CONTENTS

EXISTING DEVELOPMENT

2.1 The planning application area covers approximately 31.1 hectares (c. 76.8 acres) out of a total landholding area of c. 53.8 hectares (c. 132.9 acres). The site is accessed directly from the local road (L6226) that forms the western boundary of the site, which connects to the R148 Regional Road (Old N4 National Primary Road) to the south.

2.2 The existing quarry comprises of the existing void contained within a small hill. A large open area comprises the main entrance, which turns generally northwards towards a group of buildings. These comprise a small office and associated weighbridge, canteen, service shed, truck washing facility and storage tanks. The ground level in the vicinity of the weighbridge is c. 86mOD.

2.3 To the north of the office/canteen area is the main processing and screening facility for the quarry stone. The fixed processing plant comprising a generator, various conveyor belts and crushing equipment, together with a screening house is present. Immediately adjacent to this processing facility is the location for the stockpile storage of the processed quarry materials, ranging from agricultural lime dust, to larger sizes of crushed material. The ground level in this area is at c. 90 metres AOD.

2.4 The quarry extraction void is located to the south of the fixed processing plant / stockpile storage area and is broadly rectangular in shape in a north-south direction. The quarry is broadly worked in a southerly direction in 2 no. benches to c. 90m AOD and c.75m AOD respectively. The existing permitted quarry floor level is 75m AOD as permitted under planning permission P. Ref. 01/1018.

2.5 The quarry operations comprise extraction of the limestone using periodic blasting techniques; processing (crushing and screening) of the fragmented rock to produce aggregates for road construction and site development works, and for use in concrete and asphalt manufacturing plants operated at other Kilsaran sites and for agricultural lime production. Rock is extracted from the working quarry face by means of explosives placed in drilled holes along the face being worked. Primary size reduction by mobile crushing and screening units takes place within the quarry void. The resultant primary processed rock is transported by dump trucks from the working face to the nearby fixed processing plant.

2.6 The quarry is effectively worked dry as the quarry void area is kept dry by means of pumping. A quarry sump is located on the western side of the lowest floor level to collect any surface water falling over the void area and any inflows of groundwater. Periodic pumping of the water from the quarry void to the on-site discharge water treatment area is carried out.

2.7 There is currently one water settlement pond located at ground level to which water is pumped to from the quarry floor. The water passes through the settlement pond, the dimensions of which are c. 30m x 13m. From the settlement pond, the water is directed by gravity through a hydrocarbon interceptor before discharging to an adjacent constructed reed bed (c. 27m x 10m) before being discharged off site via a buried pipe to the adjacent surface water course which flows in a northwest direction away from the site. In a concrete chamber after the discharge from the reed beds a 'V' notch and water level logger are installed to continually record discharge volumes. This is also the point at which water quality sampling is undertaken.

2.8 As the quarry develops and should the need arise, a second settlement pond will be installed adjacent to the existing pond. This water management system was granted permission in October 2012, under planning reference no. TA120923. The discharge of the treated clean water from the site is carried out under an existing Discharge Licence (Ref. 13/02), granted by Meath County Council in May 2013.

2.9 The quarry faces are progressively advancing in a southerly direction over the current permitted quarry area. The current quarry footprint is within the permitted planning boundary as indicated on **Figure 2-1**.

2.10 Overburden has been progressively stripped from the quarry working void area and placed on a gradual basis in the overburden storage areas to the northeast and east of the extraction area. Previous planning permissions 95/1416 and 01/1018 allowed for an overburden storage area with a final upper design level of c. 125m AOD. The current levels over the overburden storage area range from c. 120 – 125m AOD.

Waulsortian Limestone

2.11 The rock quarried at Rathcore is Waulsortian Limestone (WA) or sometimes referred to as Reef Limestone and is a key supply of this high purity and prized aggregate for the Dublin – Mid-Eastern region. This type of rock is pale in colour, massively bedded very pure calcium carbonate rock. Its properties make it an extremely suitable concrete aggregate, it is relatively easily crushed down in size and has little or no silica, so it has a low wear factor on plant and machinery.

2.12 The massive bedding means that once crushed it produces a good round aggregate, essential in the making of strong concrete and it is particularly suitable for the production of a manufactured sand because of its homogeneous nature.

2.13 The high purity calcium carbonate limestone produces a top quality agricultural lime to regulate soil pH and improve nutrient availability to plants giving more efficient fertilizer application.

2.14 Obvious identified uses for the Waulsortian Limestone include Readymix Concrete, Concrete Blocks and Concrete Pavers.

