



3. DESCRIPTION OF THE PROPOSED DEVELOPMENT

3.1 Introduction

This chapter has been prepared by Gavin Lawlor and Bernard Dwyer of Tom Phillips + Associates in conjunction with Milford Quarries Ltd. and provides a detailed description of the proposed development together with details of the existing environment.

Gavin Lawlor is a Director of Tom Phillips + Associates. He holds a BA (Social Science) from University College Dublin, where he graduated in 1995 with a Masters in Regional and Urban Planning (MRUP) Degree and is a Full Member of the Irish Planning Institute (IPI) with 25 years' experience. Further competent experts have been engaged to address specific issues and/or portions of the EIAR.

Bernard Dwyer is an Associate at Tom Phillips and Associates. He holds a Masters in Planning and Sustainable Development (MPLAN) from University College Cork where he graduated in 2014 and is a full member of the Irish Planning Institute (IPI) with 11 years' experience.

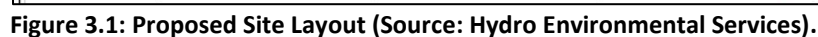
As set out in Chapter 2 of this EIAR, the subject site at Redrock Quarry is located in County Carlow in the townland of Clogrenan and borders County Laois.

3.2 Summary of the Proposed Development

The development site consists of an area of 41.86 ha within a total landholding of 45.68 ha, which is also currently subject to a concurrent application for substitute consent under Section 177E of the Planning and Development Act 2000 (As amended) to regularise previous unauthorised development. The proposed development will consist of further quarry extraction over an area of 16.17 ha to include the pre-existing quarry and additional agricultural lands with a projected lifespan of c. 20 years.

The proposed development will involve blasting, extraction and processing of rock using mobile primary crushing / screening and associated plant on the proposed quarry floor. The proposed quarry void will be extracted over 4 no. phases to a depth of 2 no. benches of c. 10m each to a quarry depth of c. 300m AOD with a proposed rate of extraction of c. 200K tonnes per annum. The proposed development will include for construction of earthen screening berms, soil storage areas and will utilise existing quarry entrance from the northern boundary linking to the L7130 local road to the east. Existing and proposed access tracks and existing settlement ponds will be utilised as part of the proposed development. The proposed development will be accompanied by a phased restoration plan.

The proposed site layout of the quarry is shown in Figure 3.1 below and is intended to be carried out in phases as outlined in Figure 3.2 subject to An Bord Pleanála's approval of the Section 177E(1A) Substitute consent application for historic extraction activities.



The quarry was registered by the previous owner in 2005 over an area of 25.7 hectares and had 18 conditions imposed in 2007 by Carlow County Council under Section 261(6)(a)(i), (Carlow County Council reg. ref.: QY14). A small gravel pit is indicated on historic maps dated 1913, and evidence of a quarry is shown on a map dated 1906 which accompanied the registration application.

In August 2012, Carlow County Council determined under section 261A(2)(a)(i) that quarry development was carried out after 1st February 1990, which development would have required, having regard to the EIA Directive, an environmental impact assessment but that such an assessment was not carried out. The reason given was that the site exceeded the mandatory threshold of 5 hectares for an EIA.

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The subsequent Board order dated January 2014 confirmed the determination of the Planning and concluded that the development would have required EIA and the decision that the extraction works do not have a pre-1964 authorisation and do not have a valid planning permission,

Milford Quarries Limited acquired the abandoned quarry in 2023 and applied for leave to seek substitute consent in May 2023 (ABP Ref: LS01.317194). Following the enactment of the Planning and Development Amendment Act 2023 the need to apply for Leave for Substitute Consent was removed from the legislation with effect from 16th December 2023. This application was therefore considered withdrawn by An Bord Pleanála.

Historical excavation has removed materials over an area of approximately 8.66 hectares.

3.3 The Quarrying Process

There are five broad stages in the Quarrying Process. They are listed below:

1. Blasting of rock faces;
2. Transport to crusher;
3. Crushing;
4. Stockpiling; and
5. Conveying to Cement plant.

Each of these steps is outlined below.

