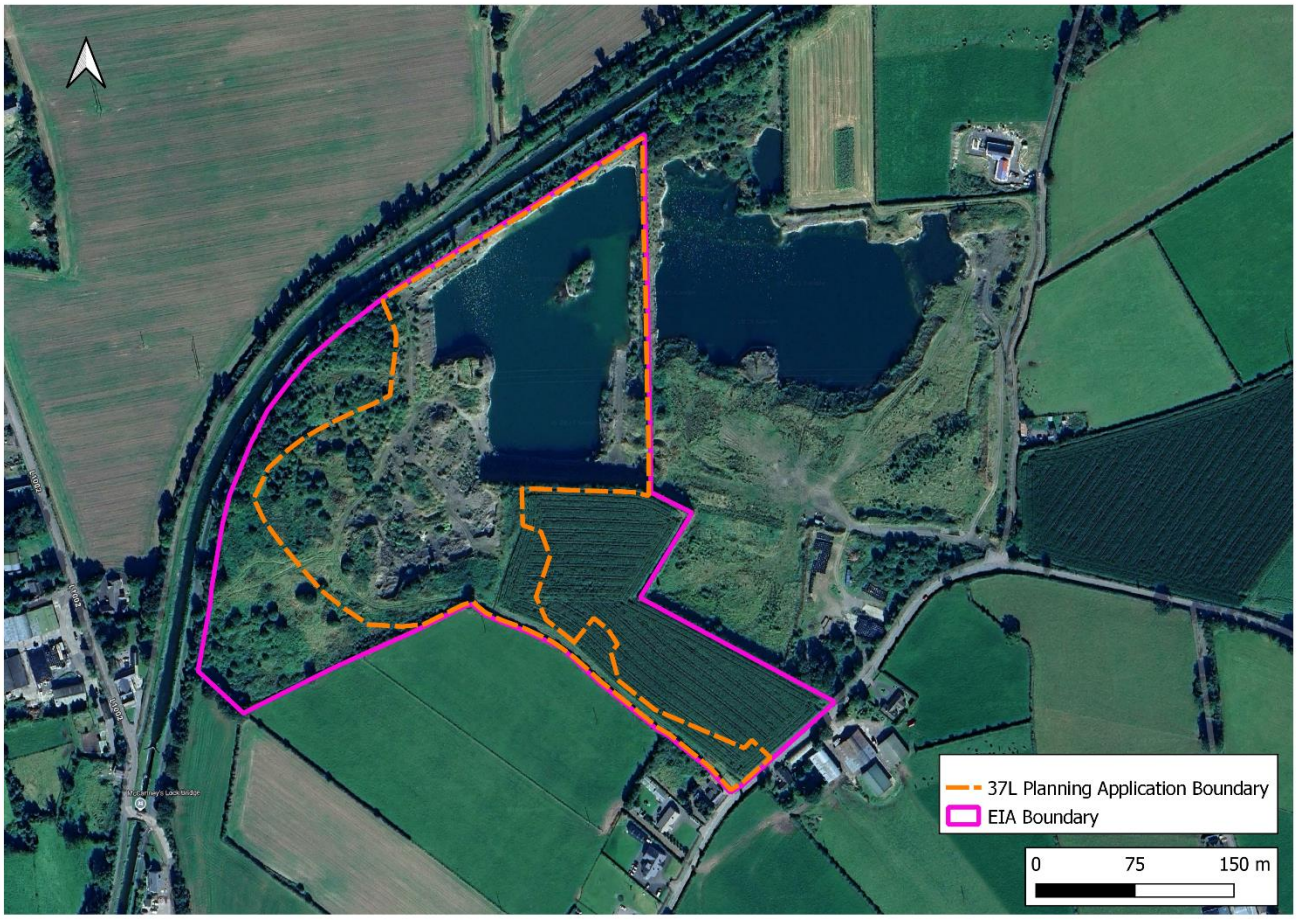

Figure 1-2 – Local Aerial Map of the Proposed Project Section 37L Application Boundary and EIA Boundary.

1.2 Requirement for EIAR

Certain proposed developments, due to their typology and scale, automatically trigger the requirement for EIA by a competent authority as part of that authority's formal assessment process for granting permission, consent or licensing.

A hierarchical suite of European and national legislation and guidance govern EIA and direct EIAR content.

