CONTENTS

INTRODUCTION

3.1 The proposed development being examined in this Environmental Impact Assessment Report (EIAR) provides for a new sand and gravel extraction development at Naul townland, Co. Meath with the extracted materials being used in the existing permitted concrete batch facility adjacent to the site on the eastern side of the R108 regional road operated by Kilsaran. Following extraction operations, final restoration works will return the site to a long-term beneficial agricultural after-use.

3.2 The proposed development specifically provides for the following:

- Extraction and processing on site, to include washing (with associated closed recycled washing plant and lagoon system), screening and crushing; storage; stockpiling and haulage of sand and gravel to service the existing readymix concrete plant operated by Kilsaran on the eastern side of the R108 regional road and permitted under P. Ref. 80/572 & 22/153 (ABP-314881-22);
- The total extraction area extends to an area of c. 6.2 hectares and will be worked (extracted and restored) on a phased basis for a period of 11 years plus 1 year to complete final restoration works (total duration of 12 years);
- Phased stripping and storage of topsoil and overburden materials for reuse in the restoration works. Restoration of the site will be to a beneficial agricultural after-use;
- Access to the site will be through the existing agricultural enterprise site entrance onto the R108 regional road with upgrade of same to consist of setting-back of the existing boundary wall to the north of the site access, and provision for the upgrade of the existing internal access track and sections of a new access track which will include a new weighbridge; and
- All associated site ancillary works within an overall application area of c. 14.9 hectares.

3.3 This Chapter of the EIAR considers potential alternatives to the proposed development, specifically the issues of alternative site locations and alternative site designs / layouts.

NEED FOR THE DEVELOPMENT

3.4 Project Ireland 2040 was published in February 2018 and is the overarching policy and planning framework for the social, economic and cultural development of the country for the next 20 years and further. It includes the National Development Plan: a ten-year strategy for public capital investment to 2027 and the 20-year National Planning Framework.

3.5 The National Planning Framework 2018 is the high-level strategic plan for influencing future growth and development up to the year 2040. The framework is intended to guide public and private investment, to protect and enhance the environment and create and promote opportunities.

3.6 The National Planning Framework states that:

"Extractive industries are important for the supply of aggregates and construction materials and minerals to a variety of sectors, for both domestic requirements and for export. The planning process will play a key role in realising the potential of the extractive industries sector by identifying and protecting important reserves of aggregates and minerals from development that might prejudice their utilisation. Aggregates and minerals extraction will continue to be enabled where this is compatible with the protection of the environment in terms of air and water quality, natural and cultural heritage, the quality of life of residents in the vicinity, and provides for appropriate site rehabilitation".

3.7 The extractive industries are considered important not just as a source of supply to a variety of sectors both domestic and for export, but extractive industries supply aggregates that are an essential requirement for Irelands future. Project 2040 will not happen without a secure supply of aggregates.

3.8 The recovery in output in the Irish construction industry over the last decade since 2013 has led to increased demand for construction aggregates and it is anticipated that demand will increase further in coming years following the pressure to increase residential housing output and the planned spend of almost €116 billion between the State and State-owned commercial companies under the National Development Plan and Project Ireland 2040 in the ten years from 2018 to 2027.

3.9 It is estimated that each new residential house typically requires 300-400 tonnes of aggregate. Every new school typically requires some 3,000 tonnes of aggregates and every 1km of roadway requires up to 30,000 tonnes of aggregates. On average each person within the EU consumes 6 tonnes of aggregate per year, however the current demand for aggregates in Ireland is twice that figure, at 12 tonnes per capita per year.

3.10 Based upon an average consumption rate of c. 350 tonnes of aggregates for every new house, the proposed sand and gravel extraction development at Naul is equivalent to supplying enough building aggregates to approximately 3,700 houses.

Essential Aggregates: Providing for Ireland's needs to 2040

3.11 It is estimated that Ireland will need to produce an estimated 1.5 billion tonnes of aggregates to meet housing and infrastructure targets set down under the Government's Project Ireland 2040 plan, according to the Irish Concrete Federation[1] (ICF) in a major publication issued by them in October 2019.

