May 2025

Non - Technical Summary ('NTS')

Volume 1

Application for Continuation of the Murrens Quarry

JJ Flood & Sons Manufacturing Limited

Murrens Quarry Oldcastle, Co. Meath

MALONE O'REGAN ENVIRONMENTAL

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Title: Non - Technical Summary ('NTS') Volume 1, Application for Continuation of the Murrens Quarry, JJ Flood & Sons Manufacturing Limited, Murrens Quarry Oldcastle, Co. Meath

Job Number: E2343-02

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Revision Record

Issue No.	Date	Description	Remark	Prepared	Checked	Approved
01	12/05/25	NTS	Final	NT	LMG	KG

Non - Technical Summary ('NTS') Volume 1
Application for Continuation of the Murrens Quarry
JJ Flood & Sons Manufacturing Limited
Murrens Quarry Oldcastle, Co. Meath

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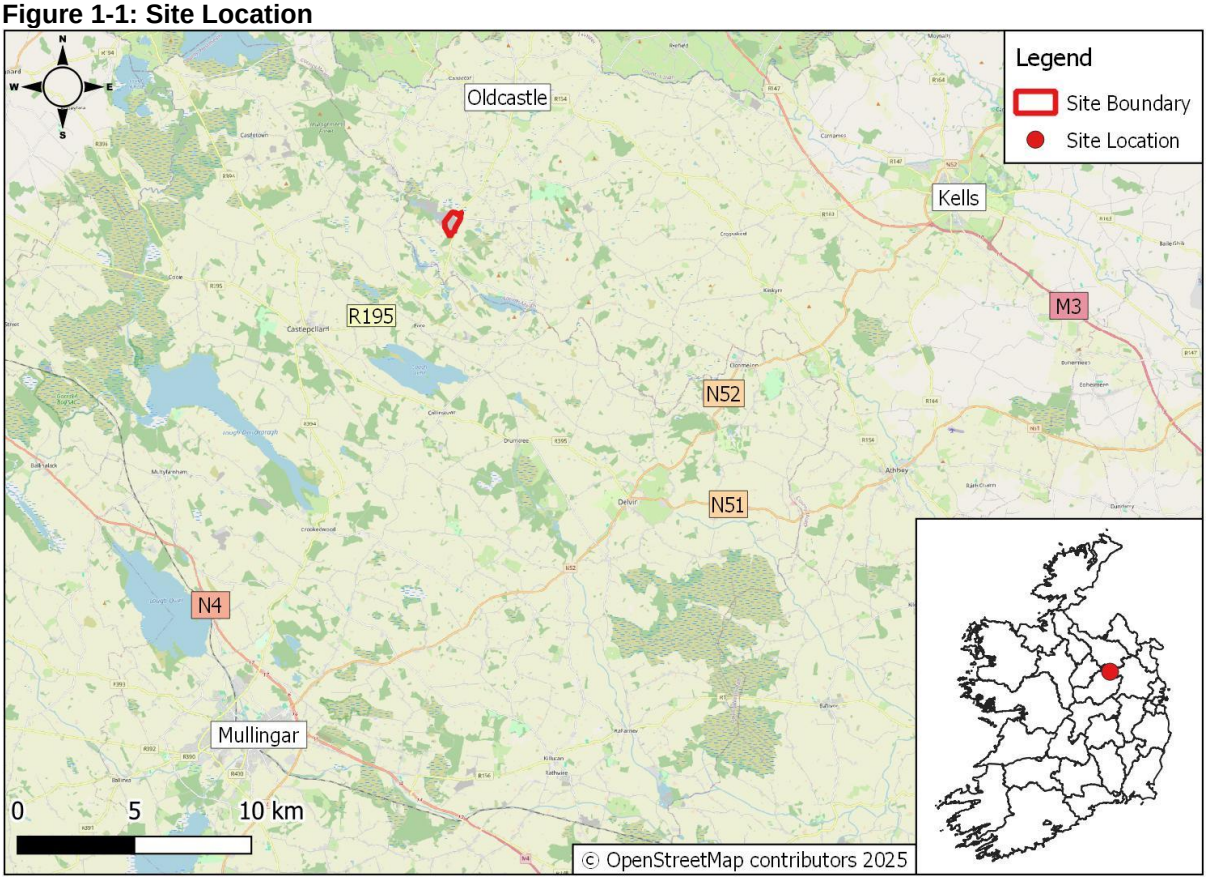
1 INTRODUCTION

1.1 General

Malone O'Regan Environmental ('MOR Environmental') have been commissioned by JJ Flood & Sons Manufacturing Ltd ('the Applicant') to prepare an Environmental Impact Assessment Report ('EIAR') as part of a planning application to An Bord Pleanála ('ABP') for future development at the Murrens Quarry ('the Site') in the townland of Murrens, Oldcastle, Co Meath, (ITM 652523 774771). See Figure 1-1 below for site location and context. The Site covers an area of circa ('ca.') 40.12 hectares ('ha').

Figure 1-1: Site Location



In 2005, the quarry was registered under Section 261 of the Planning and Development Act ('PDA') 2000, and Meath County Council ('MCC') imposed conditions to its future operations pursuant to Section 261(6) of the PDA 2000.

Substitute Consent is being sought under Section 177E of the Planning and Development Act, 2000, as amended, to regularise a ca. 39ha area of land within the Applicant's landholding which has been subjected to gravel and soft rock extraction and processing. The application for substitute consent was submitted to An Bord Pleanála ('ABP') on the 31st March 2025, case number ABP-322189-25. Further details are in chapter 2.2 below

Following the submission of the substitute consent application, this EIAR has been prepared in support of a planning application for future development and restoration of the same quarry. Future development of the quarry will involve continuation of quarrying activities, site preparation works and extension of extraction activities into a greenfield site and restoration works over the full Site ('the Proposed Development').

This Non-Technical Summary ('NTS') document constitutes Volume 1 of the submitted EIAR. The NTS provides a summary in non-technical language of the information contained within

the EIAR (Volume 2). Supporting technical documents can be found in the Appendices (Volume 3). It should be noted that the phrase 'not significant' is a term that means that the activity or impact referred to will have effects, but that these will not cause any unacceptable environmental effects or be a nuisance to persons or companies in the area.

1.2 The Applicant

David Flood is the director of J.J. Flood & Sons Manufacturing Limited, a company based in Oldcastle, County Meath. Under his leadership, the company has continued to thrive in the manufacturing sector.