The requirement for an EIA process arises from European Union (EU) Directives required to be adhered to by member States and transposed into national laws.

The Proposed Project does not meet the class/criteria set out in Part 1, Schedule 5 of the Planning and Development Regulations 2001 as amended.

Class 11b of Part 2, Schedule 5 of the Planning and Development Regulations 2001 as amended states required that the following development requires EIA:

> '*Installations for the disposal of waste with an annual intake greater than 25,000 tonnes not included in Part 1 of this Schedule*'.

The Proposed Project will not exceed 100,000 tonnes in any one year and the intake will comprise (non-waste) soil and stone by-product material that meets the definition of by-product as per Regulation 27 of the European Communities (Waste Directive) Regulations 2011, as amended.

Given the scale and nature of the Proposed Project it is considered that it requires EIA under Class 15 of Part 2, Schedule 5 of the Planning and Development Regulations 2001:

> '*Any project listed in this Part which does not exceed a quantity, area or other limit specified in this Part in respect of the relevant class of development but which would be likely to have significant effects on the environment, having regard to the criteria set out in Schedule 7*'.

The Proposed Project proposal seeks planning permission under Section 37L of the Planning and Development Act 2000, as amended, therefore the competent authority undertaking EIA is An Bord Pleanála.

1.3 37L Application and EIA Project Boundaries

As identified previously, the lands within the Application Site extend to approximately 6.63 ha. and comprise the disused quarry, agricultural lands and private access road.

The disused quarry to be restored through import of clean south and stone is located in the north of the Application Site.

It is proposed to locate temporary facilities required to accept imported clean soils and stone within agricultural lands in the south of the Application Site. The Proposed Project provides for upgrades to, and minor realignment of, the private access road and private access.

The EIA project boundary envelopes an area of approximately 10.62 ha. that encloses the Application Site.

1.4 Structure and Content of the EIAR

EIA is a process undertaken for certain types of development. It provides a means of drawing together the findings from a systematic analysis of the likely significant environmental effects of a scheme to assist local planning authorities, statutory consultees and other key stakeholders in their understanding of the impacts arising from the development.

The following subsections outline the evolution of EIA Directives and their interpretation in the Irish jurisdiction, statutory provisions and guidance that provide the purpose and content of the EIAR which is summarised at the end of this section.

1.4.1 Statutory Provisions

The Planning and Development Act, 2000 as amended, defines an EIAR as follows;

"means a report of the effects, if any, which proposed development, if carried out, would have on the environment and shall include the information specified in Annex IV of the Environmental Impact Assessment Directive;"

Regulations have been made to administer EIA. For the purposes of this EIAR and the statutes under which the requirement for its preparation has arisen, the following Statutory Instruments are relevant and have informed this report:

- European Communities (Environmental Impact Assessment) Regulations.
- European Union (Environmental Impact Assessment and Habitats) Regulations.
- European Communities (Environmental Impact Assessment) Regulations.
- Planning and Development Regulations.

1.4.2 Guidance

The structure and content of this EIAR is in accordance with and cognisant of the following guidance:

Guidelines issued by the Housing, Local Government and Heritage Department:

- 2020 Environmental Assessments and Planning in Ireland – Planning Leaflet 11, Office of the Planning Regulator
- 2018 August Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment, Department of Housing, Planning and Local Government
- 2012 July Section 261A of Planning and Development Act, 2000 and related provisions Supplementary Guidelines for Planning Authorities, Department of the Environment, Community and Local Government
- 2012 January Section 261A of Planning and Development Act, 2000 and related provisions Guidelines for Planning Authorities, Department of the Environment, Community and Local Government
- 2009 December (revision February 2010) Appropriate Assessment of Plans and Projects in Ireland, Department of Environment, Heritage and Local Government
- 2009 November The Planning System and Flood Risk Management Guidelines for Planning Authorities, Department of Environment, Heritage and Local Government
- 2004 April Quarries and Ancillary Activities Guidelines for Planning Authorities, Department of the Environment, Heritage and Local Government

Guidance issued by the Environmental Protection Agency (EPA):

- 2022 May Guidelines on the Information to be Contained in Environmental Impact Assessment Reports
- 2006 Environmental Management Guidelines, Environmental Management in the Extractive Industry (Non-Scheduled Minerals).

