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INTRODUCTION, SCOPE & METHODOLOGY

1 INTRODUCTION, SCOPE & METHODOLOGY

WSP Consulting Ireland Ltd (WSP) and Cunnane Stratton Reynolds Ltd (CSR) have been commissioned to prepare this Environmental Impact Assessment Report (EIAR) to accompany an application for permission for further development of an existing quarry over approximately 64.0 hectares (ha.) located in the townlands of Athgarrett, Philipstown and Redbog, Co. Kildare. This EIAR is submitted on instruction of Hudson Brothers Ltd (HBL), owner and operator of this quarry who will be the applicant.

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

The further development of the quarry is proposed over areas directly adjacent to the main operational lands already excavated as well as within the existing quarry for the purpose of recovering the economic reserve that remains in the void. The proposed development site (application site), lies at the centre of an established landholding located within the townlands of Athgarrett, Philipstown and Redbog and within 2 no. Electoral Districts (EDs) namely Rathmore and Newtown EDs.

The centre of this landholding has been the subject of historic, current and intended future extraction. The southern boundary is delineated by the Wicklow and Kildare county boundaries and the western and northern boundaries of this area are delineated by the Philipstown townland boundary. The east of the area is within the Redbog townland and delineated by field/property boundaries. This area extends to approximately 95.8 ha. and constitutes the EIA project boundary for this quarry.

The lands the subject of this EIAR (the subject lands) at approximately 95.8 ha. entirely encompasses the application area of approximately 64.0 ha. The reserve at this quarry is greywacke rock, overlain by sand and gravel, currently worked to a maximum depth of 188 mOD. The rock reserve is traditionally excavated by blasting and mechanical means, primarily processed by mobile plant at the working face. In this case, however, blasting has not occurred in the period since 07267 expired on 18 September 2020. Excavated material is transported to a centrally located existing administration and processing plant area over approximately 5 ha. that holds further processing plant (washing, screening, grading). This plant and processing area is an established part of the quarry area.

Figure 1-1 shows the regional location of the Site, whilst Figure 1-2 provides a depiction of the substitute consent application area and the EIA project boundary.

Figure 1-1 - Regional Site location.

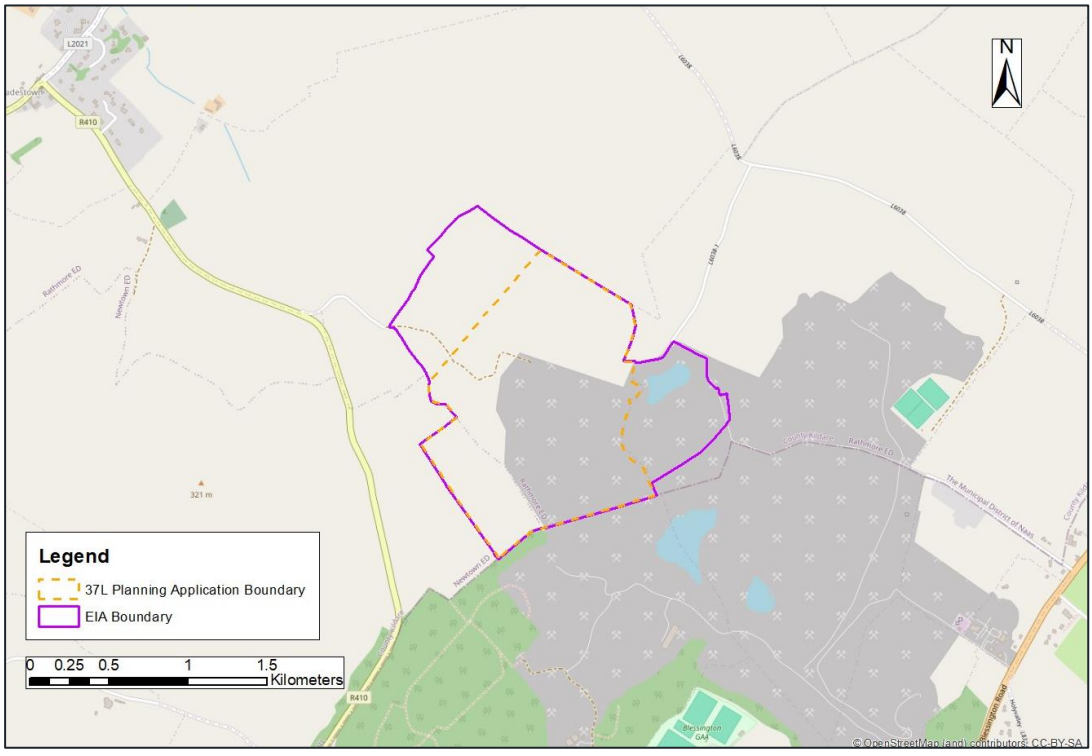

Figure 1-2 - Section 37L application area and the lands the subject of the EIAR.