J.J. Flood & Sons Manufacturing Limited was established on October 4, 1994. The company operates out of Carnaross, Kells, in County Meath, and has maintained a strong presence in the industry for over three decades. The company is known for its commitment to quality and innovation in manufacturing, which has helped it build a solid reputation in the market.

They specialise in the manufacturing of concrete products for construction purposes, which broadly includes:

- Concrete Blocks: Used in various construction projects for building walls and foundations;
- Paving Products: Includes concrete paving stones and slabs for outdoor spaces; and,
- Aggregates: Sand, gravel, and other aggregates used in construction and landscaping.

The Site has been a significant part of the company's operations, primarily involved in the extraction of sands, gravels and soft rock by mechanical means. Activities at the Site involve the extraction of stone, its processing, grading, washing, and short-term storage.

J.J. Flood & Sons Manufacturing Limited continues to be a key player in the manufacturing sector locally and regionally.

1.3 Overview of the Site and Context

The Site is used to extract and process gravel and stone by mechanical means, with origins prior to 1963. The Site entrance is located in the northernmost corner of the Site. The Murrens Quarry includes the following:

- Extraction area;
- Dry mobile screening plant;
- Aggregates washing plant;
- Semi-mobile crushing plant;
- Settlement canal system;
- Associated settlement ponds;
- Stockpiles of aggregate;
- Site access road;
- On-site haulage routes;
- Site office and toilets;
- Wastewater treatment and percolation;
- Storage shed;
- Maintenance Shed;
- Two fuel tanks;
- Vehicle parking;
- Weighbridge; and,
- Aggregate additives for making 'arena footing'.

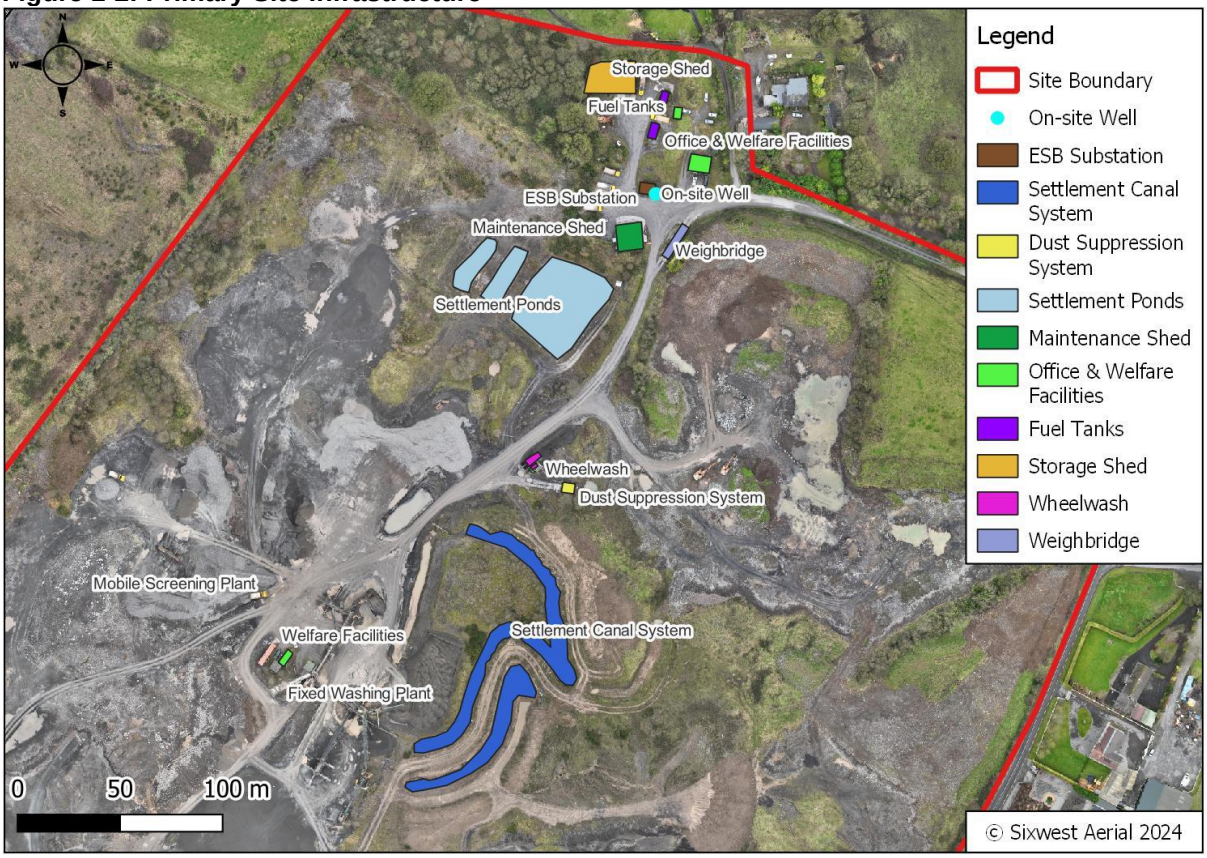
The Site covers the majority of the land holding. The Site is primarily comprised of exposed gravel deposits and exposed bedrock, with the main processing area located centrally, along with the settlement canal. See Figure 1-2 below for the Site layout and primary infrastructure.

The Site is situated ca. 5.5km south of the town centre of Oldcastle and ca. 7.3km northeast of the town centre of Castlepollard, which are connected by the regional road R195, which passes along the eastern boundary of the Site.

The R195 runs in a north-to-south direction and connects to the R194 west of Virginia town, ca. 14.5km to the north of the Site. The R195 immediately to the east of the Site provides the primary transport route for Heavy Goods Vehicles ('HGVs') accessing and egressing the Site.

The lands around the Site are primarily agricultural, with scattered single-dwelling developments along the regional road and the access road to the Site. The western boundary of the Site is shared with an adjoining quarry development, with an embankment of untouched ground separating the two developments. To the south is a forested area.

Figure 1-2: Primary Site Infrastructure



1.4 Environmental Impact Assessment Report

The EIAR has been prepared in accordance with all relevant legislative and best practice guidelines in support of the planning application.

2 PLANNING CONTEXT & NEED FOR THE PROPOSED DEVELOPMENT

2.1 Planning History at the Site

The Site has a substantial history of quarry activities, with accepted pre-1963 origins. It is important to note that this EIAR has been limited by the availability, completeness and accessibility of publicly available data from the period of time applicable to the Proposed Development. Relevant historical planning applications are listed in Table 2-1 below.