1.4.3 Content of EIAR

The EIAR has been prepared in a 'Grouped Format' structure, having regard to the prescribed environmental factors of the EIA Directive and the 2022 EPA Guidance; “Population and Human Health; Biodiversity, Land & Soils, Water, Air, Climate, Material Assets, Cultural Heritage, Landscape, Interactions.”

In this way each aspect of the environment is presented as a separate section referring to the environment as it existed before Project development commenced, the existing development, experienced and / or likely impacts, and employed / proposed remedial mitigation measures.

The EIAR has therefore been systematically organised to provide the information and environmental aspect chapters identified in Table 1-1.

Table 1-1 - Overall Structure of the EIAR

Content	Chapter
Context and Requirement for EIAR	1 Introduction, Scope and Methodology
A description of the existing environment.	2 Project Description; and as appropriate in the respective discipline chapters.
A description of the project.	2 Project Description
Identification of experienced / likely significant impacts during construction and operation of the development and a description of the measures employed / envisaged in order to avoid, reduce and, if possible, remedy significant adverse impacts.	3 Population and Human Health 4 Ecology and Biodiversity 5 Land, Soils and Geology 6 Water 7 Air Quality 8 Climate 9 Noise and Vibration 10 Cultural Heritage 11 Landscape and Visual Impact 12 Traffic and Transport 13 Material Assets 14 Major Accidents and Disasters
Sets down the cumulative and in combination significant effects of the project and considers expected / experienced effects deriving from the vulnerability of the project to risks of	Cumulative: As appropriate in the respective discipline chapters. In combination: 15 Interactions Major accidents and/or disasters: Chapter 14

major accidents and/or disasters that are relevant to the project concerned	

Alternatives are examined by reference to locations, design, technology, size, scale and processes, as appropriate, and are set out later in this chapter.

Likely and significant impacts arising from the existence of the Project, its use of natural resources, the emission of pollutants and the creation of nuisances are identified, described as direct, indirect, secondary, cumulative; by duration as short, medium and long-term, permanent and temporary; and by type as positive and negative, as appropriate.

A Non-Technical Summary (NTS) accompanies the EIAR and provides a summary of the key findings of the EIAR in non-technical language.

Table 1-2 identifies the data and information to be included by the developer in the EIAR as described in Annex IV of the amended EIA Directive, and the location of this information within the document.

Table 1-2 - Requirements of 2014/52/EU Annex IV and where these have been addressed in this EIAR

Item	Requirement of Annex IV item	Reference in EIAR
1	Description of the project, including in particular: (a) a description of the location of the project; (b) a description of the physical characteristics of the whole project, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases; (c) a description of the main characteristics of the operational phase of the project (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used; (d) an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation) and quantities and types of waste produced during the construction and operation phases.	(a) and (b) Chapter 2 – ‘Project Description’. (c) and (d) Chapter 2 – ‘Project Description’, and identified in the relevant technical chapters.

Item	Requirement of Annex IV item	Reference in EIAR
2	A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.	Section 1.11.2– Consideration of Alternatives.
3	A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the project as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.	A 'Baseline Conditions' section has been provided in each technical chapter' along. A 'Baseline Conditions' section has been provided in each technical chapter' along with a section which summarises a 'Do-Nothing' scenario without development.
4	A description of the factors specified in Article 3(1) likely to be significantly affected by the project: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.	Each relevant study area which has been scoped into the EIAR is provided within a dedicated technical chapter. Chapters 3–14.
5	A description of the likely significant effects of the project on the environment resulting from, inter alia: (a) the construction and existence of the project, including, where relevant, demolition works; (b) the use of natural resources, in particular land, soil, water and biodiversity, considering	(a), (b) and (c) Each technical chapter, as appropriate. (d) Chapter 3 (Pop. and Human Health), Chapter 10 (Cultural Heritage), and Chapter 14 (in relation to Major Accidents and Disasters).