2.15 Clearly identified beneficial properties of the Waulsortian Limestone include:

- **Shrinkage** - Fines of WA limestone cause no loss in strength of finished readymix and it also enhances and reduces the effect of drying shrinkage (as the aggregate does not dry out rapidly). A pure limestone aggregate is specified for the use in bridges because of this low shrinkage property;
- **Strength** – Greywacke or Calp Limestone would potentially cause a loss of strength. These aggregate produce excess super fines when crushed in comparison to the WA Limestone. Super fines increase the water demand for ready-mixed concrete and concrete products and thus cause a loss in strength, requiring additional cement to be added to composite;
- **Flakiness** – low flakiness index because of massive nature;
- **Colour** – WA is a pale colour. Use of WA in concrete pavers means less pigment is needed and the products have a good bright colour;
- **Concrete** used in bridges and architectural concrete is required to be a light uniform colour, achievable with the use of WA aggregate;
- **Weight** – WA has a low specific gravity (2.65) compared to a greywacke (2.72) or indeed a dolerite (2.85), therefore the concrete block produced using WA is lighter and easier to handle than those produced using the other rock types;
- **Ease of Processing** – WA is comparatively easy to crush; it does not induce excessive wear on processing plant and machinery. There are a number of standard tests that demonstrate this point clearly;

- **Aggregates Abrasion Value (AAV)** – WA has a higher AAV than a greywacke or dolerite which is an indication that it is softer rock;
- **10% Fines (TFV)**, a test that indicates the ability of an aggregate to resist crushing. WA is around 180kN and a whinstone is c.300kN, the minimum requirement for concrete is 150kN.

PROPOSED DEVELOPMENT

Development Overview

2.16 The development being applied for consists of:

- Permission for continued use of the previously permitted developments under P. Reg. Ref. No's. 01/1018 (PL17.127391); 95/1416 (PL17.099325) and 91/970 (PL17.089787) to include the existing quarry, drilling, blasting, crushing and screening of rock and related ancillary buildings and facilities;
- Permission for continued use of the previously permitted developments under P. Reg. Ref. No. TA/120923 consisting of a discharge water treatment facility comprising two lagoons (30m x 13m), an oil interceptor, a reed bed (27m x 10m) and a concrete canal with "V" notch weir;
- Permission for a small lateral extension of c.0.9 hectares from the existing quarry area of c.9.7 hectares as permitted under P. Ref. 01/1018 (PL17.127391) to give an overall extraction footprint of c.10.6 hectares;
- Permission for the deepening of the overall extraction area (c.10.6 hectares) by 2 no. 15m benches to a final depth of c.45m AOD from the current quarry floor level of c.75m AOD as permitted under P. Ref. P. Ref. 01/1018 (PL17.127391);
- Permission for a proposed new rock milling plant to be enclosed within a steel-clad building (c.575m^2 with roof height of 22.5m and exhaust stack height of 28.2m);
- Replacement of existing septic tank with a new wastewater treatment system and constructed percolation area;
- Restoration of the site to a beneficial ecological after-use;
- All associated site works within an overall application area of 31.1 hectares. The proposed operational period is for 20 years plus 2 years to complete restoration (total duration sought 22 years).

Construction Phase

2.17 There will be some elements of the proposal that will require construction and these principally comprise the proposed rock milling plant building and replacement of the existing septic tank. The construction phase effects will be short-term. It is expected that the overall construction period will be in the region of 6 months and will be carried in tandem with ongoing extraction activities during the operational phase.

2.18 In the context of the proposed development, the construction phase is also considered to be the preparation of the small lateral quarry extension area of c. 0.9ha. The quarry preparation works involve the removal of soils and subsoils from the proposed extension area and the storage of these materials within the dedicated overburden storage area within the site. In addition the construction phase will include the construction of the new rock milling plant.

Operational Phase

2.19 The quarry will be further developed in 2 no. 15m benches down to a depth of 45m AOD (refer to EIAR **Figure 2-2**) over the proposed 20 year extraction life. The existing extraction and processing operations currently carried out at the site will be maintained and continued over the operational phase of the development.

2.20 Mitigation measures to alleviate any adverse impacts from the development on the environment have been incorporated into the design to ensure that the development will continue to be operated within accepted thresholds for this type of development.

Restoration (Reinstatement to ecological habitat)

2.21 The majority of restoration works will be carried out on permanent completion of extraction works. As the majority of the site is used for extraction, processing and storage purposes it is not feasible to restore any significant parts of the quarry void at an earlier stage. However, it is proposed that all existing grass and scrub areas which have established along the site boundaries will be protected and retained, as much as possible.

2.22 A Landscape Management and Restoration Plan is outlined later in the chapter which Kilsaran commit to implementing should planning permission be granted.