Figure 2-1: Relevant Planning Application History

Planning Reference	Applicant	Development	Decision	Grant Year
971223	J.J. Flood	New entrance	Granted (Conditional)	1997
98967	J.J. Flood & Sons Ltd.	To construct an MV E.S.B. sub-station in the existing quarry	Granted (Conditional)	1999
ABP 322189-25	JJ Flood & Sons Manufacturing Limited	Substitute Consent application for historic activities supported by EIAR.	Live application 2025	

2.1.1 Section 261 Registration

Section 261 of the Planning and Development Act 2000 introduced a new system of once-off registration for all quarries. At the time of its introduction, many of the quarries in operation had a history of operation that predated the introduction of the Local Government (Planning and Development) Act, 1963 which came into force on 1st October 1964.

The purpose of Section 261 was to give local authorities an idea of the scale of quarrying activity in their area as well as basic information about a quarry's operation. It also allowed, where necessary, for local authorities to impose new or modified controls on quarry operations. Murrens Quarry was registered under Section 261 in 2005 and was given the reference QY35, with Meath County Council issuing 23 conditions for its operation in 2007.

2.2 Section 261A

In 2012, in accordance with its obligation under Section 261A of the amended legislation, MCC conducted a review of the registered quarry QY35 and directed the quarry to apply for Substitute Consent. This determination was appealed to ABP, who in 2013 upheld the Council's decision (ABP Ref. QV17.0015).

In respect of the need for Appropriate Assessment ('AA'), ABP specifically noted in their Determination:

> *(c) the potential cumulative impact on these European sites of quarrying operations at this site and an adjoining location (planning authority register reference number QY24); and,*
>
> *(d) the uncertainty regarding the hydrological linkages between this quarry and the European sites.*

ABP upheld MCC's decision. The applicants maintained that ABP's decision was also invalid. They also maintained that section 261A of the PDA 2000 was unconstitutional in failing to provide for adequate procedures in a process which, they said, wrongly and unfairly removed rights which were "vested" in it pre-1964.

On 20th April 2020, the judgement of Ms. Justice Ní Raifeartaigh[1] rejected the submission that MCC was not entitled to issue a direction to the applicants to apply for substitute consent in circumstances where it had previously imposed conditions which envisaged further quarrying for 20 years following the quarry's registration under Section 261. She also found that the legislation was not unconstitutional for the reasons put forward by the Applicant.

Following the judgement, MOR Environmental were contracted in 2024 to prepare a Remedial Environmental Assessment Report ('rEIAR') and Remedial Appropriate Assessment ('rAA') to support a substitute consent planning application for the Site. This application follows the application for substitute consent, with an aim to obtain permission for future development and restoration of the Site. Future works involve the continuation of quarrying activities, site preparation works and extension of extraction activities into a greenfield site and restoration works over the full Site.

2.3 Planning Context

The planning context of the Proposed Development has been considered, and aligns wit all national, regional, and local planning contexts, including the following key documents:

- The National Planning Framework ('NPF') [1];
- The National Development Plan 2021-2030 ('NDP') [2];
- Regional Spatial and Economic Strategy ('RSES') 2020-2032 [3]; and,
- Meath County Development Plan 2021-2027 ('CDP') [4].

2.4 Need for the Development

The Proposed Development would continue to facilitate County Meath's future development by providing high-quality soft rock aggregate products to the local, regional and national construction industry. Thus, the Proposed Development would reduce the need to import material and construction products from outside the county, which would potentially reduce pressure on regional and national supplies.

The Site and associated development have facilitated the local area's economy through direct local employment. If the Site cannot be brought into compliance, the long-term future of the Site and associated jobs are at risk.

The policies and objectives of the local and strategic plans for the Eastern and Midlands Region, as outlined in Section 2.4 above, target the economic and infrastructural development of the region. These plans will require the supply of good-quality aggregate material from a selection of competitive quarry operators and quarry sites. It is considered that the Proposed Development is aligned with the objectives / policies of the NPF, NDP, RSES, and CDP.

[1] Source: https://ie.vlex.com/vid/flood-sons-manufacturing-ltd-844293465

3 DESCRIPTION OF THE DEVELOPMENT

The Site has a total area of 40.12ha, and there is a long history of quarrying associated with the Site. The Site has evidence of pre-1963 origins. The Site has been in possession of the Applicant since the commencement of works and continues to be in regular use.

The entrance gate to the Site is off the R195 regional road on the east boundary. The Site office and welfare facilities, storage shed, maintenance shed, fuel tanks and vehicle parking are located in the northern portion of the Site. The Site is comprised of the following infrastructure:

- Extraction area;
- Dry mobile screening plant;
- Aggregate washing plant;
- Semi-mobile crushing plant;
- Settlement canal system;
- Associated settlement ponds;
- Stockpiles of aggregate;
- Site access road;
- On-site haulage routes;
- Site office and toilets;
- Wastewater treatment and percolation;
- Storage shed;
- Maintenance Shed;
- Two fuel tanks
- Vehicle parking;
- Weighbridge; and,
- Aggregate additives for making 'arena footing'. The extraction area comprises most of the Site. Stockpiles are present throughout the quarry floor, and the settlement canal system is located in the centre of the Site.