3.12 "*Essential Aggregates: Providing for Ireland's needs to 2040*" is an industry led call for Government to ensure that Ireland's future supply of aggregates (crushed rock, sand and gravel) is planned, monitored and managed in a sustainable manner, to provide for Ireland's future infrastructure development.

3.13 The report identifies that demand for aggregates in Ireland at 12 tonnes per capita is twice the current EU 28 average, due to Ireland's infrastructural deficit, dispersed pattern of settlement and resulting large road network. The Federation warns that scarcities of some aggregates are now emerging in the Eastern and Midland regions, due to natural shortages, a lack of forward planning and delays and other shortcomings in the planning process. The report also highlights that:

"Ireland has abundant natural reserves of high-quality aggregates, but their future accessibility must be planned for and protected by Government. A lack of future planning and priority in the planning process and delays in achieving prospective quarry planning permissions will result in future shortages in the supply of some types of construction aggregates in certain areas of the country. The future supply of aggregates needs to be prioritised and addressed in a planned manner if we are to reach the ambitious construction targets as laid out in Project Ireland 2040".

Meath County Development Plan 2021-2027

3.14 The Meath County Development Plan (MCDP) 2021-2027 is the current Plan for the County. Several references are made within the Plan to the importance of and the contributions made by the extractive industry:

3.15 In Section 4.6.1 under the main heading of **Changing Economic Climate** (Section 4.6) it states:

[1] Kilsaran is a member of the ICF

"While much attention has been given to FDI and the successes achieved since the preparation of the Economic Development Strategy, the more traditional economic base of the county must continue to be supported, including extractive activities (mining and quarrying), meat processing, other agri-food, engineering and furniture making etc. …"

3.16 In Section 4.11.1 under the heading of **Rural Enterprise**, it states that:

"It is the policy of the Council to support the location of once off medium to large-scale rural enterprise if it is demonstrated, to the satisfaction of the council, that the enterprise can be more readily accommodated in a rural setting than provided in a designated settlement centre and subject to standard development management considerations being applied. It is equally accepted that there are certain types of rural enterprises, especially those that involve processing of natural resources, which serve rural communities which have a critical role to play in sustainable rural development. There are already a number of successful enterprises of this nature existing in the County in the food processing and development areas, as well as the extractive industry."

3.17 Section 9.11 of the MCDP **Extractive Industry and Building Materials Production**, whilst recognising the need and importance of extractive industries in terms of supply of aggregate materials for the construction sector and for delivering transport infrastructure projects, there is the potential for conflict in the operation of these industries with wider environmental issues which needs careful consideration.

"Meath contains a variety of natural resources such as building raw materials in the form of sand, gravel, stone reserves including high purity limestones and shale used in cement and magnesia manufacture, and base metal deposits. The potential of these resources to underpin construction output and provide employment and economic growth in the local and regional economy is recognised as is the need to exploit such resources in an environmentally sound and sustainable manner."

3.18 The extractive industries are considered an essential source of supply to meet the demands to not only maintain existing infrastructure but to also allow for new infrastructure in order that the future economic development needs of the county are met.

Construction Aggregates

3.19 Natural sand and gravel (called aggregate in the extraction industry) is amongst the most important, valuable and highly prized resources in the construction materials sector. It has a use in almost all residential, commercial, retail and industrial buildings, including the manufacture of ready-mixed concrete, mortar, blocks, pipes, pre-cast floors, slabs, walls and tanks, construction of road foundations, production of road surfacing materials (asphalt), use as rail bedding, backfill to structures and trench support for water supply / wastewater pipes, use for surface water and land drainage etc.

3.20 The supply of high-quality sand and gravel has presented problems for the Irish construction sector in the past and continues to do, principally as a consequence of:

- the relative scarcity of such resources nationally;
- their distance from key markets;
- their occurrence in environmental sensitive areas; and
- deficiencies in connecting road transport infrastructure.