2.23 The majority of restoration proposals within the existing site area will only be carried out after extraction operations at the site have ceased, with the exception of the following:

- It is proposed to carry out barrier hedge planting in a number of locations along the southern and western boundaries to tie into existing dense vegetation along those boundaries (c. 330m in total). This planting will be carried out in Year 1 following receipt of planning permission, so that it will have matured by the time the extraction works are complete and will function as a secure barrier to prevent access into the site, once restored.
- It is further proposed that the overburden infilling will be completed by the end of Year 4 extraction operations and whereby it can then be grass seeded to tie into the existing vegetated overburden storage area to the north. This will result in the entire overburden storage areas to the northeast of the application are being matured by the time the extraction works are complete and will function as a secure barrier to prevent access into the site.

2.24 Upon the cessation of extraction operations, it is proposed to return the worked out areas to a beneficial ecological habitat.

2.25 The only material requirements in respect of the planned restoration scheme are those topsoils and subsoils already present on site and which were previously stripped and stockpiled within the existing operational site area awaiting re-use in the restoration operations.

Aggregate Reserve Assessment

2.26 A detailed topographical survey of the site was recently undertaken by Kilsaran (refer to **Figure 2-1**). The survey data was used to produce a 3D digital terrain model using a quarry design software package called LSS. In preparing the design, standard criteria were adopted with regard to face heights and bench widths, stand-offs to the site boundaries etc. (refer to **Figure 2-2**).

2.27 As part of detailed hydrogeological study further site investigation was carried out, including significant drilling within the proposed extraction footprint. Based on these findings and the LSS total extraction design a total recoverable reserve of limestone from within the proposed extension area is calculated to be in the region of c. 7 million tonnes.

2.28 The volume of in-situ rock material to be excavated from the proposed quarry extraction area of c. 10.6 Ha to a final floor level of 45mAOD is based on a rock density of 2.65 mg/m^3.

Duration of Extraction

2.29 The existing extraction rate is up to c. 350,000 tonnes per annum. At this rate of extraction, the projected life of the quarry extension would be c. 20 years.

2.30 A further 2 years would be required to complete restoration proposals.

2.31 It is considered that planning permission for the proposed quarry development should be commensurate with the life of the reserves. This will ensure the developer has security for this investment and that the operation is carried out in accordance with proper planning and development guidelines. An adequate quarry life is required to secure an acceptable return on investment, when the costs of continued investment in the site development, mobile crushing / screening plant and the on-going operational costs are considered.

2.32 A quarrying life of 22 years is not considered unreasonable and is commensurate with long term permissions granted for other quarry developments and the previous notification of grant permission issued by Meath County Council for planning ref. TA/161227 (ABP-PL.249132).

Site Screening

2.33 The quarry has been largely screened from views from adjacent roads and residences by screen planting, screening berms and field boundary hedgerows.

2.34 Almost all views towards the application site are screened by roadside and intervening vegetation, as well as topography. Screening berms along the northwestern and northeastern boundary, as well as elevated ground along the southwestern and southeastern boundary ensure that the extraction area within Rathcore Quarry is fully screened in views from the surrounding area. Roadside and intervening vegetation further screen the quarry development.

2.35 Views of the site entrance, the site office, the workshop and a small part of the processing plant within the site can be gained from a short stretch along the road passing the site entrance. The visibility of these elements will remain the same, as part of the proposed development. The only element visible, in a small number of views, which will change due to the proposed development, is a small area of elevated ground (approximately 2,000m^2 or 0.2ha.) and associated trees, which will be removed along the western quarry boundary, between the weighbridge / office and the quarry void.

2.36 A Landscape Management and Restoration Plan is outlined later in the chapter and details are provided in **Figure 2-4** and which outline the proposals for additional planting and screening around the perimeter of the site.

Removal of Topsoil and Overburden Soils

2.37 Prior to extraction of rock, it will be necessary to remove any remaining overlying topsoil and overburden materials (glacial till and weathered rock) from the proposed extraction area.

2.38 Within the proposed extraction area there is an area of less than 1 ha. where overburden is required to be stripped, over and above that which has already been stripped. The overburden will be stripped on a progressive basis over the first 4 years of the development term and used to finish the permanent landscaped screening and storage mound to the east of the extraction area. It is estimated that there is approximately 100,000 tonnes of overburden material to be stripped from the proposed extraction area.

2.39 The excavation of overburden will be carried out using an excavator, loading dump trucks from where it will be transported to the proposed overburden mound. Topsoil and overburden materials will be stored separately until the topsoil is required to landscape the overburden storage mound.

2.40 Upon obtaining satisfactory planning permission it is anticipated that stripping of topsoil and overburden materials would commence during the next earthworks season.

2.41 Previously stripped overburden and topsoil material has been used for the construction of the existing perimeter screening berms and placed within the overburden storage area.