Item	Requirement of Annex IV item	Reference in EIAR
	as far as possible the sustainable availability of these resources; (c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste; (d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters); (e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources; (f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change; (g) the technologies and the substances used. The description of the likely significant effects on the factors specified in Article 3(1) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the project. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project.	(e) Each technical chapter, as appropriate. (f) Chapter 7 (Air Quality) and Chapter 8 (Climate). (g) Each technical chapter, as appropriate. Descriptions of effects are identified in each technical chapter, as appropriate.
6	A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.	Assessment methodology is identified in each technical chapter, as appropriate, or a common framework and terminology has been identified in Section 1.7. Difficulties encountered in compiling the EIAR have been identified in each

Item	Requirement of Annex IV item	Reference in EIAR
		technical chapter, as appropriate.
7	A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.	The identification of mitigation measures is provided in each technical chapter, as appropriate, and has been consolidated in Chapter 16 Mitigation and Monitoring.
8	A description of the expected significant adverse effects of the project on the environment deriving from the vulnerability of the project to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to Union legislation such as Directive 2012/18/EU of the European Parliament and of the Council or Council Directive 2009/71/Euratom or relevant assessments carried out pursuant to national legislation may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.	Chapter 14 (Major Accidents and Disasters)
9	A non-technical summary of the information provided under points 1 to 8.	Submitted as a separate document with the 37L application
10	A reference list detailing the sources used for the descriptions and assessments included in the report.	Final Section of each technical chapter.

1.5 Limitations and Difficulties in Compiling the Specified Information (Schedule 6 of SI 600 of 2001, as amended)

Limitations and difficulties encountered in preparing this EIAR having regard to the Planning and Development Regulations and Section 3.7.2 of the 2022 EPA Guidelines.

Throughout this EIAR, monitoring and survey data and analysis, previously submitted in earlier planning applications, or monitoring records held by the Applicant are relied upon to model the Proposed Project throughout its lifetime and discern impacts on the environment of the Site.

Further relevant difficulties or survey limitations specific to each study area / section have been identified therein, as appropriate.

Conservative assessments have been applied where information concerning methodology or program could not be fully determined.

As appropriate, information from publicly available sources has been used in the course of this assessment. This includes mapping sources such as the EPA, Geological Survey of Ireland, Department of Environment, Climate and Communications, etc., and other information including Census returns. Due care has been taken in the review of these data sets however no responsibility can be taken for inaccuracies which may be present within this public data.

1.6 EIAR Contributors and Guarantee of Competency and Independence

S172(1B) requires that the EIAR be prepared by experts with the competence to ensure its completeness and quality.

In the interests of consistency and the leveraging of existing specialist knowledge of the subject site, alongside the applicant, competent experts have been retained to compile this EIAR.

The EIAR was completed by a project team led by WSP, who also prepared a number of the chapters.

Discipline leads and their respective inputs are presented in Table 1-3, and the EIAR team is set out in the topic chapters.

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.

All technical leads contributed to the assessment of interacting effects.

Table 1-3 - EIAR Contributors

EIAR Chapter	Discipline Lead	Qualifications	Accreditations	Years of prof. experience
Introduction, Scope and Methodology; Project Description; Population & Human Health; Land, Soils & Geology; Climate; Material Assets; Major Accidents and Disasters	Rhian Llewellyn	MGeol Geology with Palaeobiology; PhD Earth Science; Adv. Dip. Planning and Env. Law	PIEMA	9+
Water	Kit Pannell	MSc Hydrogeology		11+
Biodiversity	Luis Iemma	BSc (Hons) Biology MSc Ecology and Natural Resource Management PhD Ecology	Chartered Ecologist (CEcol) Full Membership of the Chartered Institute for Environmental and Ecological Management (CIEEM)	15
Air Quality	Katie Armstrong	BSc. Mathematics; MSc. Weather, Climate and Modelling	-	15+
Noise & Vibration	Alasdair Baxter (SLR)	BSc. Hons (Dunelm), MSc	Member of the Institute of Acoustics	20+

EIAR Chapter	Discipline Lead	Qualifications	Accreditations	Years of prof. experience
Cultural Heritage	Kevin Paton	MA (Hons) Archaeology	Member of Chartered Institute for Archaeologists	17
Landscape & Visual	Richard Baker (Macroworks)	MLA, PG Dip Forestry, BA Env	Corporate Member Irish Landscape Institute	20+
Traffic & Transport	Kevin Harley	BEng (Hons) Civil Engineering	CEng MIEI	20

1.7 EIAR Scope & Methodology - Prediction Of Impacts And Effects And Assessment Of Mitigation Measures

1.7.1 Determining The Extent Of The Assessment

It is necessary to define the extent of the EIA in both spatial and temporal terms, and this has been described below.

