March 2025

Non - Technical Summary ('NTS')

Volume 1

Substitute Consent Application, Murrens Quarry

JJ Flood & Sons Manufacturing Limited

Murrens Quarry Oldcastle, Co. Meath

MALONE O'REGAN ENVIRONMENTAL

QUALITY ISO 9001:2015 NSAI Certified

MALONE O'REGAN

Form ES - 04

MALONE O'REGAN ENVIRONMENTAL

Ground Floor – Unit 3
Bracken Business Park
Bracken Road, Sandyford
Dublin 18, D18 V32Y
Tel: +353- 1- 567 76 55
Email: enviro@mores.ie

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

Job Number: E2343

Prepared By: Niamh Tester **Signed:** _____

Checked By: Kenneth Goodwin **Signed:** _____

Approved By: Kenneth Goodwin **Signed:** _____

Revision Record

Issue No.	Date	Description	Remark	Prepared	Checked	Approved
01	26/03/25	NTS	Final	NT	KG	KG

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

Contents

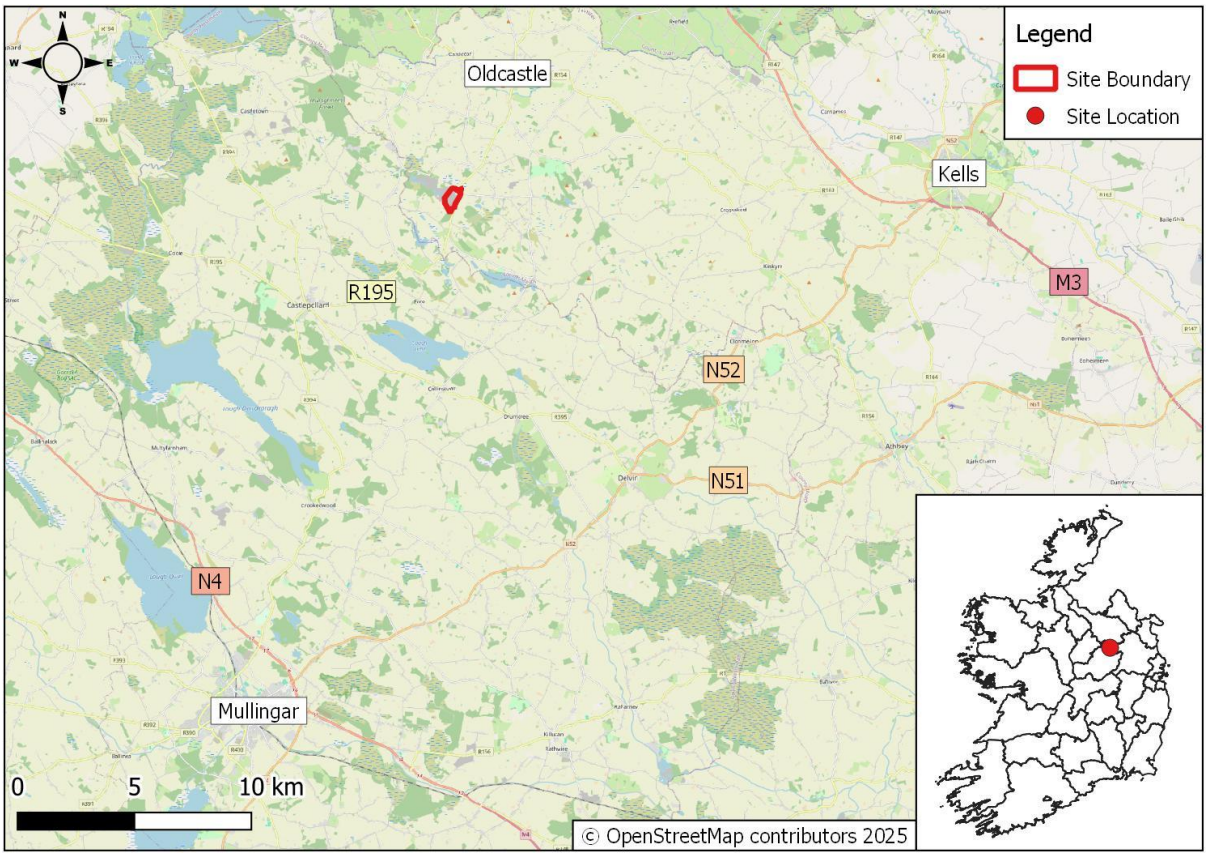
FIGURES

1 INTRODUCTION

1.1 General

Malone O'Regan Environmental ('MOR') have been commissioned by JJ Flood & Sons Manufacturing Ltd ('the Applicant') to prepare a remedial Environmental Impact Assessment Report ('rEIAR') as part of the application to An Bord Pleanála ('ABP') for Substitute Consent for their quarry ('the Site') in the townland of Murrens, Oldcastle, Co Meath, (ITM 652523 774771). See Figure 1-1 below.