Site Drainage

2.42 Site drainage from the overall quarry is managed by Kilsaran in compliance with condition no.'s 13, 14, 15 and 23 of the previous grant of planning permission (P. Ref. 01/1018) and the subsequent grant of permission, P. Ref. TA/120923 for the construction of new settlement lagoons and hydrocarbon interceptor.

2.43 Any surface water falling over the site is directed to a sump on the quarry floor along the western quarry face. From here, the water is pumped up to ground level over a distance of c. 150m westwards to the water settlement pond. The water passes through the settlement pond (c. 30m x 13m). From the settlement pond, the water flows through a hydrocarbon interceptor and is directed to an adjacent constructed reed bed (c. 27m x 10m) before being discharged off site via a buried pipe to the adjacent surface water channel which flows in a northwest direction away from the site.

2.44 As the quarry develops and as need arises, a second settlement pond will be installed adjacent to the existing pond. A larger pump sump will also be provided on the floor of the quarry to cater for increasing volumes of water which will require attenuation and treatment as the quarry deepening progresses.

2.45 This water management system was granted permission in October 2012, under planning reference no. TA120923. The discharge of the treated clean water from the site is carried out under an existing Discharge Licence (Ref. 13/02), granted by Meath County Council in May 2013.

2.46 A hydrological / hydrogeological assessment has been carried out taking into consideration the existing water regime at the quarry site and to determine what the requirements are for the proposed development. It addresses mitigation measures to eliminate and/or minimise the potential impacts, if any, on surface water and groundwater. These measures will be incorporated into the quarry design and operation, refer to EIAR Chapter 7 (Water).

Method of Extraction

2.47 It is proposed that the existing method of extraction will continue to be implemented at the site as follows:

- where required, overburden will be stripped in advance of rock blasting in accordance with the quarry development plan. Stripped overburden will be placed at the permanent storage area at the eastern periphery of the application area;
- rock material will be extracted using conventional blasting techniques. Prior to drilling, the quarry face will be surveyed in order to ensure safe and efficient blasting. Drilling will be carried out in accordance with the blast design. Finally, the holes will be filled with bulk emulsion explosives and the blast carried out. All blasting is and will be carried out in accordance with the health & safety regulations, and environmental guidelines for the sector;
- the fragmented rock will initially be processed using mobile crushing and screening plant located at the blasted quarry face within the quarry void area;

- a fixed crushing and screening plant will further process the rock to produce aggregates of the required specification. The aggregate products will be stored in stockpiles located within the quarry, as is the current practice.

Hedgerow / Treeline (Removal / Reinstatement)

2.48 The only trees requiring removal is a section of c. 50m in length along a ridge located between the existing quarry void and the site entrance area which will be removed, refer to **Figure 2-1**.

2.49 It is proposed to carry out barrier hedge planting in a number of locations along the southern and western boundary to tie into existing dense vegetation along those boundaries (c. 330m in total) as outlined in the Landscape Management & Restoration Plan in **Figure 2-4**. This planting will be carried out in Year 1 following receipt of planning permission, so that it will have matured by the time the extraction works are complete and will function as a secure barrier to prevent access into the site, once restored.

2.50 Please refer to **Figure 2-1** for an indication of the hedgerows and associated trees to be removed, to facilitate the proposed development. The trees are deemed to be exempted from obtaining a felling licence should the planning permission be obtained, as set out in the Forestry Act 2014.

Extraction and Blasting

2.51 Cross-sections of the existing and proposed layout are provided in **Figure 2-3** which illustrate the proposed extraction design along with individual bench depths.

2.52 Industry standard blasting techniques have been used to fragment the stone prior to processing (crushing and screening). This technique will continue to be utilised at the site. On average, 35,000-45,000 tonnes are produced per blast at the quarry, and blasting can be carried out on average every one to two months, which equates to a maximum 8 to 10 blasts per year.

2.53 The drilling pattern is typically 110mm diameter vertical holes drilled at c. 4m burden and spacing to full face height. Bulk emission explosives are used to charge the holes. Delivery and placement of explosives is carried out by Irish Industrial Explosives under supervision of a blast engineer. There is no proposed change in the blast design and blast methods employed in developing the quarry at depth below the existing quarry floor.

2.54 Ground vibration and air-overpressure associated with blasting at the quarry is controlled/limited by condition no. 7 of planning ref. 01/1018 (PL17.127391). Every blast at the quarry has been monitored since Kilsaran acquired the quarry in January 2005. The actual blast monitoring results for the period 2017 to 2022 are provided in Chapter 10 of the EIAR, and show there were:

- 8 no. blasts in 2017;
- 6 no. blasts in 2018;
- 8 no. blasts in 2019;
- 5 no. blasts in 2020;
- 4 no. blasts in 2021; and
- 3 no. blasts in 2022.