1.7.1.1 Geographical Extent

The EIA directly covers the physical extent of the EIA boundary (see Figure 1-2). For certain topic areas a wider 'zone of influence' has been considered, as described in the individual topic chapters.

The geographical extent of the EIA boundary also includes the cumulative impacts from related and unrelated development activities (see Appendix 1A) in both the construction and restoration phases.

1.7.1.2 Temporal Extent

Under this programme, it is expected that the duration of the proposed construction operations will be 10 years depending on market conditions. The restoration of the Proposed Project will be 3 years.

1.7.2 Prediction Of Impacts And Effects Prior To Mitigation

Prediction methods are required to identify and assess the significant effects of the Proposed Project on the environment. The predictive methods used for each technical discipline are detailed in the respective chapter. For several topic areas, predictive methods

have been developed by professional bodies. Where these are available, they have been identified in the individual chapters as appropriate.

For topics where there is no topic specific guidance available, a common framework of assessment criteria and terminology has been used based on the EPA's Guidelines on the Information to be Contained in EIARs (EPA, 2022).

This common framework follows a 'matrix approach' to environmental assessment which is based on the characteristics of the impact (magnitude and nature) and the value (sensitivity) of the receptor. The terms used in the common framework are described below. Details of how these specifically relate to the individual topic areas are provided, where appropriate, within the respective topic chapters. The descriptions for value (sensitivity) of receptors are provided in Table 1-4.

The descriptions for magnitude of impact are provided in Table 1-5.

The magnitude of impact considers the quality of effects. Beneficial effects are defined in this EIAR as a change which improves the quality of the environment (for example, by increasing species diversity, or improving the reproductive capacity of an ecosystem, or by removing nuisances or improving amenities). Adverse effects are defined in this EIAR as a change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem, or damaging health or property or by causing nuisance).

Neutral effects are defined in this EIAR as no effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.

The approach followed to derive effects significance from receptor value and magnitude of impacts is shown in Table 1-6. Where Table 1-6 includes two significance categories, evidence is provided in the topic chapters to support the reporting of a single significance category.

A description of the significance categories used is provided in Table 1-7.

Table 1-4 - Environmental value (sensitivity) and descriptions.

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

Value (sensitivity) of receptor / resource	Typical description
Negligible	Very low importance and rarity, local scale.

Table 1-5 - Magnitude of impact and typical descriptions.

Magnitude of impact (change)*		Typical description
High	Adverse	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements.
	Beneficial	Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality.
Medium	Adverse	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements.
	Beneficial	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
Low	Adverse	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring.
Negligible	Adverse	Very minor loss or alteration to one or more characteristics, features or elements.
	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features or elements.

The magnitude of impact considers the quality of effects. Beneficial effects are defined in this EIAR as a change which improves the quality of the environment (for example, by increasing species diversity, or improving the reproductive capacity of an ecosystem, or by removing nuisances or improving amenities). Adverse effects are defined in this EIAR as a change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem, or damaging health or property or by causing nuisance).

Neutral effects are defined in this EIAR as no effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.

Table 1-6 - Significance Matrix

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

Table 1-7 - Significance categories and typical descriptions.

Significance Category	**Typical Description**
Profound	An effect which obliterates sensitive characteristics.
Large	An effect which, by its character, magnitude, duration or intensity alters a significant proportion of a sensitive aspect of the environment.
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.

Significance Category	Typical Description
Imperceptible	An effect capable of measurement but without significant consequences.

The approach to assigning significance of effect included reasoned argument, the professional judgement of competent experts and using effective consultation to ensure the advice and views of relevant stakeholders were taken into account. The assessment of the significance of environmental effects covered the following factors:

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

1.8 DESIGN AND MITIGATION

The environmental assessment and design of the Proposed Project incorporated mitigation measures using a hierarchical system as follows:

1. Avoidance and prevention: design and mitigation measures to prevent the effect (e.g. alternative design options or avoidance of environmentally sensitive sites);
2. Reduction: where avoidance is not possible, then mitigation is used to lessen the magnitude or significance of effects; and
3. Remediation: where it is not possible to avoid or reduce a significant adverse effect, these are measures to offset the effect.