HBL are the owners and operators of a quarry and aggregate product land use site located across the counties of Kildare and Wicklow, since the 1950s, formally becoming a company in 1971.

The trans-county HBL operational facility summarily consists of: a pit, processing plant and offices at New Paddocks, Blessington, County Wicklow where the main entrance to their operation exists onto a local road that accesses the N81; and a quarry with processing plant and staff welfare facilities to the rear (north west) of their Wicklow lands over Philipstown and Redbog in Co. Kildare. Generally the facility is approximately 2 km north of Blessington, Co. Wicklow.

The HBL operation in Kildare is adjacent to other quarry and associated land uses operated by unrelated parties.

1.1 REQUIREMENT FOR EIAR

Certain proposed developments, due to their typology, or scale automatically attract the requirement for EIA by a competent authority as part of that authority's formal assessment of a development proposal seeking permission, consent or licensing.

As set out in the next section, a hierarchical suite of European and national legislation and guidance govern EIA and direct EIAR content.

The further development of a quarry proposal is over a site area of approximately 64.0 ha. that automatically attracts the requirement for EIA. The applicant seeking this development permission is therefore bound to provide an EIAR for the purposes of EIA.

The permission for development sought in this instance is under Section 37L of the Planning and Development Act, 2000. This type of planning permission may only be sought where an application for substitute consent is in being.

In this instance the concurrent substitute application with rEIAR and this EIAR to accompany the application for further development of the quarry is being made following the An Bord Pleanála grant of leave to apply for substitute consent under Section 177D of the Planning and Development Act 2000, as amended, on 01 August 2023.

1.1.1 CONTEXT AND DESCRIPTION OF PREVIOUS APPLICATIONS AND PRECLUSION OF KILDARE COUNTY COUNCIL FROM DETERMINING A PRIOR APPLICATION FOR FURTHER QUARRY DEVELOPMENT

Section 37L of the Planning and Development Act 2000, as amended is entitled 'Further matters in relation to control of quarries' and allows for the making of an application for planning permission for the further development of a quarry site for quarrying only. Furthermore, this section of the Act restricts the circumstances timing of the making of the application to within 6 weeks of the submission of a subsite consent application on the same site.

As noted in the last section the current Section 37L application is made on foot of a grant from An Bord Pleanála for leave to apply for substitute consent under Section 177D of the Planning and Development Act 2000, as amended.

Summary of permissions and prior applications

Aggregate extraction and processing in the general area is an historic use, having been utilised for aggregate production and aggregate processing since at least the 1800s. Following the coming into force of Section 261 the Planning and Development Act in 2004, HBL correctly and properly registered their facility with both Wicklow County Council (WCC; ref. QY/43) and Kildare County Council (KCC; ref. QR/42) who were the Section 261 registration authorities in their roles as planning authorities.

Both registrations were found to relate to pre 1963 quarry. Ultimately both Section 261 registrations concluded in directions to seek planning permission. Planning applications for inter alia the continuation of the extraction land use were submitted in each jurisdiction: WCC Reg. Ref. 066932 and KCC Reg. Ref. 07267 (PL09.235502). Permission was granted in Wicklow in October 2009 and in Kildare in April 2010. Each permission held a condition effectively limiting the duration of the permitted development: 25 years in Wicklow and 10 years in Kildare's case.

The Hudson Brothers operations were reviewed by both planning authorities under Section 261A of the Act. Wicklow County Council reviewed the quarry operation under ref. S261A/QY43 where no further action arose. Kildare County Council reviewed the quarry operation under ref. QRA-25-011 (QR42) who issued a notice to apply for permission under section 261A(2)(a)(ii). This notice was put on review by HBL under ref. 09.QV.0208 that resulted in the notice being annulled in March 2014 by An Bord Pleanála. The Order under ref. 09.QV.0208 summarily found development on the site on or after February 1997, either alone or in combination with other plans or projects, would not have a significant effect on European Sites' conservation objectives.

In the years since the grant of the continuation of quarrying permissions for the facility in 2009 and 2010, the economic downturn had struck and aggregate demand slumped as the construction industry all but collapsed. This sharp fall off in demand had a direct impact on the HBL operations and resulted in lower than expected aggregate sales volumes and slower than expected extraction rates.

By 2019, a recovery in the economy had led to a recovery in the construction industry and its supply chains. The option to extend the duration of planning permission for KCC Reg. Ref. 07267 was not open to the applicant at that time. Therefore, Hudson Brothers instructed the preparation of a planning application for their operations in Kildare to in order to (i) continue to produce construction aggregate where the enabling permission was to end in 2020, and (ii) secure permission to extend the extraction area by just over 13 ha.