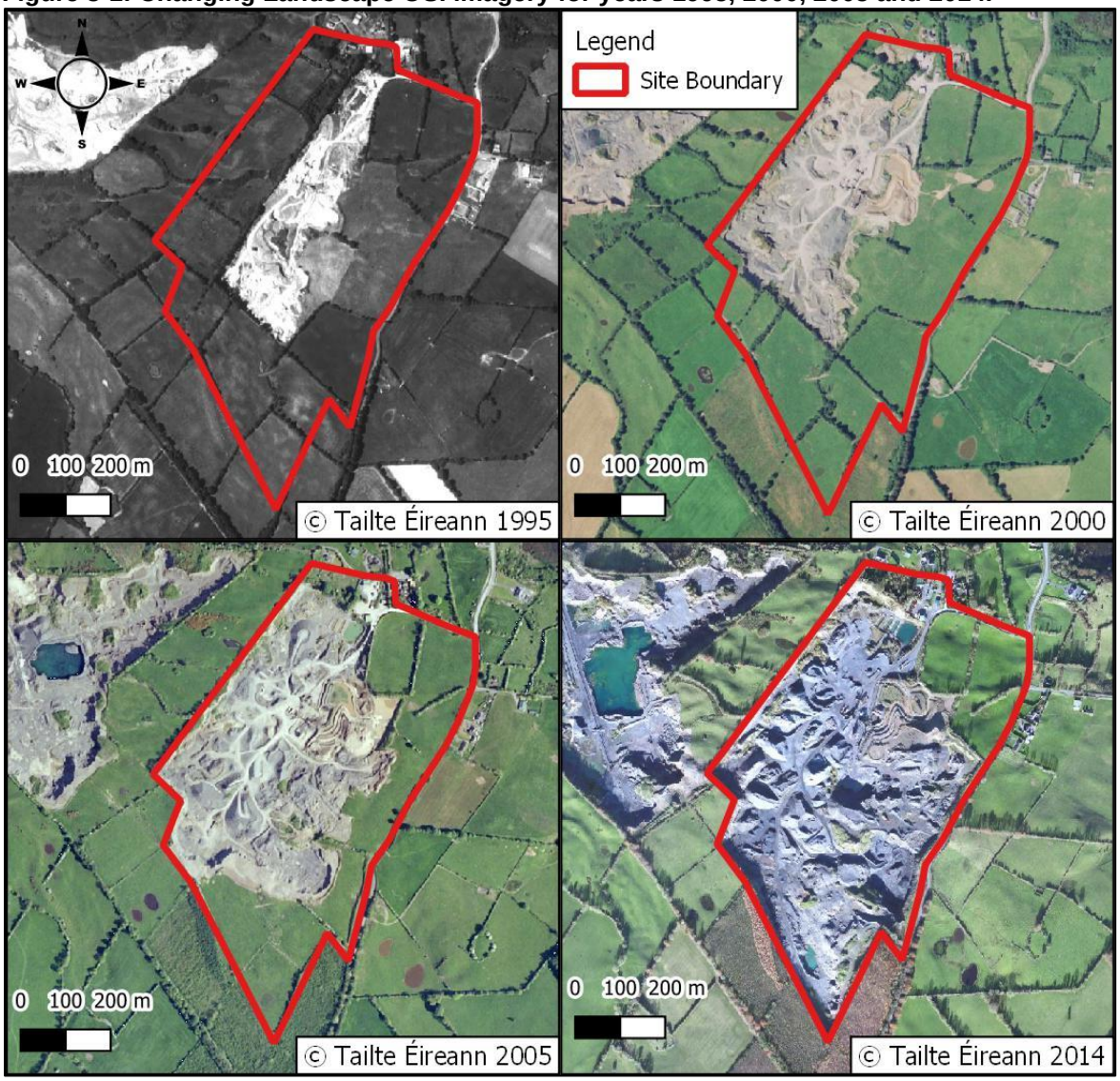
The Site generally comprises an extensive quarry floor with haul routes extending to the aforementioned screening plant and equipment

3.1.1 Historic Activities

The Site is a recognised pre-1963 development, with a fixed plant erected on the Site and current crushing and processing arrangement dating back to the early 1970s. Aggregates were extracted using conventional excavator and shovelling methods which fragmented the soft rock to manageable sizes. Plant and machinery, which operated at the quarry, consisted of tracked excavators and dumps trucks which transported material. Ancillary plant such as a tractor and bowser were deployed when required.

OSI aerial photography was observed for the years 1995, 2000, 2005 and 2014. Figure 3-1 below shows an aerial image from each of these years. There is an increase in exposed land from 1995 to 2014, with the exposed ground area increasing approximately three-fold. The aerial photography from 2014 shows the Site much in the way that it is now.

Figure 3-1: Changing Landscape OSI imagery for years 1995, 2000, 2005 and 2014.



Processing consists of the breaking of the excavated rock and the repeated crushing and screening of the aggregate to produce the required aggregate sizes. This requires the use of various plant such as tracked excavators, rubber tyred loading shovels and a variety of crushers and screeners.

3.1.2 Current Activities

Work at the Site has been restricted until the application for substitute consent, case reference number ABP-322189-25, is determined and further authorised for prospective development, through the submission of this EIAR, with existing open areas of partial development being worked above the water table only, as well as substantial historical stockpiles.

The current active sand and gravel pit is currently being processed, but at a reduced scale compared to historic production levels. Currently, aggregates are being sourced from extensive onsite stockpiles until substitute consent is brought into compliance and the Site is further authorised for prospective development, pending this application.

3.1.3 Operational Details

The Site currently employs ca. 9 full-time onsite employees. Operational hours associated with the Site are:

- Monday to Friday 07:00 – 19:00;
- Saturday 07:00 – 14:00; and,
- Sunday & Public Holidays closed.

3.2 Utilities

The quarry has existing telecommunications, an ESB and an existing potable water supply that serves office facilities. Foul water for the office is collected and treated in a septic tank before it goes to a soakaway.

There is an ESB sub-station located in the northern section of the Site that provides mains electricity for site operations.

3.2.1 Site Drainage

Surface water run-off is collected in the onsite canal settlement system and settlement lagoons located in the centre and the northern section of the Site. Water is pumped from the settlement pond system at the north of the quarry floor to the screening plant in the centre of the Site, which is then collected at the settlement canal and pumped back to the northern settlement pond. A hydrological / hydrogeological assessment has been carried out on the Site, considering the current water regime

3.3 Remediation Measures

As part of this application, a restoration plan has been developed. The restoration plan aims to create various habitats, including ponds, wet meadows, a woodland, hedgerow / treeline and low nutrient landscapes. Restoration works will be carried out in tandem with operational activities and will involve the importation of non-waste inert soils.

4 ALTERNATIVES CONSIDERED

Alternative options considered by the Applicant when deciding to progress with the Proposed Development were investigated under the following alternative considerations:

- Location;
- Layout; and,
- Design.

4.1 Alternative Location

As an established quarry and associated processing development area, the selection of alternative locations, particularly green field development, was rated lower, as the knowledge of the quality of the available aggregate resource at this location was well established, along with all necessary infrastructure on the Site to meet market requirements. As such, the process of screening a greenfield or alternative location development elsewhere was not a reasonable alternative. An alternative location for the Site was not considered.

4.2 Alternative Layout

Due to the nature of the EIAR, an alternative layout for the Site was not considered, as the current layout was developed through its design for efficient extraction, movement and production of material / aggregate within the Site and established water settlement canal

system. The established interconnection of various activities within the Site and the storage of raw and processed aggregate are key elements of the onsite layout. Although there are options to reorganise this layout, the environmental effects do not show clear long-term improvement over the existing layout. Additionally, the environmental and financial costs of reorganising are higher than maintaining the status quo.