Any enhancement measures have also been described (measures that are over and above what is required to mitigate the adverse effects of a project), as well as any requirements for monitoring of mitigation measures associated with any significant environmental effects.

1.9 PREDICTION OF RESIDUAL IMPACTS AND EFFECTS

Following the assessment of the level of effect significance, mitigation measures will be presented (as required) that will be used to further avoid, prevent or reduce the magnitude of the potential impact. If necessary, the significance of the effect taking into account the mitigation measures is then assessed to give the residual effect significance.

Any monitoring that will be required to measure the success of the remedial measures will also be presented.

Residual effects of 'large' or 'profound' significance are considered to be 'significant' for the purposes of this assessment.

1.10 CUMULATIVE ASSESSMENT

The EIAR assesses cumulative effects including those from:

1. The Proposed Project itself (e.g., numerous different effects impacting a single receptor); and
2. Other appropriate developments in the surrounds of the Site (together with the Proposed Project itself) where effects could have foreseeably resulted from the Proposed Project and from other known developments in the assessment study area.

The cumulative effects were assessed when the conclusions of individual environmental topic assessments had been reached and reported.

The assessment of cumulative effects from different developments included:

1. Establishment of the zone of influence of the development together with other projects;
2. Establishment of a list of developments which had the potential to result in cumulative impacts;
3. Obtaining further information and detail on the list of identified projects to support further the assessment.

1.11 The Need For The Project And Consideration Of Alternatives

1.11.1 Need for the project

1.11.1.1 Improvements of agricultural potential of lands

The Application Site is located within a rural area and the lands at the Site were historically used for agriculture.

Extraction carried out between 2000-2006 in the north of the Application Site has significantly reduced the agricultural potential of the lands. Prior to extraction activities the lands had long been used for agricultural purposes and the Proposed project seeks to restore the agricultural potential of the quarried lands.

1.11.1.2 Removed of landscape features that represent a human health hazard

The quarry void represents a hazard to human health. Although a security gate and safety signage are erected at the Application Site (and BQL do not provide permission for the general public to access the lands within their ownership), the Application Site has an established history of public trespass that predates BQL's purchase of the lands. Members

of the public are known to access the lands in the north of the Application Site where the disused quarry is located for activities such as dog walking and swimming.

Aside from being private lands, the terrain within the Application Site and the nature of the quarry void makes the lands unsuitable for public amenity use. The quarry void contains collected waters to a depth of approximately 9 m with sub vertical quarry faces extend below the water line and bounding the waterbody particularly to the north and east sides of the void.

Infilling of the void and contouring of the historical quarry working areas will effectively remove hazards to human health associated with landform created by historical extraction activities (e.g. remove drowning hazard from quarry void, remove falling from height hazard from quarry faces).

1.11.1.3 Improved access to EBS infrastructure

The restoration of the lands will provide improved access to ESB poleset no. 74 of the Newbridge to Portlaoise 110kV transmission line. See discussion in Chapter 13 Material Assets of this EIAR for further detail.

1.11.2 Consideration Of Alternatives

In this instance the Proposed Project seeks to restore quarried lands created by a historical quarrying project at the Application Site that ceased operation in 2006. Therefore, there is no alternative for site selection.

The design of the final ground levels within the fill area has been constrained by surrounding land levels, surface water drainage, and the proposed final land-use (tillage). The final proposed ground levels seek to tie in with the ground level of surrounding lands and surface water drainage regime, promoting watershed primarily to the north of the Application Site.

The progressive phasing of the construction seeks to avoid dewatering of the quarry void and therefore avoids any environmental and ecological impacts associated with dewatering activities.

The design seeks to use existing internal haul routes within the north of the Application Site, that remain following closure of the historical quarry, to minimise the requirement from importing additional construction material to Site to create alternative haul routes.

The footprint of the temporary facilities has been located outside of the most ecologically sensitive parts of the Site, with no works proposed on lands in the ownership of BQL in the west area of the EIA Boundary, outside of the Application Site.

The purpose of this EIAR is to assess the Site with regard to experienced / potential impacts on the environment, and to recount / propose measures to avoid, reduce or remedy undesirable potential impacts, as appropriate.