Figure 1-1: Site Location



The Site covers an area of circa ('ca.') 39 hectares ('ha'). Substitute Consent is being sought under Section 177E of the Planning and Development Act, 2000, as amended to bring into compliance a 39ha area of land within the Applicant's landholding which has been subject to gravel and rock extraction and processing ('the Development'). This rEIAR has been prepared to support the application for substitute consent to An Bord Pleanála.

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.

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 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 manufacture 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 quarry has been a significant part of the company's operations, primarily involved in the extraction of sand and gravel 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 has been 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 regional road R195. The Murrens Quarry includes the following:

- Extraction area;
- Dry mobile screening plant;
- Wet semi-mobile screening 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'.

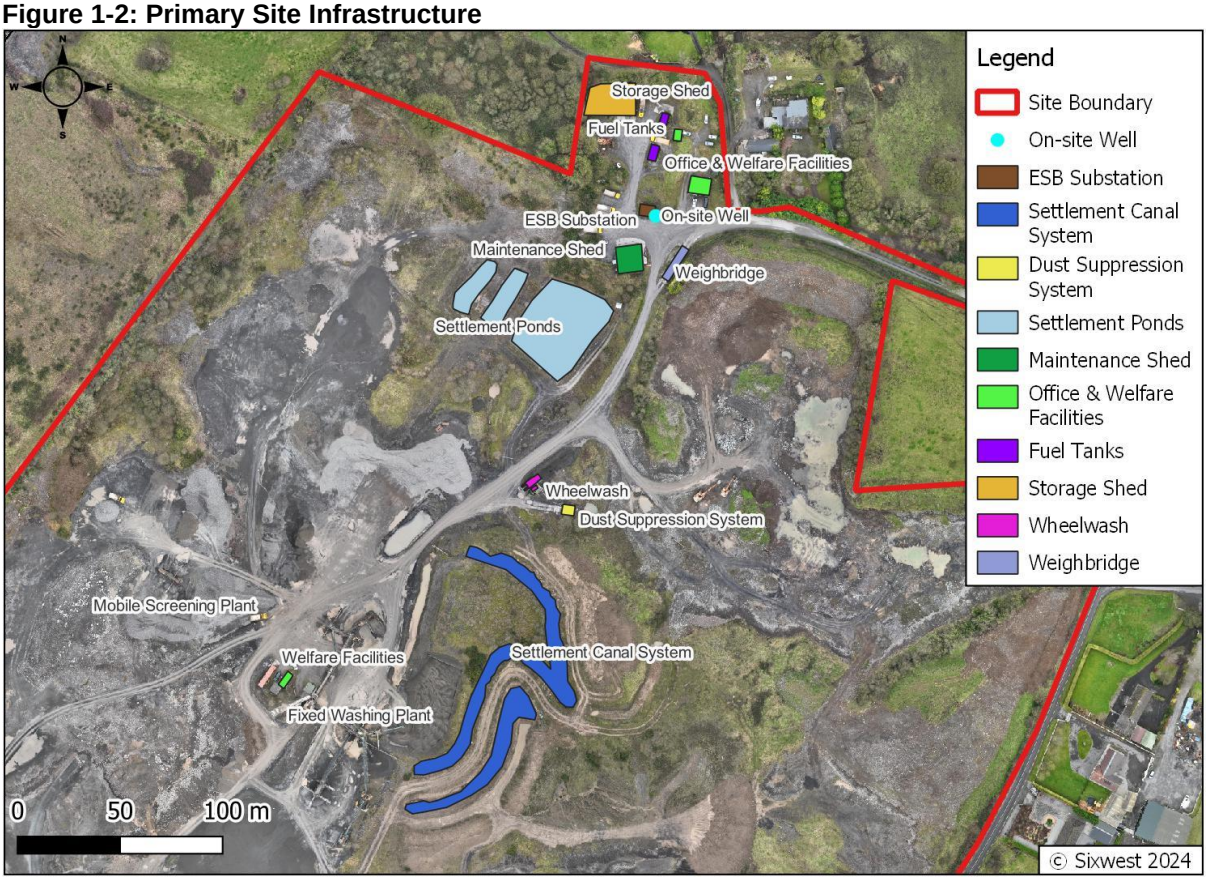
The Site covers the majority of the land holding. The Site is primarily comprised of exposed gravel deposits and exposed bedrock, with the main processing area located centrally, along with the settlement canal. See Figure 1-2 below for the Site layout and primary infrastructure.