3.21 The construction end-use ultimately determines specific requirements for the grade and quality of sand and gravel to be used in construction. The sand and gravel which occurs at the site is of relatively high quality and is suitable for multiple uses including concrete, mortar and asphalt

production. The continued and ever-increasing regulation of the construction industry and construction materials sector is also driving the requirement and demand for high-grade construction materials.

3.22 The current planning application is for the establishment of a greenfield sand and gravel pit operation. The proposed pit is located in an area favourable to extraction activity and it is considered that the proposed sand and gravel extraction operations at this location can be justified on the following basis:

- use of the sand and gravel will be solely for use in the production of concrete thereby maximising its potential use and value;
- ongoing and continued increases in the level of construction and development activity in the surrounding region is generating ever increasing demand for construction materials;
- the favourable location of the application site, close to the existing Kilsaran concrete batching facility adjacent to the application site;
- the favourable location of the site (and the existing concrete batching facility) with access onto R108 regional road and the national motorway network, in particular the M1 motorway;
- the proposed development will result in a total annual road distance saving of c. 248,860km, with a consequential and beneficial reduction in carbon emissions of 177,353 kg CO2eq. by eliminating the current operational set-up whereby the aggregate supply to the current batching facility is sourced from Annagor to the north (c. 20km distance one-way) and Ballynamona, near Summerhill (c. 40km distance one-way).
- history of sand and gravel extraction in this general geographic location;
- best practice industry standard extraction methods can be used;
- proposed development to be carried out by a long established and experienced operator in the extractive and concrete manufacturing industry with a proven track record in planning, environmental compliance and site restoration works within their quarry portfolio.

DO NOTHING ALTERNATIVE

3.23 If no future works or development is undertaken within the application site, the existing landform will remain in its current agricultural form.

ALTERNATIVE SOURCES

3.24 In the medium term there are no real alternatives to the current land-based sources of construction aggregates.

3.25 The demographic spread of the population, results in few large urban centres generating sufficient volumes of suitable construction and demolition (C&D) waste to supply significant volumes of recycled / secondary aggregates.

3.26 For the foreseeable future there are no real alternatives to primary land-won aggregates. At present, the use of secondary (recycled) aggregates in Ireland is at an early stage in development. The volume of C&D waste suitable for recycling into secondary aggregates is low in comparison to the overall demand for aggregates. The demographic spread of the population results in only the large urban centres generating sufficient volumes of construction and demolition (C&D) waste to justify a commercial operation producing secondary aggregates.

3.27 In the longer term, there may be some scope for extraction of sand and gravel from marine sources.

3.28 In the absence of a significant increase in the sources of recycled / secondary and marine sources, it is clear that land-based deposits (such as the proven reserves at Rathcore) will continue to be the main source of construction aggregates in the surrounding region.

ALTERNATIVE LOCATIONS

3.29 This development is not like a factory or other commercial enterprise that can be located at many potential locations. It is a resource-based development and therefore the aggregates can only be worked (extracted) where they are present in-situ, as acknowledged in Section 9.11 of the Meath CDP 2021-2027.

3.30 It is further recognised within paragraph 4.13 of the *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* prepared by the Department of Housing, Planning and Local Government in August 2018:

"For example, some projects may be site specific so the consideration of alternative sites may not be relevant."[2]

3.31 Aggregates can only be worked where they exist and where the environmental effects of working them can be minimised. However, this is not the only prerequisite which determines a suitable location for an aggregates site. Others include a willing seller, distance from market, required quality and quantity to justify capital investments, etc. It is usually the case that a number of these prerequisites are not met, and the alternative is discounted.

3.32 The continuous provision of aggregates is essential to meet the needs of society. As reserves of sand and gravel and rock are finite resources and eventually become exhausted at their location, it is therefore necessary for quarry operators to continually seek out new greenfield sites in tandem with maximising extraction at existing established sites. Both options are essential and required to replace existing supplies that are being worked out and to provide a security of supply of aggregates and building materials to the construction sector.