2.55 No blasting has taken place at the site since December 2022. It is proposed that the scheme of blast monitoring be continued should permission be granted for the further development of the quarry.

2.56 All rock extracted from the application area will be processed on site to produce a range of aggregates for use in concrete production (off-site), site development works, for road construction, agricultural lime and supply the market generally.

Processing Methods

Extracted Rock Processing Method

2.57 The processing methods currently used at the quarry constitute size reduction through crushing and sizing by screening using a combination of fixed and mobile plant.

2.58 An excavator is used to directly feed a mobile primary crushing / screening plant at the working face. The mobile plant will be relocated after every blast during the life of the quarry development as operational requirements dictate.

2.59 Material is either drawn from primary stockpiles on the quarry floor by front-end loader for further processing at the exiting secondary / tertiary fixed crushing / screening plant and associated enclosed lime production facility located to the north of the quarry void or loaded directly onto trucks for haulage to market.

2.60 At the fixed plant, the crushed stone is graded into various product sizes using multi-deck screens and stacked using associated conveyor units and stored in various stockpiles adjacent to the fixed plant. From this storage area the aggregates are loaded onto trucks for off-site transportation. No washing of the aggregates is required to produce the final products.

2.61 It is proposed that the same processing methods will be used should permission be granted for the further development of the quarry.

Existing Agricultural Lime Production

2.62 A milling unit is fed with crushed limestone from the quarry, which grind the feed stock to produce the lime with an optimum particle size for an agricultural lime application. Two size grades of lime are produced, namely a Ground Limestone (100% passing 3.35mm sieve and not less than 35% passing the 0.15mm sieve) and Granulated Lime, ground much more finely (<0.1mm) than ground limestone.

2.63 Agricultural lime has beneficial effects on soil when applied correctly by increasing the pH of acid soils, providing a source of calcium for plants and improving uptake of major plant nutrients such as nitrogen, phosphorus and potassium.

2.64 Smaller limestone particles are available much more rapidly and will react with the soil and raise pH much faster than coarse materials.

2.65 The covered storage shed keeps the lime dry, which is essential. The lime must be dry to assist subsequent handling and spreading.

Proposed New Limestone Mill Plant

2.66 A new milling unit is proposed to be installed at the quarry should planning permission be granted. The new plant is proposed to be located on the existing quarry floor (i.e. at an elevation of 75m AOD) and positioned in the northeast corner of the quarry void as shown on **Figure 2-2**. Layout and elevation details of the new plant are provided in SLR Planning **Drawing 17**.

2.67 The new rock milling plant will consist of:

- a steel frame structure clad in galvanised steel coated cladding, goose grey in colour;
- the covered shed consisting of the milling plant and the load-out bays will have:

- a footprint area of c. 575m²;
- milling plant roof apex height of 22.5m (elevation at 97.5m AOD);
- silo load-out bays roof apex height of 20.8m (elevation at 95.8m AOD);
- exhaust air flue height of 28.2m (elevation at 103.2m AOD).
- an external tipping hopper will be located to the north side of the plant to feed the extracted crushed rock into the milling plant;
- the milled (fine) limestone will be stored in 8 no. 150 tonne silos (1,200 tonne storage capacity) located to the south side of the milling plant;
- the load-out bays are located beneath the storage silos to allow HGV delivery vehicles to load directly beneath the silos under gravity feed.

Working Hours

2.68 The permitted working hours at the quarry are and will continue to be 07:00 hours to 18:00 hours Monday to Friday and 07:00 hours to 14.00 hours on Saturdays in compliance with revised conditions imposed under Section 261 – condition no. 5 (An Bord Pleanála appeal QC17.QC2167). This condition also restricts noisy activities i.e. drilling and rock breaking to an 8am start. No quarry related operations are or will be carried out on Sundays or public holidays.

2.69 The proposed development will be carried out within the existing permitted hours outlined above and there is no requirement to make any amendments to these operational hours as part of this planning application.

Employment

2.70 At full production Kilsaran employs a total of c. 14 people (direct employees on site and company hauliers) at Rathcore Quarry. There is also an extensive workforce indirectly involved, such as external hauliers, maintenance, contractors, materials suppliers, etc. It is envisaged that should planning permission be granted this level of employment will be maintained.

SITE INFRASTRUCTURE

Site Access

2.71 The existing quarry entrance is located on the local county road (L6226) to the south of Rathcore village and has good, splayed visibility in both directions. There is a low stone wall with pillars on either side of the entrance with a post and wire fence set behind the wall.