1.12 References

EPA (2022) Guidelines on the information to be contained in Environmental Impact Assessment Reports. Available at: https://www.epa.ie/publications/monitoring--assessment/assessment/EIAR_Guidelines_2022_Web.pdf

EU Environmental Impact Assessment Directive (Council Directive 2x014/52/EU).

Appendix 1A

Related and unrelated development activities

Third-party development activities

Below table summarises planning applications submitted to Kildare County Council within 2 km of the proposed Development with application dates between April 2020 and May 2025.

Table 0-1 – Third-party developments

Reference:	Description:	Approx. Distance from Project:	Status:	Decision Date
19997	The development of 69 No. 2 storey houses which will form part of an overall development known as Ferns Bridge located in Monasterevin. The proposed development consists of 3 No. four bedroom detached houses, 12 No. four bedroom semi-detached houses, 44 No. 3 bed semi-detached houses, 4 no. 3 bed terrace houses and 6 No. 2 bed terrace houses on a site area of 3.63 hectares. Access to the proposed development will be from the existing Ferns Green Road to the north-east of the proposed site and from the Ballykelly Road to the south-west of the proposed site. The proposed development also provides for landscaping, open spaces, drainage, car parking and all associated site development works.	ca 1.5 km	Granted with conditions	16/07/2020
201276	The construction of a single storey dwelling, detached garage, foul water to on site effluent treatment system and percolation area, surface water to soakaways, recessed vehicular entrance and all associated site works.	ca. 1.5 km	Granted with conditions	04/05/2021
20200	Change of house type and garage on previously approved site Pl. Ref. No. 19/1120. The proposed house consists of a single storey bungalow,	Ca. 700 m	Granted with conditions	03/06/2020

	effluent treatment plant and all associated site development works			
191431	Constructing 28 no. dwellings consisting of 16 no. two-storey semi-detached dwellings on sites 23-30 & 39-46 The Green, with option for attic accommodation on sites 30 & 46 The Green. It also includes construction of 12 no. terraced houses on sites 19-22 & 31-38 The Green (permission was previously granted for 28 no. dwellings under planning file 04/1043 but not withered), and all associated ancillary site-works.	Ca. 1.3 km	Granted with conditions	26/08/2020
22952	For the construction of detached bungalow, single storey domestic garage, 1 No. stable block with 8 stables, feed room, tack room and wash bay, utilization of existing family entrance, secondary effluent treatment system and all associated site works.	Ca. 800 m	Granted with conditions	26/09/2022
2460945	For a bungalow type dwelling & domestic garage with effluent treatment system & percolation area using shared vehicular entrance and all associated site works.	Ca. 800 m	Granted with conditions	11/03/2025
2460003	For the sub-division of existing family site for the construction of 3 no. detached houses (Type A - 1 no. - is a two storey house and house type B - 2 no. - which is a two storey house with attic accommodation (also described as a two and half storey house), utilisation of existing recessed entrance, connection to public foul sewer and all associated site works. Revised by Significant Further Information which consists of	Ca. 1.3 km	Granted with conditions	23/07/2024

	permission for the sub-division of existing family site for the construction of 3 no. detached two storey houses, utilisation of existing recessed entrance, connection to public foul sewer and all associated site works. Further revised by Significant Further Information of permission for the sub-division of the existing family site for the construction of 3 no. detached two storey houses, utilisation of existing recessed entrance , connection to public foul sewer and all associated site works			
22684	Single storey dwelling with attached garage, wastewater treatment system, new recessed entrance from existing access road & all associated site works	Ca. 200 m	Granted with conditions	02/09/2022
2360296	For 1) Demolition of existing dwelling and garage; 2) Construction of 26 no. dwellings. The dwellings will consist of 1 no. Detached bungalow, 1 no. 2-storey terrace block containing 2 no. 3-bed houses and 3-no. 2-bed houses, 1 no. 2-storey terrace block containing 2 no. 3-bed houses and 2 no. 2-bed houses, including bin and bike stores to mid-terrace units, 8 no. 2-storey 4-bed semi-detached houses, 4 no. 3-bed semi-detached houses & 1 no. 2-storey apartment block containing 4 no. 1-bed units and adjoining bin store; 3) New recessed access road off the R414 with vehicular connection and pedestrian connections to Oldgrangewood housing scheme; 4) Provision of new cycle lane and footpath to boundary of the R414; 5) Footpath on R414 to connect to Ball Alley crossroads, 6)	Ca. 1.3 km	Granted with conditions	03/05/2024