3.33 Kilsaran Concrete actively look for replacement and alternative supply aggregate sources and development sites within the general north-east region on an ongoing basis in order to continue their business and replace existing supplies that are being worked. Potential sites have been investigated to varying degrees. The vast majority were discounted for the following reasons:

- their potential environmental effects;
- high clay content within the deposit;
- poor access down unsuitable county roads;
- too far from the intended market (excessive haulage); or
- proximity to built-up areas.

3.34 Notwithstanding the continual search for suitable development sites, the lands at Naul contain a suitable sand and gravel reserve. The site is deemed appropriate for the following reasons:

- in close proximity to the existing established concrete batching facility, which will eliminate excessive haulage of aggregates to the plant from outside the area;
- suitability of the sand and gravel reserve;

[2] Guidelines for Planning Authorities and An Bord Pleanála on carrying out EIA, August 2018

- extent of the lands within the applicant's control;
- access and road infrastructure with proximity to the national road network and key transport corridors, namely the M1 motorway;
- low environmental impact: no recorded monuments within the application area; and not within a designated ecological or landscape area. Phased extraction and restoration of the development can assist with minimising the impact of visual intrusion on the local area.

ALTERNATIVE DESIGNS / LAYOUTS

3.35 Alternative designs, including alternative layouts within the site were considered, with particular attention being paid to the phased extraction of the development. The design and phased layout that was chosen is considered to best minimise the potential impacts on the environment from noise, dust, visual and landscape impacts.

Phasing of Works

3.36 The position of the processing plant in the southern part of Phase 1 and which will be established at a lower elevation to the surrounding lands was considered the most suitable location, as effective visual and acoustic screening will be provided by the surrounding pit faces and the retention of the existing field boundaries until the final phase of extraction.

3.37 A number of phasing options have been considered for the extraction of the sand and gravel. These options looked at the direction of working; optimising the extraction scheme (topsoil stripping of the full extraction site or stripping on a phased as-needed basis); and ensuring that progressive restoration of areas could be commenced as soon as possible following commencement of extraction.

3.38 The design and phased layout that was chosen (as detailed on **Figure 2-3** in Chapter 2) is considered to best minimise the potential impacts on the environment from noise, dust and visual impacts, along with allowing for restoration to be commenced at the earliest opportunity.

Residence Consideration

3.39 The proposed phased extraction scheme will be worked at a distance of c. 220m from the closest residential properties located to the west of the site. The intervening dense hedgerows, both along the application site boundary and at the rear of the residences will also provide acoustic and visual screening. Further to this, no extraction operations are planned for Saturdays, Sundays or Public Holidays.

Ecological Consideration

3.40 It is proposed to work the sand and gravel pit in 3 phases so that it will lead only to a gradual land take over a period of 11 years, instead of immediate overburden stripping and extraction over the full extraction footprint. This gradual land take will not have a dramatic or sudden impact on the fauna of the area, instead it will allow them to adapt to the pit workings and relocate to adjoining lands for the duration of the proposed development. The majority of the internal hedgerows will be retained and only removed during the final Phase 3 extraction period, thereby minimising the time-period between their removal and new hedgerows being planted.

3.41 The progressive and temporary loss of agricultural lands and hedgerows within the application site will be mitigated against, and compensated for, through the provision of progressive restoration of each phase following extraction, and the replanting of hedgerows.

Landscape & Visual Consideration

3.42 The proposed pit will be worked in mainly a southerly direction and in defined phases in order to minimise the land disturbance at any one time, particularly in views from the south, northwards towards the application site. The proposed position of the processing plant on the pit floor in Phase 1 is considered the most suitable, as effective visual and acoustic screening will be provided by the retention of the adjacent hedgerows and the existing intervening land occupied by the archaeological buffer zone.

3.43 As the pit will be worked in a phased manner with only a gradual removal of the topsoil / overburden as and when is required, also results in the internal hedgerows being retained for as long as possible.

ALTERNATIVE PROCESSES

3.44 Kilsaran is primarily a concrete manufacturing company with expertise and experience in the field of quarrying, aggregates production, concrete manufacturing, road surfacing materials manufacturing and road making.

3.45 The consideration of alternative processes is confined to alternative manufacturing process for the products that will be produced at the site. In general, the alternatives are only subtly different.