2.72 The entrance consists of two metal gates which are recessed back from the road verge to allow vehicles to pull in off the road when the gates are locked. The quarry entrance and internal yard area are surfaced / paved. Directly across from the quarry entrance is another large splayed entrance which leads into an agricultural yard on the opposite side of the road.

2.73 In the unlikely event of material being spilled on the public road the operator will ensure that spilled material is removed from the road surface in a safe and timely manner, as soon as they notice or are notified that a spillage has arisen.

Site Security

2.74 Kilsaran has operated and continue to operate the quarry in accordance with the requirement of the Safety, Health and Welfare at Work (Quarries) Regulations, 2008.

2.75 Kilsaran have implemented and continue to implement a number of security measures at the quarry.

2.76 The perimeter of the entire working area is secured by a combination of the existing hedgerows, screening berms, boundary walls and post & wire fences. The existing entrance to the site has lockable gates to prevent unauthorised access outside of the working hours.

2.77 Signage is erected around the quarry excavation showing 'WARNING DEEP EXCAVATION' or similar.

Site Roads, Parking and Hardstanding Areas

2.78 Internal access roads are provided within the site, running from the site entrance northwards to the existing weighbridge and the main site office.

2.79 There is an existing designated paved car parking area already available for employees and visitors adjacent to the existing site offices.

Wheelwash

2.80 There is currently a wheelwash present at the site which is compliant with the current condition imposed under P. Ref. 01/1018 – Condition No. 7 and previously planning permission P. Ref. 91/970.

2.81 The distances from the site entrance to the wheelwash is c. 175m along a paved internal site road which helps to minimise the transport of fines and mud by HGVs on to the public road network. In addition, water is sprayed utilising fixed sprinklers and from a tractor drawn bowser on dry exposed surfaces (paved roads, unsealed haul roads and hardstand areas). Periodic sweeping of the internal paved areas and along the public road at the entrance is carried out by a contract road sweeper.

2.82 The above measures have proven to be effective and acceptable to-date and will be maintained in the future. The applicant will continue to regularly monitor the situation and will notify the Local Authority of any change in circumstances.

Weighbridge

2.83 All heavy goods vehicles (HGVs) accessing the site are required to pass over the existing weighbridge which is located near the entrance of the quarry adjacent to the site office.

2.84 The weighbridge is utilised to establish a weight for each truck used for hauling stone. All loaded trucks pass over the weighbridge before exiting the quarry so that a record of each load can be made. Apart from keeping a record of the quarry's productivity, the weighbridge is also used to ensure all loads exiting the site do not exceed the legal weight limit.

Offices and Ancillary Facilities

2.85 All existing offices and employee facilities at the quarry are permitted under the various planning permissions referenced above.

2.86 Existing offices and facilities at the quarry include an office, weighbridge, wheelwash, employee and visitor car park, a septic tank, a workshop building incorporating canteen, drying/cloakroom, restroom and bunded fuel & oil storage areas; aggregate storage bins; aggregate and product storage areas and a lime dust shed.

2.87 The existing facilities will be utilised for the duration of the development. No additional offices are planned as part of this planning application.

2.88 As part of this planning application, it is proposed to decommission the existing septic tank and replace it with a new proprietary waste water treatment system and constructed percolation area. The existing septic tank will be decommissioned and the contents of the tank will be taken off site for appropriate treatment by a licenced contractor.

2.89 As part of documentation submitted as part of the previous planning application, TA/161227 (ABP-PL.249132), a site characterisation assessment was undertaken in September 2016 for a new waste water treatment system by Dr. Eugene Bolton. A copy of the site characterisation form is included in EIAR Chapter 7, **Appendix 7-C**.

Utilities and Services

2.90 The site is served by on-site water supply and mains electricity. An ESB power line feeds directly into the quarry site to service the offices and weighbridge. An existing on-site generator supplies the fixed processing plant. Effluent from toilet facilities is treated using an existing septic tank; refer to Chapter 7 of the EIAR. There is no proposed change to the existing services supplying and servicing the site as part of this planning application, with the exception of the proposed new proprietary waste water treatment system and constructed percolation area.

Fuel and Oil Storage

2.91 Bunded fuel storage tanks are located at three locations; adjacent to the workshop building and weighbridge; adjacent to the generator / control cabin building and beside the generator for the dewatering pumps.

2.92 Oil and lubricants for plant and machinery are stored on spill pallets in the designated storage area within the workshop building located within the quarry yard area of the permitted planning area.

2.93 Spill Kits and spill training has been provided. All new employees are given an induction which includes spill kit training and how to respond to a fuel spill.