3.3.1 Blasting of Rock Faces

In order to extract the sandstone, the active rock face must be blasted using explosives. The blasting frequency will align with the 6 - 8 week crushing campaigns i.e. a single day of blasting followed by 6 – 8 weeks of crushing and screening using mobile equipment and transportation offsite in articulated trucks.

All blasting at the site are subject to a specific design, which is carried out in accordance with the relevant standards, which establishes best practice and safety. Each blast is specifically designed to release a quantum of rock from the working quarry face. In this regard, a pre-determined grid of vertical holes are drilled on top of the quarry face to a required depth. The intervals between the drill holes are specifically designed having regard to the explosives to be placed within each of the holes and the depth of the rock, which is sought to be released. There are pre-determined intervals or delays in the detonation of explosives in the drilled holes. This process minimises vibration arising from the blasting and increases the efficiency with which the rock can be removed. The short firing of the blasts and the explosives used are monitored by the Quarry Manager.

3.3.2 Transport to Crusher

Once blasting has occurred, the rock is loaded into mobile dump-trucks, which then transport the blasted rock to the primary crusher, which is located on the quarry floor.

3.3.3 Crushing of Rock



There are two crushing stages, primary crushing and secondary crushing. Each crusher consists of a set of electrically operating rotating drums, which function to reduce the particle size of the rock to a scale that can be easily transported using belt conveyors. The primary crusher reduces the rock size to a maximum diameter of 100mm and the rock is then conveyed out of the quarry to the secondary crusher by an elevated conveyor. The secondary crusher reduces the rock size to a maximum diameter of 50mm.

3.3.4 Stockpiling of Crushed Rock

The crushed rock is conveyed to temporary stockpiles located in the northern and southern portions of the application site. The northern stockpile will serve phases 1 and 2 of the proposed development with the southern stockpile serving phases 3 and 4. The stockpiles also act as reserves in the event of a crusher or mobile equipment failure.

3.4 Phasing of Works

It is the intention of the applicant to continue to extract from the application site until its end of life, a period of approximately 20 years, and conduct the subsequent restoration of the entire site. The restoration of the quarry including the current subject site is illustrated in the Restoration Plan produced by Macroworks and referenced in Chapter 15 of this EIAR.

The proposed extraction extension of the existing quarry will be consistent with the proposed depths and is intended to facilitate the efficient extraction material from the overall quarry site.

Figure 3.2 below illustrates the proposed phasing of the development. The completion of all phases will involve the extraction of sandstone rock to a final depth of 300 metres above Ordnance Datum (AOD).

It should be noted that the phases are indicative in illustrating the intended direction of works within the proposed development. In this regard, there may be need to alter the area or direction of extraction, in order to obtain rock with the correct qualities depending on customer requirements or for operational and safety reasons.

All production benches will be subject to ongoing geo-technical monitoring on a regular basis in keeping with the highest industry standards, best industry practices, and current health and safety regulations and guidelines.



Figure 3.2: Overview of indicative proposed phasing of future quarry extraction (Source: Hydro Environmental Services).

3.5 Potential for Environmental Impacts

The proposed development will involve the extension of an existing disused extraction area. The various chapters in this EIAR include detailed assessment of the potential of the proposed development to produce effects in terms of population and human health, biodiversity, water, land, air, noise, landscape, and visual etc. The following represent a brief summary of some of the key considerations in relation to the proposed quarrying activity.

3.5.1 Biodiversity and Appropriate Assessment (AA)

Chapter 6 of this EIAR (Biodiversity) has been prepared by Ecology Ireland Wildlife Consultants Ltd. and describes the habitats, flora and fauna present at the application site of the proposed development at the existing quarry and includes:

- A detailed desktop review of available ecological data of the study area, including a review of designated nature conservation sites in the adjacent hinterland.
- Results of ecological field surveys carried out in order to obtain information on the baseline ecology of the study area.