A planning application was prepared for submission to KCC and was accompanied by an EIAR and Natura Impact Statement (NIS), each of which required the collation of baseline environmental monitoring, supported by detailed design and mitigation proposals. The application was submitted in May 2020 and assigned KCC Reg. Ref. 20532.

Further information was requested in July 2020. Part of the further information required seasonal ecological survey and assessment, monitoring and COVID-19 public health protection travel restrictions, meant that the earliest a formal response could be submitted made 01 October 2020.

The expiration date of KCC Reg. Ref. 07267 had been determined by the planning authority to be 18 September 2020. By letter dated 30 October 2020, and following receipt of the Further Information, KCC notified the Applicant that they were precluded from considering the Reg. Ref. 20532 application under Section 34(12) of the Act.

No notice to seek substitute consent was served and an application for leave for substitute consent was sought. An application for leave to apply for substitute consent was submitted to An Bord Pleanála with the aim to regularise development which was previously permitted under 07267 but undertaken after the expiry of that same previous permission. On 01 August 2023 An Bord Pleanála granted the leave to apply for substitute consent under Section 177D of the Planning and Development Act 2000, as amended. This EIAR is submitted as part of an concurrent application under Section 37L of the Planning and Development Act, 2000 as amended, for further development of the existing quarry.

1.1.2 S.37L APPLICATION AND EIA PROJECT BOUNDARY

The Section 37L planning application unit extends to approximately 64.0 ha. and reflects the main pit extraction area of the quarry and a proposed northern extension (approximately 21.2 ha in total with an internal extraction area of approximately 17.7 ha) and a proposed western extension (approximately 10.2 ha in total with an internal extraction area of approximately 9.4 ha). This additional extraction area is the only new development currently proposed for the quarry.

A restoration proposal for the site is included as mitigation in this EIAR and presented at Section 11.0 (Landscape and Visual) and in submitted application drawing. The restoration proposed principally consists of the regrading of the current void and use of stored top and subsoils on site for restoration purposes. The restoration proposal includes the restoration of the extant plant processing area at the east of the site within the Applicant's ownership area and the subject of concurrent substitute consent application.

As noted at the outset, the application under Section 37L that this EIAR accompanies is to be made concurrent with an application for substitute consent for the over an area of approximately 71.9 ha. That application is accompanied by an rEIAR.

In view of this rEIAR and the EIAR being concurrently prepared for much of the same operational lands it is submitted that a single EIA project boundary for the purposes of assessment by experts of works past and proposed is consistent and will facilitate EIA of each development within the same EIA project envelope.

The EIA project boundary envelopes an area of approximately 95.8 ha. that encloses previous recent quarry application areas, current workings and intended future workings.

The EIA project boundary is therefore larger than the associated planning application units in order to capture the currently proposed substitute consent and Section 37L application boundaries and associated infrastructure.

1.2 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.

1.2.1 EIA DIRECTIVES AND TRANSPOSITION

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

The original EIA Directive 85/337/EEC has been amended and superseded by Directives 97/11/EC, 2003/35/EC, 2009/31/EC to Directive 2011/92/EU.

Having regard to the transposition of the original environmental assessment Directive into Irish Law it is determined by reference to the Planning and Development Act, 2000 as amended, that the appointed day at which the requirement for same arose is 1 February 1990.

On 16 April 2014 Directive 2011/92/EU was amended by Directive 2014/52/EU of the European Parliament and of the Council (2014 EIA Directive).

The amending 2014 EIA Directive consists of 16 no. Articles and 5 no. Annexes that define EIA and the supporting information and processes available and required for EIA determination in the form of reasoned conclusion by the competent authority.

This is the EIAR by the developer defined at Article 1 and required under Article 3. This report relates to lands of 95.8 ha. that enclose lands that have been the subject of extraction and are intended for further quarry development area over a total application area of approximately 64.0 ha. Extraction area of that magnitude attracts automatic requirement for EIA as an Annex 1 project and is therefore subject to an assessment in accordance with articles 5 through 10.

Article 5 of the 2014 EIA Directive sets down the minimum information to be supplied in an EIAR including those matters at Annex IV as follows;

(a) a description of the project comprising information on the site, design, size and other relevant features of the project;

(b) a description of the likely significant effects of the project on the environment;

(c) a description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;

(d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;

(e) a non-technical summary of the information referred to in points (a) to (d); and

(f) any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected."

The 2014 EIA Directive required that "Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 16 May 2017."