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 Virgina 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 remedial Environmental Impact Assessment Report ('rEIAR') 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 rEIAR has been limited by the availability, completeness and accessibility of publicly available data from the period of time applicable to the Development subject to the substitute consent. 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

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

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

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 rEIAR and AA to support a substitute consent planning application for the Site.

2.3 Planning Context

The planning context of the Development has been considered in terms of 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 Site and its associated development would continue to facilitate County Meath's future development by providing high-quality sand and gravel products to the construction industry. Thus, they 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, with ca. 9 full-time employees. 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 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 Development is and was aligned with the objectives / policies of the NPF, NDP, RSES and CDP.

3 DESCRIPTION OF THE DEVELOPMENT

The Site has a total area of 39ha, 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;
- Wet semi-mobile screening 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.

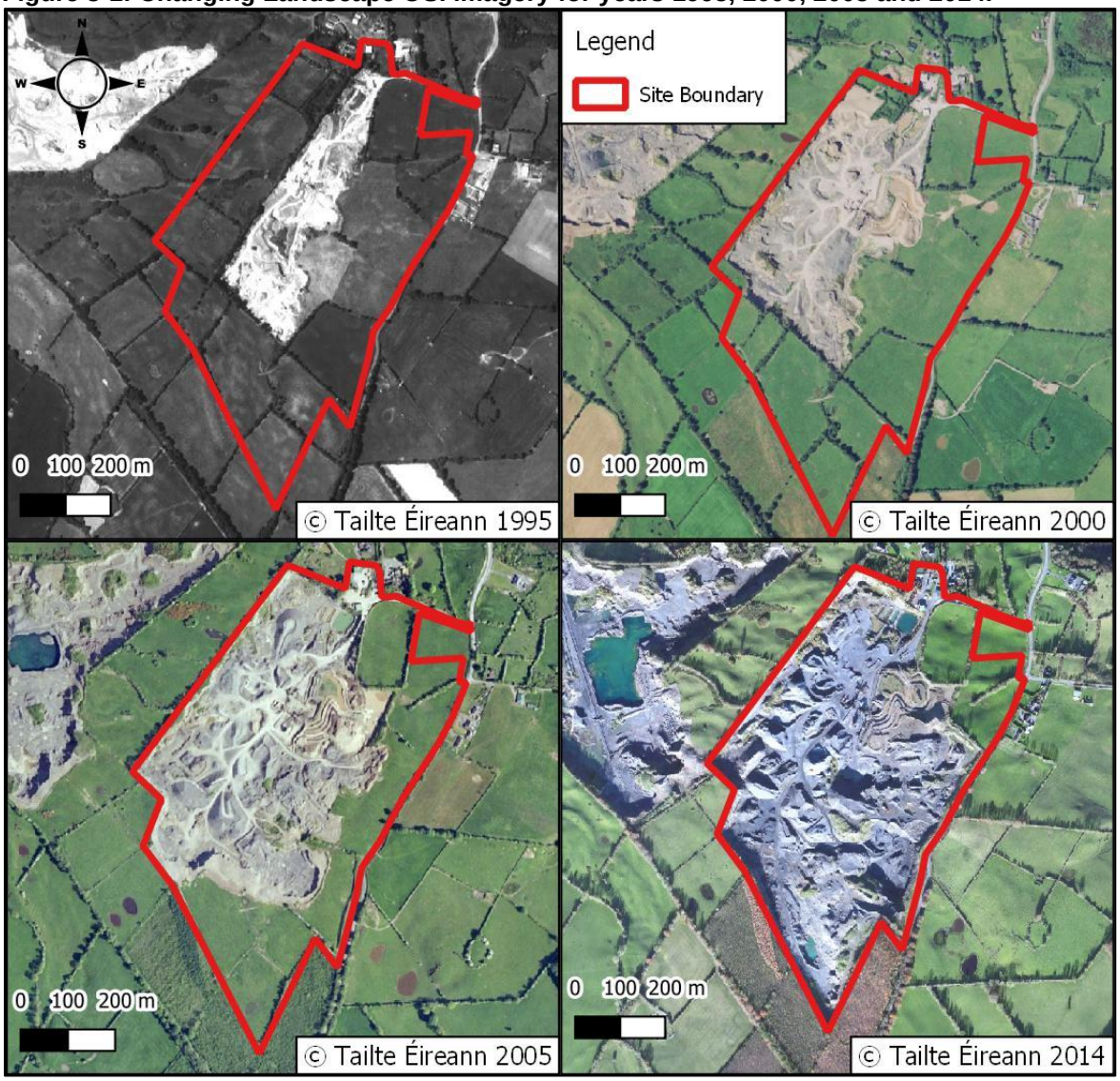
The Site generally comprises an extensive quarry floor with haul routes extending to the aforementioned screening plant and equipment