4.3 Alternative Design

4.3.1 Access

A review of the surrounding road network was undertaken as part of the assessment of alternative access points. The Quarry has a singular access point, off the L68185 local road, which connects to the R195 to the northeast of the Site. This access route is well established at the Proposed Development. As such, an alternative access was not given further consideration as a viable alternative.

4.3.2 Process

There are limited processes suitable for the extraction and screening of aggregate material. The aggregate extraction, for developments of this scale, can typically require the use of loading shovels and dump trucks.

Alternative variations, through the use of variations to plant onsite, i.e. different brands / sized machinery, are not seen as cost-effective. The existing plant have been in operation within the Site with no environmental issues recorded. They are well-maintained with a documented service history. Therefore, no alternative processes are considered to be appropriate for the Proposed Development.

4.4 Complete Restoration

Complete Site restoration was not considered as the Site remains a viable source of aggregates, which positively contribute to national supply and demand. This option would lead to a loss of important aggregates from the Site and would negatively affect the economy of the local area.

4.5 'Do Nothing' Option

A 'Do Nothing' option would bring no economic or environmental benefit to the Site or the local and regional area. This scenario would mean leaving the Site in its current state with stockpiles across the Site and plant unused. It would also mean that viable and in-demand aggregates are not extracted. This would negatively affect the local economy of both the area and the Site operator / the Applicant, as local employment would cease at the Site, and the supply of in-demand aggregates would cease. There would be no environmental benefit from the 'Do Nothing' option, as stockpiles would be left onsite, and no action would be taken to offset potential effects from historical activities. The 'Do Nothing' scenario also means there would be no potential for future use of land at the Site.

5 POPULATION AND HUMAN HEALTH

Murrens Quarry has been an important local employer since extractive work began at the Site, and no complaints have been lodged with the owner or with MCC. The Applicant has confirmed there have been no accidents or incidents associated with the Site. The Proposed Development is not a health-related project and will not create additional specific demands on the local health infrastructure.

It is considered that the Development is aligned with the objectives / polices of the:

- National Planning Framework ('NPF');
- National Development Plan ('NDP');
- Regional Special and Economic Strategy ('RSES'); and,
- Meath County Development Plan ('CDP').

5.1 Indirect Effects

The Proposed Development has a positive indirect impact in regard to continued local employment.

The Proposed Development will continue to have a neutral-to-slight, positive, long-term effect regarding indirect local and regional employment, such as:

- Operational staff;
- Machinery maintenance and facility upkeep; and,
- Health and safety specialists.

The residual effect with regard to human health has been long-term and not significant to imperceptible.

5.2 Residual Effects

The residual effect will have a positive long-term impact on the local economy and employment as well as the wider economy, due to the proposed continuation of works at the Site. The residual effect with regard to human health and safety will be not significant given all of the control measures that will be put in place, the low sensitivity of the local population and the lack of impact on health services.

6 BIODIVERSITY

A comprehensive suite of ecological surveys and assessments, based on best practice guidance, were conducted at the Site. The assessments considered the full life cycle of the Proposed Development, including the preparation, operational and restoration phases. The Site was assessed by suitably qualified MOR Environmental ecologists. Two Site walkovers were conducted to assess the extent and quality of habitats present. The field surveys conducted onsite were extended to also identify the potential for these habitats to support other features of nature conservation importance and protected species (bats, breeding birds and amphibians).

A separate Appropriate Assessment Screening Report ('AA') has been produced, which evaluates the likely significant effects of the Proposed Development on Natura 2000 sites. There are no designated ecological sites within the Site boundary, and 11 European sites are located within 15km of the Site. From the assessment, it is concluded that the Site is not directly connected with or necessary to the management of a Natura 2000 site. It is also concluded that the Proposed Development, either alone or in combination with other plans or

projects, will not result in any significant adverse effects on any European sites or any of their designated features of interest

There are no Natural Heritage Areas ('NHA's) located within 5km of the Site. There are four proposed Natural Heritage Areas ('pNHA') located within 5km of the Site. There are no direct connections or impact pathways between the Site and these pNHAs.

6.1 Habitats

The Site was primarily comprised of exposed bedrock and ca. 1.02ha. of grassland in the northeast, with the main quarry processing area located centrally, along with a settlement canal. Steep quarry faces were also a key feature of the habitat.

Areas of scrub, recolonising bare ground and waterbodies/ponds were also dotted around the Site with a small mixed native woodland located in the northern section. Hedgerows and managed hedgerows were located along the majority of the Site boundaries, with some intersecting the Site. The recolonising bare ground had primarily formed over historic stockpiles, which were created as a result of previous quarry activities.

The Proposed Development will result in the loss of the agricultural grassland field, five of 14 ponds, along with the historic stockpiles, over its lifetime. It may also result in disturbance to hedgerow habitat that will be located within close proximity to the proposed new extraction areas.

The proposed loss of the agricultural grassland field, the recolonised stockpiles along with a very small section of scrub are not considered to be significant given the low ecological value of these habitats.

However, the loss of some pond habitat will reduce available habitat for amphibian species, which were identified onsite. In addition, any disturbance to hedgerow onsite will impact on species that use this habitat for activities such as foraging, nesting or commuting purposes. Therefore, mitigation and restoration measures have been included in the Biodiversity Chapter to ensure the protection of any species utilising potentially impacted habitats and to replace the ponds that will be removed. Specific mitigation measures have been included for hedgerow / treelines. The Restoration Plan will also include habitat creation across the Site and includes a proposed new woodland, new hedgerow planting, ponds / wetland, wet meadow, scrub retention and the restoration of the quarry habitat to a low nutrient landscape. The Restoration Plan will also be aligned with the phases of the Proposed Development, which will allow commencement of some restoration works pre commencement and during phase 1 and throughout phase 2 and phase 3.

The creation and protection of on-site habitats will ensure that the Proposed Development does not have a significant negative effect on biodiversity. As such, the impact of the Proposed Development on habitats is considered to be not significant.

6.2 Fauna

Following the initial assessment of the Site and to ensure a comprehensive assessment of the potential impacts of the Proposed Development the following surveys were undertaken on the Site: Amphibian surveys, peregrine falcon and sand martin surveys, breeding bird surveys and a badger survey. These surveys covered various areas within the Site boundary.