WASTE MANAGEMENT

General Waste Management

2.94 Kilsaran as a member of the Irish Concrete Federation commits themselves to the principles of the Federations Environmental Code. The code states:-

2.95 "ICF members will minimise production of waste and where appropriate consider its beneficial use including recycling. They will deal with all waste in accordance with the relevant legislation and other controls in place, including using waste contractors with valid Waste Collection Permits"

2.96 Potential waste produced and the measures used to control it are described as follows:-

- **Scrap metal** – these materials are chiefly produced from the maintenance of the processing plants and can cause a nuisance if allowed to build up in an uncontrolled manner. There is a designated scrap metal area on the existing permitted site and the build-up of scrap is controlled by the regular removal by licensed scrap metal dealers.
- **Used Oil and Oil Filters** – any waste oil/oil filters that may arise from servicing of fixed or mobile plant is removed from the site by a licensed waste contractor.

- **Used Batteries** – similarly all used batteries are removed from site for collection and recycling by a licensed waste contractor in accordance with the Waste Management Regulations.
- **Domestic Style Waste** (Canteen Waste) – domestic waste generated at the offices and employee's existing facility is and will continue to be collected by a licensed waste collection contractor.
- **Sewage Effluent** – this is disposed of by the existing wastewater treatment units on the existing permitted site.
- **Note**: overburden materials stripped from above the in-situ limestone rock are not considered waste. They are an essential component of the restoration programme. These materials are required for the re-shaping and landscaping of the worked-out area to make it more suitable for an agricultural after-use, where proposed.

Extractive Waste Management

2.97 Almost all products and by-products arising from the aggregate processing will have commercial value. Any waste materials from the site will be stored, collected, recycled and/or disposed of in accordance with any requirements of Meath County Council.

2.98 In Ireland, the management of extractive waste is regulated by the Waste Management (Management of Waste from the Extractive Industries) Regulations 2009 (SI No. 566 of 2009). Under these Regulations, quarry operators are required to prepare an Extractive Waste Management Plan (EWMP) which outline the plans and procedures for minimisation, treatment, recovery and disposal of extractive wastes, having regard to the principle of sustainable development.

Description of the Waste Generating Operation

2.99 There is no intention on behalf of Kilsaran to discard, where possible, any material extracted from the quarry at Rathcore. The principle aim of this extractive waste management plan is to prevent waste production which is in accordance with Section 5(2)(a) of the 2009 Regulations.

2.100 Extracted Material will fall into the following categories:

Soil and Sub-soil (Overburden) Stripping

2.101 This material has been excavated to expose the underlying bedrock in the quarry.

2.102 ***Topsoil*** – all topsoil previously stripped has been used to construct perimeter visual/noise screening mounds for later use as part of the final restoration scheme. Any further stripping of topsoils will be stockpiled on site, again for reuse in final restoration operations.

2.103 ***Sub-soil (Overburden)*** – this material is dealt with in a similar manner to the Topsoil listed above.

Rock Extraction

2.104 Rock is extracted from the quarry face using commercial explosives, the blasted rock pile is processed through size reduction (crushing) and size classification (screening) to produce a suit of saleable aggregate and agricultural lime products. Materials awaiting haulage off-site are stored temporarily in individual stockpiles, which are maintained in order to ensure stability, minimal visual intrusion and minimal environmental impact.

Settlement Ponds

2.105 The discharge water settlement pond is cleaned out as required to ensure adequate capacity within the pond to allow sufficient retention time to ensure adequate settlement of any fines. All material removed from the settlement pond is temporarily stored to allow natural outflow of retained

moisture. Following this short storage period the material is put to a variety of operational or restoration uses within the site, namely:

- Construction of visual screening or noise attenuation berms, and/or construction safety berms alongside haul roads or under quarry faces.

2.106 The Extractive Waste Management Plan for the Rathcore site is provided in **Appendix 2-A**.

EXISTING ENVIRONMENTAL CONTROLS

General

2.107 Extraction, processing and ultimately restoration activities at the application site require a number of environmental controls to eliminate or minimise the potential nuisance to the public arising from the extraction and processing operations. The environmental control measures in place at the existing site are outlined in the following sections.

2.108 The existing operations at the site are currently regulated by conditions attached to previous planning permissions 01/1018 (PL17.127391); 95/1416 (PL17.099325) and 91/970 (PL17.089787).

2.109 Any additional control measures, over and above those already in place and/or outlined below, which may be instructed on foot of the proposed planning application, will also be implemented.

Bird Control

2.110 As the process of rock extraction is free of putrescible (food / kitchen) waste, site activities are unlikely to attract scavenging birds such as gulls and crows for the duration of works. Accordingly, it is not intended to implement any specific bird control measures at the site as is the case at present.

Dust Control

2.111 Dust generation within the application area is likely to occur from two main sources:

- point sources – such as operating plant and machinery; and
- dispersed sources– such as quarry floors/haul routes.