3.1.1 Historic Activities

The quarry 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 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 Development 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

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 further authorised for prospective development.

3.1.3 Operational Details

Peak employment at the Site totalled to ca. 26 persons from 2007-2008. The Site currently employs ca. 9 full-time onsite employees, reflecting the subsistence operations pending regularisation and prospective permission.

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, taking into account the current water regime

3.3 Remediation Measures

As part of this application, an ecological enhancement / remediation measure plan has been developed. The remediation plan targets:

- Removal of all plant and equipment from the pit floor;
- Maintenance of the northern administration buildings, access road, security, and sheds for future use;
- Removal of product stockpiles across the pit floor;
- Creation of a proposed new wet grassland and native woodland area;
- The creation of two new ponds and the restoration of existing quarry habitat to a low nutrient landscape; and,
- All existing ponds and areas of scrub will be retained.

4 ALTERNATIVES CONSIDERED

Although the rEIAR is retrospective in nature, the alternatives considered here are from the perspective of the Applicant when deciding to progress with the Development.

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 rEIAR, 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 on-site layout. Although there are options to reorganise this layout, the environmental effects do not show clear long-term improvement over the existing layout.

4.3 Alternative Options

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.

4.4 '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

The Development has been an important local employer since extractive work began, 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 Development. 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 and was aligned with the objectives / polices of the:

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

5.1 Indirect Effects

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

The 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. 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

Ecological surveys and assessments, based on best practice guidance, were conducted at the Site by MOR Environmental Ecologists for the purposes of assessing the likely significant effects of historic activities and the removal of existing stockpiles from the Site. After the initial field survey, further surveys were deemed necessary for amphibians, peregrine falcon and sand martin.

A separate Appropriate Assessment Screening Report ('AA') has been produced, which evaluates the likely significant effects on Natura 2000 sites from historic activities and the ongoing Development. 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 has not resulted in any significant impacts on the integrity or qualifying interests of any identified Natura 2000 sites to date, either on its own or in combination with other plans / projects to date.

There are no Natural Heritage Areas ('NHA's) located within 5km of the Site and 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

Historic Habitat

A review of available historical imagery of the Site has indicated that the habitats that were most likely to have been present before the development (based on the earliest aerial imagery available, dated 1995) were active quarries and mines surrounding the north, east and west by agricultural grassland fields. These fields were bordered and intersected by hedgerow / treeline. This agricultural grassland potentially held a small, isolated woodland of ca. 0.08ha and two ponds.

The progression to the existing dominant habitat on the Site of active quarry and mines which included areas of scrub, recolonising bare ground, earth banks and other artificial lakes and ponds, took place gradually over the period to 2022. The hedgerow / treelines on the boundaries of the Site in 1995 remained largely intact, with those intersecting the grassland fields removed.

The agricultural grassland removed over this period was considered to be of low ecological value. However, the hedgerow / treelines, potential woodland and ponds removed were considered to be of higher ecological value and were identified as having potentially provided habitat for a number of local species.

A number of ecological enhancement measures by way of habitat creation will be implemented on the Site as part of the ongoing Development to offset the loss of habitat outlined above. The habitat creation proposed includes:

- Planting of a native woodland of ca. 6ha to compensate for the off-historic woodland and hedgerow / treelines;
- Construction of two ponds on the Site to include emergent wetland vegetation;
- Planting of a wet meadow on the outer margins of the new ponds; and,
- Creation of a low nutrient habitat which will cover ca. 30 ha.

Existing Habitat

A field survey to assess the habitats on the Site was undertaken on the 16th January 2025. Overall, the on-site habitats are not considered to be of significant ecological value; however, some of these habitats have and do support protected species.