- Evaluation of the ecological importance of the importance of the ecological resources of the study area.
- Assessment of the potential impacts on the existing ecology that could arise from the proposed continuation of quarry works within the application site.
- Details of avoidance and mitigation measures to eliminate or reduce potential negative impact(s) on the existing local ecology arising from the continuation of quarry operation.

3.5.2 Land, Soils, and Geology

The potential impacts of the proposed quarry extension in relation to land, soils, and geology are outlined in detail in Chapter 7 of this EIAR by Hydro Ecology Services.

The chapter has determined that following implementation of appropriate mitigation there will be no significant residual effects in terms of land take and topographic changes or in relation to the removal of soils and subsoils to facilitate the development. IT also determines that there is no potential for significant effects on soil, subsoil and bedrock due to oil / fuel spillages and leaks. No significant effects on local bedrock due to extraction activities are envisaged. In terms of restoration the chapter indicates that once the extraction of bedrock has ceased within the proposed extraction area, a thin layer of crushed rock will be spread over the floor of the extraction area followed by the spoil material stored in the spoil storage area and in the boundary berm. The restored areas will revert to grassland/scrubland via natural regeneration. In addition, hedgerows will be planted and stonewalls inserted across the Proposed Development Site to reinstate the field boundaries.

3.5.3 Emissions (Air & Water)

The proposed development is not anticipated to result in any significant changes in terms of impacts or required mitigation when compared to the wider existing permitted quarry operation.

As outlined in Chapter 8 (Hydrology), due to the nature of the Proposed Development (*i.e.* a lateral extension to a previous bedrock quarry which is located on a topographic high), and the local hydrogeological regime (Poor Bedrock Aquifer), surface water is considered to be the main receptor. Water falling within the existing quarry void currently gathers in ponds on the quarry floor and there is an existing surface water outfall which connect to the Mortarstown Stream. The low permeability of the underlying bedrock rejects a significant proportion of the potential groundwater recharge. Therefore, surface waters are considered to be the main sensitive receptor in terms of the Proposed Development.

The determination of Hydro Environmental Services, who compiled the chapter, is that with the implementation of the mitigation measures, there will be no change in the Groundwater body status or surface water body status in the underlying groundwater bodies or downstream surface water bodies resulting from the Proposed Development. The Proposed Development will not result in the deterioration in the WFD status of any surface or groundwater body nor will it jeopardise the attainment of good status in the future.

In addition, no significant effects are predicted on groundwater well supplies, group water supplies, groundwater levels or groundwater / surface water quality.



As assessed in Chapter 9 (Air) and 10 (Climate) of this EIAR, the main potential impacts on air quality with the existing at the site relate to emissions of dust, PM10 and combustion gases such as SO2 and NO2. The proposed quarry extension will not result in any change in the nature of the emissions from the existing and related activities at the site. Please refer to Chapters 9 and 10 of this EIAR for more information.

3.5.4 Quarry Blasting

The proposed development will utilise intermittent blasting in order to extract the sandstone, from the active rock face using explosives. The blasting frequency will align with the 6 - 8 week crushing campaigns i.e. a single day of blasting followed by 6 – 8 weeks of crushing and screening using mobile equipment and transportation offsite in articulated trucks.

Chapter 11 (Noise and Vibration) of the EIAR includes various measures that can be used to control noise impacts during blasting activity including the following:

- Earth mounds erected around the site boundary can provide acoustic as well as visual screening. A buffer zone can be maintained between the excavation area and the site boundary; the width of the zone needs to be decided on a case-by-case basis, depending on such factors as the nature and scale of extraction and the settlement pattern in the vicinity. Soft ground (e.g. grassland and cultivated fields) attenuation can sometimes have a greater impact in reducing noise than barrier attenuation, especially if the ground supports sound-absorbing vegetation;
- Conveyor belts and crushing/screening equipment can be housed to provide acoustic screening. It is important that sound-reduction equipment fitted to machinery is used and maintained properly;
- Haul roads within the site should have as low a gradient as possible, and paving should be considered if practicable where noise-sensitive receptors are likely to be affected;
- For deep workings, quarry faces may provide a barrier, depending on the relative location of the quarry face and the noise-sensitive area or property;
- The professional control of drilling and blasting operations can ensure, through design of the layout of the workings, that blasts are directed away from sensitive neighbouring dwellings. Use of the “delayed” blasting technique, whereby the blast takes place in a series of timed small explosions rather than a single large blast, helps to minimise the vibration in the rock body; and
- It is recommended that quarry operators provide advance notification of blasting to nearby residents, e.g. through written notices or by using warning sirens, or other locally agreed arrangements.