	Decommissioning of existing septic tank; 7) Connection to existing foul water sewer at Oldgrangewood housing scheme and 8) All associated ancillary site-works			
22408	Development will consist of the demolition of existing out-buildings, construction of 8 No. dwellings consisting of 6 No. 3-bedroom semi-detached dormer type dwellings and 2 No. 4-bedroom detached dormer type dwellings, with boundary treatments to all new and existing boundaries, new vehicular access from L5081, connection to existing services and all ancillary works. Revised by Significant Further Information which consists of (1) reduction in number of proposed dwellings houses from 8 no. to 6 no. units. (2) repositioning and re-design of the remaining 6 no. units. (3) reconfiguration of proposed public open space. (4) reconfiguration of proposed access. (5) provision of new footpath to R414 at site frontage linking to existing.	Ca. 1.3 km	Granted with conditions	09/01/2023
2221	Sought to construct a 4-bed one and a half storey dwelling, septic tank and percolation area, new entrance and all associated site works	Ca. 250 m	Granted with conditions	02/03/2022
23255	The construction of a detached two storey house with single storey element, private well, access road through equine farm, secondary effluent treatment system, utilisation of existing permitted equine farm entrance (under File Ref. 18/1547) and all associated site works	Ca. 800 m	Granted with conditions	18/07/2023

20217	Constructing 28 No. dwellings consisting of 20 No. two-storey semi-detached dwellings on sites 1-8 and 13-24 The Hawthorns, with option for attic accommodation on site 13, and construction of 8 No. terraced houses on sites 9-12 and 25-28 The Hawthorns, (permission was previously granted for 28 No. dwellings under planning file 04/1043 but now withered), and all associated ancillary site-works	Ca. 1.3 km	Granted with conditions	08/12/2020
23255:	The construction of a detached two storey house with a single storey element, private well, access road through equine farm, secondary effluent treatment system, utilisation of existing permitted equine farm entrance (under File Ref. 18/1547) and all associated site work.	ca. 980 m	Granted with conditions	18/07/2023
22915	A detached single dwelling, detached garage, on site effluent treatment system and percolation area, surface water to soakaways, shared recessed entrance and all associated site works.	ca. 1.4 km	Granted with conditions	14/09/2022
211414	The refurbishment of the existing historical thatched cottage and associated outbuildings on site for a range of accommodation uses including Artist in Residency, short stay staff and Stakeholder accommodation and Whiskey Experience tourist packages. The proposed development also relates to the provision of maturation facilities for the adjoining permitted distillery (KCC Reg. Ref. 19/194) at Ballykelly Mills. The refurbishment of the cottages will provide for an interchangeable mix of temporary	ca. 600 m	Granted with conditions	09/02/2022

	accommodation uses linked to the historical location and/or the distillery and maturation uses. In summary, the proposed development includes the removal of detrimental ancillary structures and structures of little value and internal walls associated with the cottage and outbuildings; refurbishment of the cottages and outbuildings through the repair of walls, roofs, floors and windows and doors and drainage to enable habitation; siteworks including provision of a graveyard courtyard, re-instatement of pump, refurbishment of wrought iron gates and repair of walls and rebuilding a section of the roadside historic wall and gate as well as demolition and construction of a new blockwork rendered front wall set back from the existing line to allow sightlines, and provision of a new pedestrian pathway along the public road (L7049); Demolition of the existing derelict haybarn and construction of a new barn building (to match existing in form, scale and colour) housing an administrative area, storage area, forklift charging and covered walkway with and overall maximum height of 8.2m and a gfa of 125sqm; construction of 3 no. new warehouses for the purpose of whiskey maturation. The warehouses will have an overall maximum height of 13m and each have a gfa of c.975sqm; 1 switch room to serve 2 warehouses with a gfa of 25sqm; construction of 1 no. vatting building and independent switch room for the purposes of dumping and vatting casks and single cask hand bottling.			

2460722	For single storey extensions to the front, side & rear of existing dwelling with new effluent treatment system & percolation and all associated site works.	Ca. 10 m	Granted with conditions	22/11/2024

Related development activities

None identified within the study area.