The requirement for the current EIAR arises as a result of the associated development proposal being made for a development typology that exceeds the EIA threshold. The development 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.

1.2.2 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

1.2.3 GUIDANCE

The structure and content of this EIAR is in accordance with 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)

1.2.4 PURPOSE & 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 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	Section
Context and Requirement for EIAR	1.0 Introduction, Scope and Methodology
A description of the existing environment.	2.0 Project Description; and As appropriate in the respective discipline chapters.
A description of the project.	2.0 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.	3.0 Population and Human Health 4.0 Ecology and Biodiversity 5.0 Land, Soils and Geology 6.0 Water 7.0 Air Quality 8.0 Climate 9.0 Noise and Vibration

	10.0 Cultural Heritage 11.0 Landscape and Visual Impact 12.0 Traffic and Transport 13.0 Material Assets 14.0 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 major accidents and/or disasters that are relevant to the project concerned	Cumulative: As appropriate in the respective discipline chapters. In combination: 15.0 Interactions Major accidents and/or disasters: Section 14.0

Alternatives are examined by reference to locations, design and processes, as appropriate.

Likely and significant impacts arising from the existence of the development, 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 this EIAR and provides a summary of the key findings of the EIA in non-technical language.

Table 1-2 identities the data and information to be included by the developer in the EIAR as describes 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) Section 2 – 'Project Description' (c) and (d) Section 2 – 'Project Description', and identified in the relevant technical chapters
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 1.7 – '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 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. Sections 3.0 – 13.0.
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 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.	(a), (b) and (c) Each technical chapter, as appropriate (d) Section 3.0 (Pop. and Human Health), Section 10.0 (Archaeology and Cultural Heritage), and Section 14 (in relation to accidents and disasters) (e) Each technical chapter, as appropriate (f) Section 8.0 (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 0. Difficulties encountered in compiling the EIAR have been identified in each 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 Section 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.	Section 13.0 - Major Accidents and Disasters
9	A non-technical summary of the information provided under points 1 to 8.	Submitted as a separate document with this application
10	A reference list detailing the sources used for the descriptions and assessments included in the report.	Final Section of each technical chapter.

1.3 SUMMARY DESCRIPTION OF DEVELOPMENT THE SUBJECT OF EIAR

This EIAR has been prepared to accompany an application for further development of a quarry as a quarry at an existing quarry at Athgarrett, Philipstown and Redbog, Co. Kildare, that is the subject of a concurrent application for substitute consent, itself accompanied by a EIAR.

The lands the subject of this EIAR extend to 95.8 ha. and are in part those of the extractable area permitted under KCC Reg. Ref. 07267. The quarry area that makes up the application further development of a quarry as a quarry planning unit extends to approximately 64.0 ha. within the EIA project area. At the east of the current quarry area is the existing administration and processing plant area over approximately 5 ha. The current quarry area, including the plant and processing area is the subject of the concurrent substitute consent application

The Site is located approximately 2 km north of Blessington and ca. 7.5 km southeast of Naas. The undulating land surrounding the Site slopes in a north-westerly direction to the north of the Application Site, and a south-easterly direction to the south of the Application Site. The southern boundary of the Application Site lies adjacent to the Kildare-Wicklow county border.

The quarry is accessed via Danker Lane through lands owned by the client in Co. Wicklow. The Co. Wicklow land is accessed via the N81 National Secondary Road. A number of other unrelated aggregate companies operate from sites adjacent to the Application Site. The sand and gravel pits in the Blessington area are a major source of sand and gravel used in the production of construction

material in the Greater Dublin region. Other land uses surrounding the Application Site are for residential and agricultural purposes, mainly pastoral grazing of sheep and cattle, and forestry.

Section 37L confines development proposal to be for further development of a quarry as a quarry. The proposed development for which this EIAR has been prepared is for:

- The lateral extension of the permitted extraction activities in westerly and northerly directions, over a combined area of approximately 31.4 ha and depth that is 1 m above the watertable:
    - The proposed western extension is for the extraction of sand and gravel, and rock over an area of approximately 10.2 ha (internal extraction area of 9.4 ha);
    - The proposed northern extension is primarily for the extraction of sand and gravel over an area of approximately 21.2 ha (internal extraction area of 17.7 ha);
    - The extension areas are proposed to be extracted on a phased basis that incorporate into the existing extraction and restoration plans;
    - The proposed lateral extension areas of sand and gravel, and rock will be processed using existing site processing facilities and are intended to maintain the extraction and aggregate production capabilities of the existing construction aggregate production operation; and
    - The proposed extension areas will include ancillary site works and ancillary development in the form of landscaped screening bunds.