The Site was considered to have suitable habitats for amphibians (common frog and smooth newt) which were identified in 12 of the 14 ponds which were present during the Site walkovers. Refer to Chapter 6 – Appendix 1 within Volume 3 of the EIAR for a separate Amphibian Report which outlines detailed results of the targeted surveys undertaken on the Site.

A total of 28 bird species were recorded during the breeding bird surveys conducted by MOR Environmental Ecologists. No species were confirmed to be breeding, and a number of species were considered possibly breeding.

The Study Area was not considered suitable for badger, bats, otter, hedgehog or Irish stoat. However, one image of a pine marten was captured during the camera trap survey on the north boundary of the Site. The Proposed Development will not impact this part of the Site. In addition, it is considered that the onsite habitats in general are not suitable for this species, and therefore, pine marten was scoped out for further consideration.

Taking the above into account, the Proposed Development may result in some disturbance to wildlife in the area. Therefore, specific mitigation measures have been included for the protection of amphibians, peregrine falcon, sand martin and terrestrial mammals. Sand martin habitat will be lost as a result of the phased removal of stockpiles from the Site.

The Restoration Plan will also support these potentially impacted species and species in general. The measures proposed include the creation of new pond habitat for amphibians, supervision by the Ecological Clerk of Works ('ECoW') of pond construction and closures taking cognisance of amphibian presence / breeding season, the retention of quarry faces for peregrine falcon and the creation of a sand martin nesting embankment away from main activities (as part of the phased removal of stockpiles). As outlined in Section 6.1 a phased approach to the Restoration Plan has been proposed in line with the staged approach to the Proposed Development. This will ensure measures commence and become effective as soon as possible.

No plant species protected under the Flora Protection Order were recorded within the Site, and no regulated high-impact invasive species were identified. However, biosecurity considerations and measures to prevent the introduction of invasive species onsite will be implemented for the duration of the works.

Considering the nature of the Proposed Development, the mitigation measures to be implemented and the proposed Restoration Plan for the Site, it is concluded that the Proposed Development will be consistent with the National, Local and Municipal planning policies and objectives, and the effect on local biodiversity will be not significant.

7 LAND SOILS AND GEOLOGY

A comprehensive suite of site investigation and assessment, based on best practice guidance, were conducted at the Site. The assessments considered the full life cycle of the Proposed Development, including the preparation, operational and restoration phases. The Site was assessed by suitably qualified MOR Environmental geologist and hydrogeologist. Site walkovers were conducted to assess the geological environment and to determine the intrusive site-specific investigation required. A study area of 2km was used to determine the baseline environment as per the Institute of Geologists of Ireland ('IGI') guidance document [5].

The general land use for the majority of the Site and to the west of the Site is characterised as a 'mineral extraction site'. This corresponds with the Site quarry and neighbouring quarry extraction activities. The northern area of the Site and the surrounding land to the north of the Site is classified as 'land principally occupied by agriculture with significant areas of natural vegetation'. The surrounding land to the east and south of the Site is classified as agricultural areas used for 'pasture'.

The soils and subsoils underlying the site are predominantly fluvioglacial sands and gravels, with cobbles and boulders within the deposits. Cherty, limestone bedrock identified as the Derravaragh Cherts formation, underlies the subsoils throughout the majority of the Site and is exposed at ground level in the east of the Site.

There are no geohazards or EPA-licensed facilities of concern within the study area.

The Site is located within a hummocky landscape which is characterised by geomorphological fluvioglacial features such as eskers and a supraglacial delta. These features form the Murrens Supraglacial Delta and the Finnea-Murrens Esker which are both classified as Geological Heritage Sites and span over 15km from County Westmeath to Meath. These Geological Heritage Sites are considered to be a County Geological Site ('CGS').

No evidence of contamination was observed during a site walkover carried out by MOR Environmental personnel on 13th January 2025 or from soil testing carried out as part of a site investigation in January 2025.

The Proposed Development is expected to have an effect on the soils, geology and the Murrens Geological Heritage Site; however, no 'significant' effects have been identified.

It is noted in the applicable guidelines referred to within the Land, Soils and Geology chapter of the EIAR that the Proposed Development is considered to be of at least "high" importance due to being a moderately to large size existing quarry and having proven economically extractable mineral resources. The fluvioglacial soils and limestone bedrock within the quarry are therefore considered to be of at least "high" importance in terms of being economically extractable mineral resources with a high significance or value on a national scale. Since these soils and bedrock are regarded as of "very high" importance due to their value as an extractable resource, the magnitude of the impact on these soils and bedrock from continued quarrying activities is considered "negligible". Therefore, the significance of the effect of continued quarrying activities is considered "not significant".

The restoration plan proposes to restore the Site to a low nutrient landscape, and hence it is considered that the residual effect on land use, soils and bedrock will be "not significant". Due to the extensive nature of the Murrens Geological Heritage Site and the scale of the Site, the extraction activities on the CGS are also considered to be "not significant".

Considering the nature of the Proposed Development and the carefully considered mitigation measures to be implemented, it is concluded that the effect on the land, soils and geological environment from the Proposed Development will be 'not significant'.

8 WATER

A comprehensive suite of site investigation and assessment, based on best practice guidance, were conducted at the Site. The assessments considered the full life cycle of the Proposed Development, including the preparation, operational and restoration phases. The Site was assessed by suitably qualified MOR Environmental geologist and hydrogeologist. Site walkovers were conducted to assess the hydrological (surface water) and hydrogeological (groundwater) environment and to determine the intrusive site-specific investigation required. A study area of 2km was used to determine the baseline environment as per the Institute of Geologists of Ireland (IGI) guidance document [5].

The Site is located within different Water Framework Directive catchments, sub-catchments and river basins, with a general divide in the north and south of the Site and within the Tynagh Gravels and the Derravarragh groundwater bodies. No hydrological or hydrogeological pathway was identified between the Site (source) and the surface water features (receptors) within the study area. Therefore, under the Source-Pathway-Receptor model, there is no connection identified between the Site and surface waterbodies within the study area. As a result, no effects have been identified on the hydrological environment as a result of the Proposed Development.

The Site overlies a locally important aquifer – karstified ('Lk') bedrock aquifer, and the general area is classified as having high groundwater vulnerability. However, due to the nature of the extraction activities, the groundwater vulnerability rating may be considered to be at least

extreme ('E'). There are no high yielding abstractions, public or group water supplies or water supply source protection areas in connection with the Site. Hence there are no groundwater dependent abstractions of concern in relation to the Proposed Development.