6.2 Fauna

Historic Environment

An assessment of desk studies of notable / protected species that may have been present or may have utilised the historic habitats on the Site was also undertaken.

Following this assessment, it was considered that the habitats removed over the historic period were not suitable or significant for notable species receptors, including pine marten, otter and freshwater white-clawed crayfish.

It was considered that the habitats removed over the historic period may have been suitable / significant for notable species receptors, including protected flora, birds, bats, amphibians, badger, hedgehog and Irish stoat.

Therefore, a number of ecological remedial and enhancement measures have been proposed to remediate historic habitat loss, as outlined in Section 6.1 above. It is considered that following the implementation of these measures, the potential impacts on the above receptors from historic habitat loss will be imperceptible, and as such, there will be no residual impacts as a result of the historical operations.

Existing Environment

The initial field survey also assessed the suitability of the various existing habitats and other features present to support fauna. Amphibians, peregrine falcon and sand martin were identified as receptors that could potentially be impacted by the Development and specialist surveys were subsequently undertaken. Please note that only one amphibian, peregrine falcon and sand martin survey could be undertaken for this assessment due to the court-regulated submission deadline.

Sand martin potential nest holes were identified during the surveys as well as sand martin identified flying and displaying activity over the wider area and around onsite stockpiles. As removal of stockpiles as part of the Development has the potential to impact this species mitigation measures have been proposed in relation to their removal to ensure no impact to this species.

A cliff face, which was present on the eastern boundary of the Site, was considered a suitable nesting habitat for peregrine falcon and activity was recorded during the survey. Mitigation measures are therefore required to ensure that no impacts occur to peregrine falcons that may use the Site for breeding purposes in the future and are included in this assessment.

Smooth newt was identified during the amphibian survey in 6 of the 13 ponds on the Site. Whilst all ponds on the Site will remain as part of the Development, the removal of aggregates may impact the surface water ponds and, therefore, potentially impact the smooth newt / amphibian habitat. Therefore, mitigation measures will be implemented to ensure these works do not impact this species. Further, the addition of two new ponds, along with hibernacula and habitat piles as part of the biodiversity enhancement measures, will also support this protected species and other species on the Site.

Considering the nature of the Development (both historic and current), the carefully considered mitigation measures to be implemented, the proposed biodiversity enhancement of the Site and the monitoring works proposed, 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

Based on the topographic survey, the Site has been extracted to various depths. The minimum elevation within the Site is recorded as 114 mOD in the southern section in an area characterized by standing water. The maximum elevation within the Site is recorded as 152 mOD within the centre of the Site which corresponds to a stockpile located to the northwest of a vegetated area. The average ridge height ranges from 130mOD to 146mOD.

The general land use is agricultural land used for pasture with a history of quarrying activities for the extraction of sand, gravel and limestone aggregate. The soils and subsoils underlying the site are predominantly sand and gravel in nature, with cobbles and boulders within the deposits, and correspond to the fluvioglacial deposits mentioned above. Cherty, limestone bedrock is present in the east of the Site and is identified as the Derravaragh Cherts formation.

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 classified as a Geological Heritage Site and spans over 15km from County Westmeath to Meath. This geological heritage site is considered to be a County Geological Site ('CGS').

The development has been assessed to have had an 'imperceptible' effect on the land use at the Site and a 'slight/not significant' effect on the 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. Additionally, no past pollution incidents have been reported.

It is noted in the applicable guidelines referred to within the Land, Soils and Geology chapter of the substitute consent application document that the quarry, as it exists, 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 as they are both considered to be 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 quarrying activities is considered "negligible". Therefore, the significance of the effect is considered "not significant".

The restoration plan proposes to restore the Site to grassland, 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 Development (both historic and current) and the carefully considered mitigation measures to be implemented, it is concluded that the effect on the land, soils and geological environment from the Development will be 'not significant'.

8 WATER

The majority of the Site and the northern section of the study area is located within the Upper Shannon 26F WFD catchment, whereas the south of the Site and the southern section of the study area is located within the Boyne 07 WFD Catchment. The north of the Site and the majority of the northern section of the study area is located within the Inny (Shannon)_SC_010 WFD sub-catchment and the Inny_020 WFD river sub-basin. The south of the Site and the majority of the southern section of the study area is located within the Deel (Raharney)_SC_010 WFD sub-catchment and the Lough Lene-Adeel Stream_010 WFD river sub-basin. A portion of the western section of the study area is located within the Inny (Shannon)_SC_020 WFD sub-catchment and the WFD Glore (Westmeath)_010 river sub-basin.