The proposed development will therefore consist of extraction in areas over a total application site area of approximately 64.0 ha. The plant and processing area is included in the application for substitute consent area that includes restoration concept for the purposes of retrospective assessment in the accompanying rEIAR. This EIAR contains a restoration proposal for the proposed further quarry area and the extant plant and processing area for the purposes of mitigation.

1.3.1 DESCRIPTION OF SITE BASELINE

Section 3.6.1 of the 2022 EPA EIAR Guidance states that after the description of the project "…the description of the baseline scenario is the second of the two factual foundations of the EIAR."

In this instance the EIAR relates to proposed development at a site already in operation as a quarry with related ancillary processing activities and supporting welfare facilities. Please refer to submitted site layout for identification of the below summarised current quarry operation description:

The quarry operation is accessed from a single entry/exit point on the east of the EIA boundary (to Danker Lane). This entry/exit point leads to Danker Lane and to lands owned by the client in Co. Wicklow. The Co. Wicklow land is accessed via the N81 National Secondary Road.

The access point in the Kildare site connects to the main plant and processing area over approximately 5 ha. holding: an office and canteen building, storage containers, a maintenance shed, water recycling unit, an asphalt plant, an aggregate washing, crushing, screening plant, a

generator / powerhouse building, control room, a bunded fuel tank. Also, within this plant and administration area are fuel storage and refuelling area, potable water well and sewage holding tank.

The plant and processing area also contains 2 no. dormant crushing and aggregate screening plants and a dormant former concrete plant. These structures are not in use and would be the subject of a separate planning application and assessment process if ever required for use in the future. These items of plant will be decommissioned in conjunction with the restoration plan for the Site.

Sand and gravel are extracted by mechanical means and transported from the active face by haul truck on internal haul roads to the aggregate processing and plant area. This is a wet process where the aggregate is (crushed if required) washed and screened before being segregated into stockpiles of different sized product. The aggregate processing plant operates a closed-circuit washing system where water is recirculated. The wet system results in significantly lower fugitive dust emissions compared with dry screening processes. Processed sand and gravel are transported in road going trucks for sale and distribution to market onto the N81, via a shared laneway which leads through the client's Wicklow owned site

The rock reserve consists of greywacke (sandstone) and sand and gravel. The greywacke is currently extracted above the watertable by mechanical means as blasting on the site ceased prior to September 2020, (upon a successful grant of this application for future development blasting is proposed to recommence). The excavated greywacke material is crushed at the working face by mobile plant and transported to road going trucks for sale and distribution to market along existing internal quarry haul roads, through the Applicant's Wicklow site as identified above. The current associated quarry void south west of the plant and processing area at a current working depth of 188 mOD.

1.4 LIMITATIONS & 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 subject site throughout its lifetime and discern impacts on the environment of the subject 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.

1.5 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.

The members of the team and their respective inputs are presented in Table 1-3.

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 1-3 - EIAR Contributors

Discipline	Lead Specialist	Qualifications	Accreditations	Years of prof. exp.
Introduction, Scope and Methodology; Project Description	Kevin McGillycuddy	BA (Mod) Botany; MSc Environmental Science	PIEMA	11+
Planning Population & Human Health;	Eamonn Prenter	BA (Joint Hons) Geography and History; Dip Town and Country Planning; MSc Town and Country Planning	MIPI MRTPI	33
Land, Soils & Geology; Water	Richard Lansley Kit Pannell	MSc. Hydrogeology, BSc. Physical Geography MSc Hydrogeology	Chartered Geologist (Geological Society of London)	22+ 11+
Biodiversity	Steven Tooher	BSc (Hons) Zoology MSc (Agr) Environmental Resource Management	ACIEEM (Associate Member – Chartered Institute of Ecology and Environmental Management)	8+
Air Quality;	Rachel Lansley	MSc Environmental Monitoring and Analysis, BSc Physical Geography	Chartered Scientist (CSci), Member of the Institution of Environmental Sciences (IES) and the Institute of Air Quality Management (IAQM)	15+

Noise & Vibration	Simon Faircloth	PgDip Acoustics and Noise Control	Corporate Member of the Institute of Acoustics (MIOA)	18+
Cultural Heritage	Dr Charles Mount	M.A., Ph.D., M.B.A., Dip. EIA & SEA Mgmt.	M.I.A.I.	25+
Landscape & Visual	Ronan Finnegan Jamie Ball	BSc (Hons) Geography and Geology; PGDip Landscape Architecture BA (Hons) Landscape Architecture	Chartered member of the Landscape Institute (UK) Member of the Irish Landscape Institute (MILI)	15+ 14+
Traffic & Transport	Colin Bell Damian O'Reilly	BEng (Hons) (Civil Engineering) CEng MSc GIS; BEng (Hons) Civil Engineering; GMICE	Member of Chartered Institute of Highways and Transportation Graduate Member of the Institution of Civil Engineers	25+ 9+
Climate; Material Assets; Major Accidents and Disasters	Kevin McGillycuddy Lisa Cleary	BA (Mod) Botany; MSc Environmental Science B.A. (Mod) Environmental Science	PIEMA Student Member of Chartered Institute of Ecology and Env. Mgmt.	11+ 1+

1.6 EIAR SCOPE & METHODOLOGY - PREDICTION OF IMPACTS AND EFFECTS AND ASSESSMENT OF MITIGATION MEASURES

1.6.1 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 done as described below.