3.5.5 Visual Impact

The proposed development has been fully assessed in terms of visual impact as outlined in Chapter 15 of this EIAR. The proposal will be entirely hidden from surrounding receptors and the visual impact of the proposal will be consistent with the baseline’s conditions. It is therefore not considered that the proposed extension of the existing quarry will noticeably detract from the integrity of landscape patterns or the productive landscape character that prevails in the area.

It is considered that the magnitude of landscape impact is in the order of high-medium in the immediate vicinity of the application site (<500m from the site boundaries). The magnitude



of impact will soon reduce thereafter as the proposed extraction extension is in the operational phase and will read in conjunction with the overall landscape fabric.

3.6 Restoration Plan

Once fully exhausted the quarry area will be subject to a comprehensive restoration plan including introduction of wetlands to the main extraction areas and extensive tree and grass planting.

The overburden stripped from the extended extraction area will be firstly used to construct screening berms, primarily along the eastern site boundary. These berms will ensure that the extraction works will be almost fully screened in views from locations to the east, in particular in combination with the proposed woodland screen planting.

Any additional overburden material will be stored in the soil storage areas in the northern portion of the quarry. All topsoil and subsoil will be handled separately. The topsoil will be stripped first and temporarily stored within the site. Once the screening berms/overburden storage area are constructed using subsoils, the topsoil will be spread over the surface, to provide a suitable growing medium for the proposed woodland screen planting and grass seeding .

Soil storage areas will be planted with a native woodland mosaic aimed at promoting and enhancing ecological corridors and increasing habitat biodiversity. Woodland areas will include high and low canopy trees in addition to understory and shrub species.

All earthworks will be carried out in suitable weather conditions and in accordance with current best practice guidance.

On completion of the extraction works the quarry void will be left to naturally fill with water. The resultant waterbody will provide a valuable wetland habitat.

All areas surrounding the quarry lake and not covered by woodland planting or grass seeding will be cleared from plant, machinery and stockpiles. Where feasible, these areas will be deep-ripped to de-compact the existing ground and thereby provide suitable conditions for the natural recolonisation by locally occurring grass and scrub species.

The accompanying restoration plan prepared by Macroworks, provides visual details on the proposals once the quarry is retired.

3.7 Quarry Operations

It is proposed that the quarry extension will be operated in alignment with standard practice and procedures applicable to quarry operations. In this regard, the working of the quarry extension will take place between 7:00 and 18:00 hours on Monday to Friday and 7:00 and 13:00 on Saturdays. Except in the event of an emergency, in addition to the advice of the Planning Authority, working will not take place on Sundays and Bank Holidays.

The quarry will be staffed by one permanent member of staff with up to 3 additional staff attending on site when crushing campaigns occur following a blast (ie every 6-8 weeks for approximately 1 week).



Given the limited staffing levels, staff facilities are provided by way of a self-contained, prefabricated, welfare unit. The unit uses potable water stored in an IBC and foul water in the form of kitchen and toilet waste water is stored in a storage tank within the unit. Foul water is emptied on a weekly basis by a licenced contractor and the potable water tank is replaced as required but generally on a weekly basis.

3.8 Planning History

No previous Planning Applications have been lodged in respect of the subject site, however we note that a concurrent s177E Application is being lodged alongside this s37L Application.

We understand that lands outside of the Applicant's ownership, adjacent to the main site entrance, were previously used as a yard and additional access road for the site, without the benefit of Planning Permission. This area has since been reinstated to its original agricultural use and does not form part of this Application.