A review of the OPW flood risk mapping indicates that there is no potential risk of fluvial or pluvial flooding within areas in immediate proximity to the study area.

Water use on the Site includes settlement ponds from which water is abstracted for the activities associated with the development. This water is then directed toward a settlement canal in which fine sediment falls out of the water and the water is then directed back to the settlement canals. This water management system has resulted in a recycling of water on Site as well as water treatment, with no water being discharged offsite.

There are no surface water or groundwater connections (pathways) between the Site (source) and the surface water bodies (receptors) mapped within the study area. Hence, under the SPR model, there are no effects identified on the hydrological environment as a result of the Development activities.

The entire Site is underlain by a locally important bedrock aquifer – karstified ('Lk') and is classified as having High ('H') vulnerability, however due to the excavation activities at the Site, the area may be considered as having at least Extreme ('E') groundwater vulnerability. Groundwater vulnerability across the study area ranges from Low ('L') to Rock at or Near Surface ('X') groundwater vulnerability.

There are no high yielding abstractions, public or group water supplies or water supply source protection areas in connection with the Site.

Groundwater monitoring results show no contamination impact within any of the groundwater samples collected in January 2025, and the use of a recycled water system for the Development activities has resulted in no requirement for groundwater abstraction within the Site. Therefore, it is concluded that the impact on groundwater quality and quantity within the underlying bedrock aquifer as a result of the Development has had an 'imperceptible' effect.

No residual effects on the hydrological or hydrogeological environment were identified.

9 AIR QUALITY

The Construction 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 the historical activities associated with the Development were airborne particulate matter ('PM_{10}') and nuisance dust deposition (Bergerhoff dust).

A baseline air quality study was carried out. The 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. Given the retrospective nature of the assessment, the average of the nine years of available data for Zone D was used for the background concentration for ambient dust (2013-2023). The mean annual concentration of PM10 across this period was 12.12µg/m3.

The Site generally comprised of an extensive quarry floor with haul routes extending to the screening plant and equipment. The extraction area for the sand and gravels 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.

A mineral dust risk assessment was completed in accordance with guidelines from the Institute of Air Quality Management ('IAQM'). This risk assessment showed the risk of effect from dust deposition was "negligible" for all sensitive receptors. This was primarily due to the distance of receptors from the Site, the level of activity and the low frequency of wind blowing from the direction of the Site towards receptors. The findings of this risk assessment were further backed up by the fact Applicant has not received a complaint in relation to dust.

There was potential for a cumulative and in combination effect from disamenity dust from the Development and the activities within the adjacent BD Flood Quarry as this Quarry is located on the lands adjacent to the western boundary of the Development. Due to the limited information available publicly on this Quarry and its historical activities, it was assumed that the quarrying activities occurred within 100m of the Development, which is within the IAQM cumulative screening distance (400m) for sand and gravel mineral dust. Therefore, a cumulative mineral dust risk assessment has been carried out to assess any historical cumulative dust risks. It was determined that the cumulative and in-combination effect from the BD Flood Quarry activity within the vicinity of the Site was not significant. The accuracy of the findings presented is strengthened, given that the Applicant has not received a complaint regarding dust.

A risk assessment of 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.

Mitigation measures previously implemented at the Site include;

1. HGVs used established haul routes, which were regularly maintained;
2. All HGVs exiting the site used the wheel wash facilities;
3. Systems were established to record all potential dust complaints associated with the Development;
4. Training was provided to Site personnel on dust mitigation measures;
5. The boundaries of the Development were regularly inspected for potential dust;
6. Public roads near the Development were regularly inspected for potential dust;
7. Speed restrictions were applied within the Site (15km/hr.); and,
8. Site roads were regularly cleaned and maintained.

There has been no monitoring completed at the Quarry Site to date. There were no conditions pertaining to monitoring in the absence of complaints or concern in relation to dust control.

Based on the receiving environment, type and intensity of activities (associated with the Development and will be associated with the Restoration Plan), the mitigation measures employed, and the residual effect on air quality from dust is considered to be imperceptible.