1.6.1.1 Geographical Extent

The EIA directly covers the physical extent of the Site as shown in the EIA boundary plan (Figure 1-2). Also, as many predicted impacts can extend beyond the immediate EIA boundary, for example the use of the Site for foraging by a species that is primarily located off-site.

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 in both the construction and operational phases.

1.6.1.2 Temporal Extent

Under this programme, it is expected that the duration of the proposed extraction operations will be 13 to 15 years depending on market conditions. The restoration of the Proposed Development will last between 2 to 3 years.

1.6.2 PREDICTION OF IMPACTS AND EFFECTS PRIOR TO MITIGATION

Prediction methods are required to identify and assess the significant effects of the development 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 draft Guidelines on the Information to be Contained in EIARs (EPA, 2022).

This common framework follows a 'matrix approach' to environmental assessment which is based on the characteristics of the impact (magnitude and nature) and the value (sensitivity) of the receptor. The 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.

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.
Negligible	Very low importance and rarity, local scale.

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

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 1-5 - 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.

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.
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?

1.6.3 DESIGN AND MITIGATION

The environmental assessment and design of the Proposed Development 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.

1.6.4 PREDICTION OF RESIDUAL IMPACTS AND EFFECTS

Following the assessment of the level of effect significance, mitigation measures will be presented 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.

1.6.5 CUMULATIVE ASSESSMENT

The EIAR assesses cumulative effects including those from:

1. The development itself (e.g., numerous different effects impacting a single receptor); and
2. Other appropriate developments in the surrounds of the Site (together with the development itself) where effects could have foreseeably resulted from the Proposed Development 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, including.
3. Obtaining further information and detail on the list of identified projects to support further the assessment.

1.7 THE NEED FOR THE DEVELOPMENT AND CONSIDERATION OF ALTERNATIVES

Identification and consideration of alternatives of design and scale for a quarry development, particularly for a continuation of extraction, are limited in scope. The extraction of aggregates is controlled by the availability and quality of the materials (both sand and gravel, and rock) which in turn controls the overall design plan for the quarry.

The greywacke rock and sand and gravel reserve at the subject location is of a proven good quality capable of being used for a range of materials in the construction industry. Therefore, the reserve material assumed to be present at the subject site provides suitable aggregates for construction purposes.

In considering alternative sites, it is a basic principle that aggregates can only be worked where they naturally occur, (a factor recognised in the Kildare County Development Plan 2023-2029). The products are generally of low unit value and the most significant cost is transportation. As with all aggregate extraction development the nearer the supply of aggregate to the market, the more economically viable it is and given the nature of aggregate deposits. In this case the Site has the benefit of being strategically located adjacent to the National Road Network (N81). Aligned to this economic situation is the environmental and social preferability of locally sourced aggregates. Aggregates sourced close to their market are preferable to those sourced at more remote locations

as this lessens road traffic and associated environmental impacts and economic costs. Socially, the local sourcing of construction aggregate strengthens the local economy through job provision and associated spending and exploits advantages and opportunities inherent in local supply chains.

Aggregates are an essential material for the construction industry and are used in all major development plans (housing, road surfacing, infrastructure etc.). As such, they are of major significance to the overall growth of their local areas and the country and an important economic resource despite fluctuations in levels of construction due to wider economic forces, or events such as the COVID-19 pandemic suspension of construction.

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

In this case, the quarry site represents the predominant land asset upon which the developer's companies and employees rely. The developer has a personal intergenerational association with the lands and is a quarry operator and employer who wishes to maintain this asset as a sustainable exaction and processing development. In order for this operation to continue, planning permission for further extraction is sought to continue to feed market demand for aggregate and its products. The concurrent substitute consent application and rEIAR may only seek permission for development that has already occurred and as such the further extraction of reserve is the subject of the Section 37L application that this EIAR accompanies.

Maintaining the quarry site and adjacent suitable lands as a viable quarry with associated processing plants will ultimately realise the sustainable extraction potential of this extant, established quarry and will maintain those direct and indirect jobs.