Groundwater level monitoring determined that groundwater flow across the Site is generally in a south to north direction and hence flows away from the protected ecological sites located to the south of the study area (i.e. the White Lough, Ben Loughs and Lough Doo SAC and the Lough Bane and Lough Glass SAC). Therefore, there is no hydrogeological connection identified between the Site and these protected ecological sites.

Results of groundwater quality sampling determined that the water underneath the Site is of good quality, which is in line with the WFD 'good' quality status assigned to the Derravarragh groundwater body. Water use on the Site includes settlement ponds from which water is abstracted for quarrying activities. The used water is discharged into a settlement canal in which fine sediment falls out of solution, and the water then flows by gravity back into the settlement ponds. This water management system allows for the recycling and treatment of water on-site. No water is discharged offsite. This system will continue to be used as part of the Proposed Development.

The main impacts on the hydrogeological environment include a potential increase in the groundwater vulnerability classification and removal of a portion of the bedrock aquifer. The Proposed Development requires extraction of sand and gravel aggregate in the northeast of the Site and bedrock aggregate in the east of the Site. This, in turn, may locally increase the groundwater vulnerability classification from 'high' to at least 'extreme' groundwater vulnerability. The extraction of bedrock aggregate will result in the removal of a small portion of the unsaturated zone of the bedrock aquifer; however, this change will not result in any change to water supplies, river baseflows or ecosystems. Based on the underlying bedrock aquifer type and lack of sensitive groundwater features within the study area, the resultant effects of both impacts will not be significant.

The restoration plan proposes to restore the Site to a low-nutrient landscape with several water features, which includes the settlement canal and settlement ponds. The water management system on the Site will be decommissioned, and the settlement canal and settlement ponds will be allowed to gradually transition to a natural state. This will promote aquatic flora and fauna to develop in these water features, which will have a permanent, positive effect on the water features and associated biodiversity.

Considering the nature of the Proposed Development and the carefully considered mitigation measures to be implemented, it is concluded that the effect on the overall water environment from the Proposed Development will be 'not significant'.

9 AIR QUALITY

The Site Preparation and Operational Phases of the Development were assessed to determine effects on air quality in relation to sensitive receptors and the environment.

The main potential effects from operational activities of the Proposed Development were airborne particulate matter ('PM_{10}') and nuisance dust deposition (Bergerhoff dust).

A baseline air quality study was carried out. The Proposed Development lies within Zone D (Rural Ireland) of the EPA's air quality monitoring network. The closest EPA station to the Development is Cavan Town (Station 78), ca. 32km to the northwest of the Site. In accordance with the EPA's AG4 Guidelines, 2 years of data was used for the background concentration for PM_{10}. The mean annual concentration of PM_{10} at Cavan Town station was 10.5µg/m^3 across this period.

A mineral dust risk assessment was completed in accordance with guidelines from the Institute of Air Quality Management ('IAQM'). This considered both suspended/ambient dust and disamenity/nuisance dust.

The disamenity dust risk assessment identified 12 sensitive receptors and concluded that the potential risk of dust impact on the sensitive receptors resulting from the Proposed Development had been determined as "negligible" for all sensitive receptors except SR6, which had been determined as "low risk".

A risk assessment of suspended/ambient dust (or PM_{10}) was carried out in accordance with IAQM. As Zone D (which is reflective of baseline conditions) has been taken as the background concentration, there is little risk of the annual AQS limit being exceeded and no further consideration of the risk posed by ambient PM_{10} was warranted in a cumulative sense. The effects on ambient PM_{10} concentrations from the Proposed Development were determined to be not significant.

Regarding monitoring, the locations of existing Bergerhoff monitoring associated with the existing Quarry are in place, and it is proposed that four locations (D1-D4) will be monitored around the Proposed Development.

A number of dust management mitigation measures are recommended for the Site in order to reduce the potential disamenity dust effects so that any effects are "not significant". A Dust Management Plan ('DMP') will be prepared for the Site and provided to the Local Authority in advance of works commencing.

Overall, the cumulative effects from the Proposed Development and the adjacent BD Flood Quarry are considered to have a slight adverse effect on the surrounding area. This effect is considered to be 'not significant'. This is based on a consideration of the different magnitudes of effects at individual receptors, the number of receptors that would experience these different effects and the mitigation measures as discussed above, together with the Dust Management Plan and the Bergerhoff monitoring, are considered to be appropriate to mitigate the potential effects.

10 CLIMATE

Greenhouse gas ('GHG') emissions arising from the movement of HGVs associated with the transport of aggregates to market, employee travel to and from the Site, the use of plant and machinery on-site and electricity usage as a result of the Proposed Development. These figures were assessed against the National Second Carbon Budget (2026-2030) and relevant Sectoral Emission Ceilings established in the Irish Government's Climate Action Plan 2021. The Plan's third statutory annual update, Climate Action Plan 2025 ('CAP25'), was adopted on the 15th April 2025.

A desk-based assessment was carried out to determine the effect of the Proposed Development on national GHG emissions in the context of global climate change. GHG emissions arising from plant and equipment use during the Site Preparation works are expected to be short-term (ca.1-2 years) and to use existing plant on-site. As such, the effects of GHG emissions associated with the Site Preparation phase were determined to be 'not significant' in the context of the National Second Carbon Budget (2026-2030) and relevant Sectoral Emissions Ceilings and were not assessed further.

The Restoration Phase of the Proposed Development will occur concurrently with operational activities on-site; therefore, its associated GHG emissions were considered in the assessment of GHG emissions associated with the Operational Phase. As such, Proposed Development's activities and associated GHG emissions were calculated for the Operational Phase, categorised according to Scope 1, Scope 2 and Scope 3 emissions. These were compared to

the National Second Carbon Budget (2026-2030) and the Transport and Electricity Sectoral Emission Ceilings (2026-2030).

The primary source of GHG emissions associated with the Proposed Development was from Scope 1 emissions: the transport of materials and the operation of machinery and machinery movement. The estimation of the tonnes of CO_2e ('e' - equivalent) that were emitted as part of the Operational Phase of the Proposed Development was determined using the most recent conversion factors provided by the Department for Energy Security and Net Zero ('DESNZ'), the Sustainable Energy Authority of Ireland ('SEAI') and the Transport Infrastructure Ireland ('TII') Carbon Tool.