10 CLIMATE

A desk-based assessment was carried out to determine the effect of the Development on national Greenhouse Gas ('GHG') emissions in the context of global climate change. The Development's activities and associated GHG emissions were categorised according to Scope 1, Scope 2 and Scope 3 emissions associated with the operational phase. These were

compared to historical national emission projections for the relevant sector. As the Climate Action and Low Carbon Act came into effect in Ireland in 2015 and associated National Carbon Budgets were set in 2021 by the Climate Change Advisory Council the baseline year for the assessment of GHG emissions from the Development was 2015. GHG emissions prior to this were scoped out of the assessment. A worst-case scenario in terms of maximum GHG emissions was assessed from 2015-2023, assuming peak operation across all years. This was an overestimation to demonstrate no significant effects from the GHG emissions associated with the Development of Climate in the context of national emissions ceilings and carbon budgets.

Due to the size and nature of the Development, there were no potential historical impacts on microclimate. As such, the potential historical effects of the Development on microclimate were not assessed further.

The primary source of GHG emissions associated with the Development was from Scope 1 emissions: transport of materials and the operation of machinery and machinery movement. The estimation of the tonnes of CO2e ('e' - equivalent) that were emitted as part of the historical operations of the Site was determined using the most recent conversion factors as they were the highest values attributed to the fuel type (100% mineral diesel) since 2016.

10.1 Operational Phase GHG Emissions

GHG emissions associated with the Development were discussed in the context of the Climate Action and Low Carbon Act (2015), which came into effect in 2015. The period accessed was historical operations between 2015-2023.

The main source of GHG emissions from the Development arose from energy consumption and transport. These emissions, based on the assessment undertaken, did not have a significant effect in the context of annual national GHG emissions.

Emissions associated with the historical operations of the Development were from the operation of plant equipment, the movement of HGVs onsite and the movement of employees to and from the Site.

Based on a typical operating year, the GHG emissions from the Development were estimated to be 0.00279Mt of CO2e. Over the course of the assessment period (2015-2023), this equates to a total of 0.00279Mt of CO2e per annum. In the context of the First National Carbon Budget (2021-2025), that is a 0.0009% contribution per annum to this carbon budget.

The effects on national GHG emissions as a result of the historical operation of the Development were classified as 'imperceptible' based on the size and type of the Development and the associated GHG emissions.

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.

Site-associated traffic vibration was considered, but was then screened out for further assessment, as no significant vibration impacts from traffic arising from the Development was deemed likely.

Noise modelling was carried out using iNoise version 2024 software. The noise model has been developed for the Site to incorporate noise emission sources during the historic and currently operation of the 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.

Historically, within the Site, aggregates were extracted using conventional excavator and shovelling methods, which fragmented the rock to manageable sizes. Plant and machinery 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. 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-loading shovels and a variety of crushers and screeners.

A noise model was 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 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.

No noise complaints have been registered with J.J. Flood & Sons Manufacturing Limited or with the County Council. The Development has been modelled and assessed to have operated within typical industry standard noise limits during the historical operational phase.

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 assessment was undertaken to describe the visual context of the Site and assess the historical impacts of the Development on the local landscape in terms of both landscape character and visual amenities. This remedial Landscape and Visual Impact Assessment ('rLVIA') informed the writing of Chapter 12 of the rEIAR.

A rLVIA that involved assessing six Viewpoints representing a range of viewing angles, distances and contexts was carried out; see Figure 12-1 below. An assessment was made of the extent of the local area from which the Site was likely to be visible. The impact of the Site was assessed for a distance of 3km from the Site boundary.

Figure 12-1: Viewpoint Locations

A rLVIA requires the separate assessment of:

- Landscape Impact – the impacts of the development on the landscape itself. This looks at the effect on the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character. The landscape assessment looks at the physical impacts on the terrain and the consequences of those impacts on landscape character. The landscape character, its value and sensitivity and the magnitude and significance of likely landscape effects are all considered;
- Visual Impact – the impacts of the development on specific views and the visual amenity experienced by people. Visual impacts can occur from obstruction (the blocking of a previous view by the development) or intrusion (the interruption of a view). The key views, the existence of designated scenic routes / views, the local community views and amenity and heritage features are amongst the considerations when assessing visual impact;

Normally, a Landscape and Visual Impact Assessment ('LVIA') will assess the future impact on the existing view. The rLVIA for this Substitute Consent application was required to assess the impact the Development and the Site would have had on historic views. This therefore required a desktop study of the available maps and aerial photography of the Site and the surrounding lands.