1.7.1 SITE SELECTION

In this instance the EIAR has arisen as a direct requirement of the proposed extraction area exceeding EIAR preparation thresholds. However, this extraction area occurs over an existing extraction site with lateral extensions and is intended to utilise the plant and processing area (the subject of concurrent substitute consent). In other words, the site for which proposed development permission is sought is not a new site but rather an existing extraction site with contiguous lateral extension that will utilise a contiguous plant and processing area.

The necessity for the application this EIAR accompanies arises as the concurrent substitute consent application may only permit development already undertaken. As such, without a Section 37L application and permission for further extraction of reserve, the continuation of the existing quarry will not be possible. Therefore, site selection methodology employed is primary driven by the existence of the existing quarry and remaining reserve at the quarry. In this way, the site selected was required to be functionally conjoined or capable of being conjoined to the extant plant and processing area and quarry entrance.

The proposed development represents the immediate reserve available for extraction at the site: a lateral western and northern extensions of the void to ensure aggregate product to meet existing market demand from the quarry site.

The existence and continued use of the established quarry and processing complex will have less net environmental and economic impact than developing a new greenfield quarry.

1.7.2 ALTERNATIVE DESIGNS CONSIDERED AT THE SUBJECT SITE

The western lateral extension of the site is provided in the same arrangement as that which was proposed in the KCC Reg. Ref. 20523 application. This same arrangement has been proposed due to the optimised layout which utilises the existing void and accesses good quality sand, gravel and underlying greywacke. The base of the main existing pit has been profiled to extract existing side slopes and maintain an existing depth (above the groundwater table).

The proposed design of the northern extension area varies with the lateral northern extension proposed in the 2020 application. This comparison is shown in Figure 1-3 and Figure 1-4. The 2020 design proposed to extract sand and gravel from reserves (above the groundwater water table) in the north of the landholding and adjacent to the Gas Networks Ireland (GNI) gas transmission line. This design accessed reserves within the landholding but situated the quarry at a slightly greater distance from the processing area. The arrangement also proposed extraction at a slightly closer proximity to residential receptors and a gas transmission line.

In submissions received by KCC it was noted that design, raised concerns about increased noise, dust, and potential safety risks to nearby residents. In contrast, the current proposed design positions the extraction closer to the existing quarry and processing area, thereby minimising the transportation distance. Similar to the 2020 proposal the current proposed sand and gravel extraction in this area will occur above the water table. The revised proposals locate extraction closer to residential receptors to the north east, however setbacks and screening are incorporated in the design in order to mitigate potential adverse environmental impacts and nuisance to these receptors.