A worst-case scenario in terms of maximum GHG emissions was assessed for HGV movement, based on the maximum daily trips during a peak operational year. Additionally, predicted GHG emissions arising from operational plant use were calculated based on the assumption that plant would run continuously throughout a typical operational week. These assumptions represent an overestimation of GHG emissions to demonstrate no significant effects from the GHG emissions associated with the Proposed Development in the context of the National Carbon Budget and relevant Sectoral Emission Ceilings.

It was concluded that the Proposed Development will have a 'not likely' and 'not significant' effect on the National Second Carbon Budget and the Transport and Electricity Sectoral Emission Ceilings, as set out in the CAP25.

The potential risks of climate change to the Proposed Development have been assessed by completing a Climate Vulnerability Assessment. By utilising available policy and guidance, the vulnerability of assets associated with the Proposed Development to potential climate hazards was determined. The identification of climate hazards relevant to the Proposed Development was achieved through a detailed desk-based review of local, regional and continental scale tools. Based on the results of this Climate Vulnerability Assessment, the effects of climate change on the Proposed Development will be 'not likely' and 'not significant'.

Due to the size and nature of the Proposed Development, there are no potential effects on microclimate in terms of wind tunnelling and shading. As such, the potential effects on microclimate will not be assessed any further in this EIAR.

11 NOISE AND VIBRATION

A comprehensive noise and vibration impact assessment was conducted based on best practice guidance, both statutory and non-statutory noise impact assessment criteria for the Site.

Noise modelling was carried out using iNoise version 2024 software. The noise model has been developed for the Site to incorporate noise emission sources from the Proposed Development. The noise models incorporated the Site-specific noise sources and the layout of the local environment but did not incorporate ambient sources (e.g., road traffic). The model assumed all sources were fully operational for the full working day.

A total of six Noise Sensitive Receptors ('NSRs') were identified in the locality. Ambient noise monitoring of the daytime sound levels was conducted in November 2024. The ambient acoustic environment was found to be influenced by agricultural, transport and quarrying sources, with the overall existing sound levels at the Site being low to moderate in 2024.

The Proposed Development will consist of the removal of existing aggregate stockpiles throughout the Site. This will be a gradual process based on aggregate demand. Phase 2 and Phase 3 will continue the extraction activities at the Site to a maximum depth of 119 mOD.

All NSRs identified will experience less than a $L_{Aeq,1hr}$ of 65dB, due to the distances between NSRs and the site preparation works.

The future acoustic emissions will be similar to ongoing activities within the soft rock quarry. Aggregate processing is the breaking of the larger boulders, the crushing and screening of aggregate and stockpiling of the aggregate and haulage of the aggregate off-site. This is the primary activity within the quarry. No blasting of rock is required or has been undertaken on the Site, nor is it proposed as part of this development.

Two noise models were prepared using specialist acoustic software and determined that noise levels at all NSRs would be below industry standard limits deemed to be 'noise nuisance'.

Noise during any restoration work will be associated with the creation of the ponds, the spreading of topsoil and seed planting. Much of this work will occur within the existing pit floor and will require plant such as tractor, bulldozer, excavator, crane, loading shovel and HGVs. It is not anticipated that this phase will produce noise in exceedance of guidelines.

There have been no reported historic complaints about noise. However, following EPA best practices, annual monitoring will be conducted on site. Four monitoring locations at boundary positions will be assessed for one hour each, with a report prepared by a competent acoustician.

In relation to noise and vibration, the residual effect on NSRs and the environment is deemed to have been long term not significant on a local level, and imperceptible in the wider environment.

12 LANDSCAPE AND VISUAL

A Landscape and Visual Impact Assessment ('LVIA') was undertaken to describe the visual context of the Site and assess the impacts of the Proposed Development on the local landscape in terms of both landscape character and visual amenities.

It is considered that the Site has a 'Low' landscape sensitivity while the wider Study Area has a landscape sensitivity of 'Medium-Low'.

The Visual Impact Assessment examined six viewpoints. Photomontages which assess the Proposed Development from these viewpoints are included in the EIAR Appendices.

The visual impact on the viewpoints ranged from 'Imperceptible' to 'Moderate' before mitigation measures were taken into account.

The effects were deemed to be of Negative quality and the duration of the effect was 'Long-term'.

The main mitigation measure is the siting of the Proposed Development within and adjacent to existing quarries. The Site is a heavily contained landscape context with a high degree of existing nature screening.

Additional planting will take place to bolster the existing hedgerows and to provide screening along the north-eastern boundary of the Site, along the R195 and along the quarry access road. Once mitigation measures were accounted for, visual impact ranged from 'Imperceptible' to 'Slight'.

13 CULTURAL HERITAGE

The Cultural Heritage assessment was undertaken by an experienced archaeologist, Dr Charles Mount. The assessment was carried out via a walkover survey and desktop studies. There are no Recorded Monuments within the Site.

There is one Recorded Monument in the vicinity of the Site – a ringfort (ME014-019----) located ca 111m north of the Site. There will be no direct effect on the ringfort arising from the Proposed Development. The Site is partly visible from the ringfort. The effect on the setting of

the ringfort will be mitigated through the inclusion of a screening hedge on the northern side of the Proposed Development facing the monument.

14 MATERIAL ASSETS – TRAFFIC AND TRANSPORT

Access to the existing Site is via the existing L68185 local road, which provides access to the R195 regional road.

A Traffic and Transport assessment was carried out for the existing R195/L68185 junction. This determined that there would be no likely or significant effects on the junction or the local road network arising from the Proposed Development. The current number of HGV's entering and exiting the Site on a daily basis will not change. The extension to the quarry will not result in an increase of HGV traffic. The local roads infrastructure has the capacity to cater for the past and current traffic loads and therefore there will be no significant effect on the local road network infrastructure.

15 INTERACTION OF ENVIRONMENTAL IMPACTS

In accordance with the EIAR best practice procedures, the cumulative impacts associated with all of the relevant interactions have been addressed in the specific specialist chapters of the main EIAR report.

16 SCHEDULE OF ENVIRONMENTAL COMMITMENTS

As part of the EIAR, all of the mitigation measures arising from each of the individual assessments for implementation were summarised in an overall Schedule of Environmental Commitments, which J.J. Flood & Sons Manufacturing Limited are fully committed to implementing. The implementation of these measures will ensure that the Proposed Development works will not result in any significant adverse effects on the receiving environment.

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