The rLVIA assessed that the pre-Development landscape sensitivity of the immediately local landscape would have 'Low[2]' and that the magnitude of landscape impact should be assessed as having been 'High'. This gave an over-all landscape effect of 'Moderate'.

The landscape sensitivity of the site is considered Low due to its heavily modified nature, whilst beyond the site context to the east and north, where the landscape presents with more typical rural qualities, the landscape sensitivity is deemed Medium-low.

Overall, the ongoing quarrying activity is considered to result in a Low magnitude of change to the Site and its immediate context.

In summary of the findings for the viewpoints, whilst the Development would have been visible from some local receptors, with the boundary of the Development slowly encroaching on the landscape context throughout the remedial period being assessed, for the most part, large parts of the surrounding landscape would have limited or no view of the proposed development. Indeed, whilst the current quarry facility represents a notable single land use, the perceived scale and extent of development and surrounding receptors are heavily diminished as the site is often well screened by a combination of surrounding landform and intervening screening.

Overall, whilst there has been a marked cumulative increase in quarrying activities within the study area in the remedial period being assessed, it is not considered that the development will generate significant cumulative effects.

13 CULTURAL HERITAGE

The rEIAR was undertaken to assess the significant effects, if any, on the archaeological, architectural and cultural heritage, which may have occurred, are occurring or can reasonably be expected to occur because of quarrying in the townlands of Murrens, Co. Meath.

The Meath CDP is the statutory plan detailing the development objectives / policies of the local authority. The plan includes objectives and policies, relevant to this assessment.

Baseline studies of the application site consisted of using existing written and graphical information to identify the likely context, character, significance, and sensitivity of the known or potential cultural heritage, archaeological and structural resource. A detailed investigation of the archaeological and historical background of the application site, the landholding and the surrounding area extending 1km from the development boundary was undertaken. A field inspection was also carried out in 2025 to identify and assess any known archaeological sites and previously unrecorded features and portable finds within the application site. A detailed gradiometry survey of the unextracted part of the application site was J. M. Leigh Surveys Ltd. in January 2025 (NMS Licence No. 25R0022).

13.1 Baseline data

There are no structures listed in the Record of Protected Structures located within the application site or close vicinity. There are no structures listed in the National Inventory of Architectural Heritage located within the application site or close vicinity. The field inspection

[2] These categories relate to the UK Landscape Institute and IEMA Guidelines and do not directly co-relate to the EPA categories as described in the rEIAR Section 1.

identified no unlisted upstanding structures with special architectural significance in the vicinity of the Site.

Examination of the Record of Monuments and Places indicates indicated that there are no Recorded Monuments in the application site or the close vicinity. The effects on the setting of a ringfort (ME014-019----) located north of the application site will be mitigated by the construction of a landscaped screening bund on the northern side of the application site facing the monument.

There are no sites or monuments listed in the sites and monuments record ('SMR') within the application site or in the close vicinity.

13.2 Effects

There is a negative, moderate and long-term effect on the setting of a ringfort ME14-019--- located in a field to the north of the application site.

13.3 Mitigation

The effects on the setting of the ringfort ME014-019---- will be mitigated by the construction of a landscaped screening bund on the northern side of the application site facing the monument. There will be no other direct effects on any other known items of archaeological significance, buildings of special architectural heritage interest, or cultural heritage in the application site or the vicinity during the construction and operational phase of the proposal.

14 MATERIAL ASSETS – TRAFFIC AND TRANSPORT

Access to the existing Site is via the existing L68185 local road. The existing L68185 is a cul-de-sac that is approximately 200m in length and provides access to the existing quarry, a farmyard and a number of residential dwellings. The L68185 provides access to the R195 regional road.

The R195 regional road carries local traffic between Oldcastle and Castlepollard. A speed limit of 80km/h applies along the existing R195 regional road, while no speed limit signs are provided along the L68185.

The Transport Research Laboratory computer programme JUNCTION 10 – PICADY was utilised for junction analysis.

The detailed assessment concluded that the flow to capacity of the junction, which provides access to the quarry, is significantly below its ultimate capacity. The local roads infrastructure has the capacity to cater for the past and current traffic loads, and therefore, the existing Site does not have a significant impact on the local road network infrastructure

It can therefore be concluded that the traffic from the Site and impact on the surrounding road network or the nearby residences was "negligible".

15 INTERACTION OF ENVIRONMENTAL IMPACTS

In accordance with the Environmental Impact Assessment Report ('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 rEIAR, 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 remediation works will not result in any significant adverse impacts on the receiving environment.