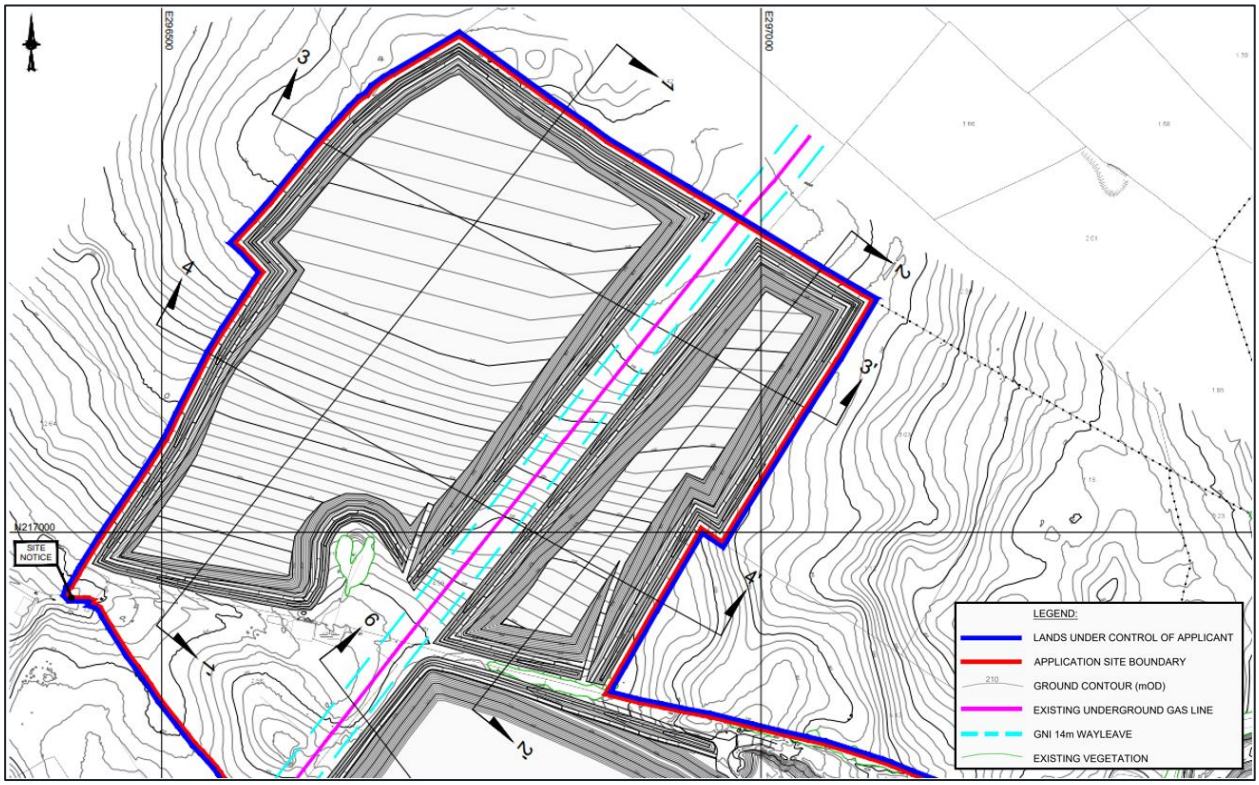

Figure 1-3 - KCC Reg. Ref. 20532, Proposed Site Conditions - Northern Area.

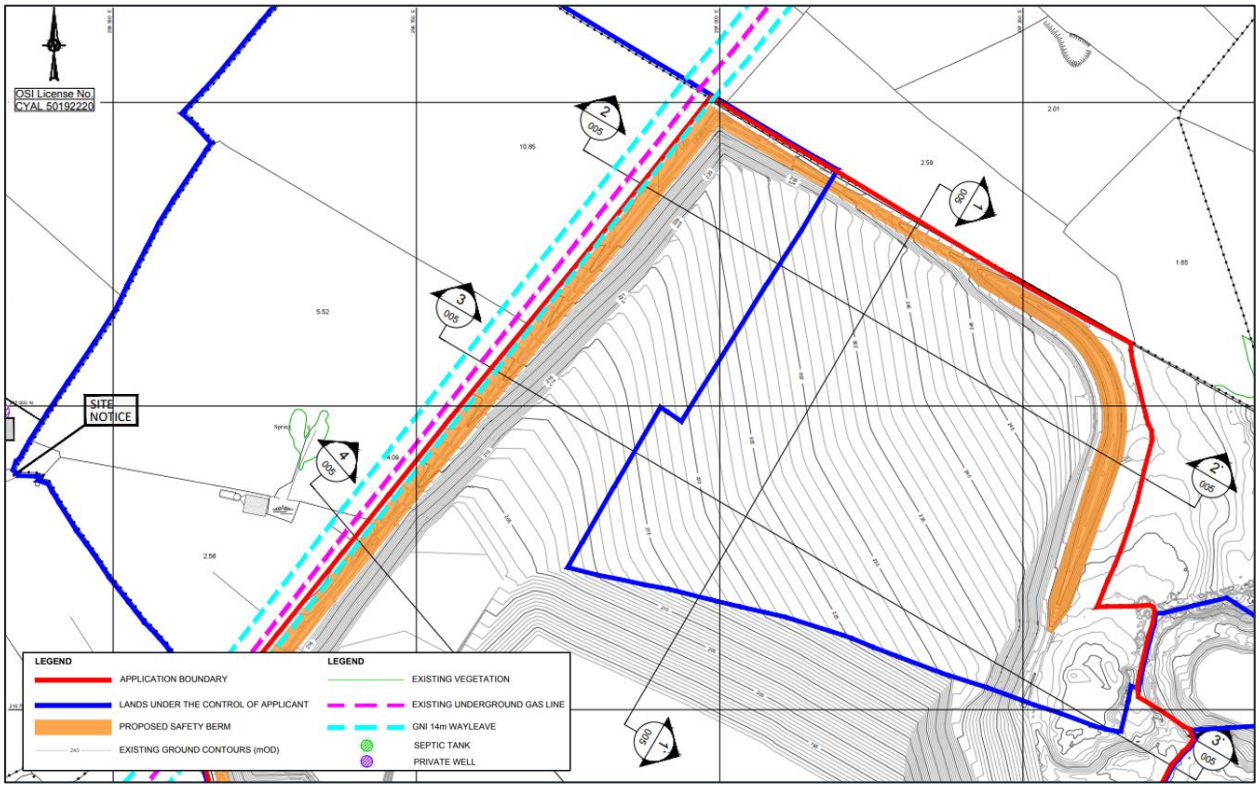

Figure 1-4 – Current S37L Proposed Site Conditions - Northern Area.