2.112 In dry, windy weather conditions, site activities may give rise to dust blows across and beyond the existing or planned development site areas. In order to control dust emissions, the following measures are/ will be implemented:-

- water is sprayed from a tractor drawn bowser on dry exposed surfaces and stockpiles, paved roads, unsealed haul roads within the extraction area and hardstand areas as required;
- existing fixed sprinkler system on the internal site access road;
- dust blows at the existing site are largely screened by the side walls of the existing quarry and the vegetated screening berms and existing boundary hedgerows;
- areas of bare or exposed soils will, insofar as practicable, be kept to a minimum;
- newly constructed screening berms / soil storage areas will be grassed at the earliest opportunity;
- emission of fugitive dust from machinery such as the crushing plant has, and will continue to be minimised by utilising dust suppression and by locating the primary mobile crushing plant within the quarry extraction area;

- all HGV's exiting the extraction area are routed through the existing wheelwash. This minimises the transport of fines by HGVs over the access / egress road and the public road network; and
- all loads of fine dry aggregates will be covered before leaving the quarry.

2.113 The amount of dust or fines carried onto the public road network will be further reduced by periodic sweeping of internal paved site roads and surrounding public roads as required.

2.114 A dust monitoring programme has been and will continue to be in implemented at Rathcore Quarry, in compliance with planning ref. 01/1018 (PL17.127391) - condition 18 and the Section 261 conditions imposed – condition 7. Kilsaran has and continue to implement / evaluate a full range of dust mitigation measures at the quarry in accordance with the DoEHLG (2004) Quarries and Ancillary Activities: Guidelines for Planning Authorities, and the EPA (2006) Environmental Management Guidelines for Environmental Management in the Extractive Industry, refer to EIAR Chapter 8.

Noise Control

2.115 Potential noise generating sources arising from the operation of the quarry are from the crushing and screening plants, mobile plant such as the loading shovels and from the haulage fleet both within and outside the quarry.

2.116 The potential for noise generation from the application area is significantly reduced by the construction of the extensive perimeter screening mounds; refer to **Figure 2-1**.

2.117 A noise monitoring programme has been and will continue to be in place at Rathcore Quarry, in compliance with planning permission 01/1018 (PL17.127391) – condition 19 and the Section 261 conditions imposed – condition 6.

2.118 Kilsaran has and will continue to implement / evaluate a full range of noise mitigation measures at the quarry in accordance with the DoEHLG (2004) Quarries and Ancillary Activities: Guidelines for Planning Authorities, and the EPA (2006) Environmental Management Guidelines for Environmental Management in the Extractive Industry, refer to EIAR Chapter 10 – Noise & Vibration.

Traffic Control

2.119 As the planning application relates to the continuance of use and extension of the existing quarry operation, the proposed development will continue to utilise the existing site entrance.

2.120 The existing site entrance onto the local road has historically been shown to function satisfactorily at its present location. As such, it is considered unnecessary to alter the existing access point in terms of geometry and/or location.

Litter Control

2.121 As the proposed development will be largely free of litter, the daily operational activities are unlikely to give rise to problems with windblown litter. Accordingly, there is no requirement to implement any specific litter control measures at the site.

2.122 In the unlikely event that any litter waste is identified, it will be immediately removed off-site to an authorised waste disposal or recovery site.

Odour Control

2.123 As the rock extraction activities at the site are not biodegradable and do not therefore emit odorous gases, site activities do not give rise to odour nuisance. Accordingly, it is not intended to implement any specific odour control measures at the site.

Vermin Control

2.124 As the proposed development is free of putrescible (food / kitchen) waste, on-site activities will not attract vermin (rats) for the duration of the extraction or subsequent restoration operations. Accordingly, no specific vermin control measures are implemented at the site.

Fire Control

2.125 As the proposed development is free of flammable and biodegradable materials which could create a fire or explosion risk, on-site extraction activities will not present a fire risk for the duration of the extraction operations. Accordingly, there is no requirement to implement specific fire control measures at the site.

2.126 In the unlikely event that a fire does occur, the nearest fire station will be contacted and emergency response procedures will be implemented. Fire extinguishers (water and foam) are provided at all offices to deal with any small outbreaks which may occur.

ENVIRONMENTAL MONITORING

General

2.127 As part of the environmental management system (EMS), Kilsaran has implemented a comprehensive environmental monitoring programme at Rathcore Quarry in compliance with the various grants of planning permission by Meath County Council and An Bord Pleanála on the operation of the quarry. Environmental noise, ground/surface water, blast, and dust monitoring, carried out on a regular basis, has demonstrated that the quarry has not had any significant adverse effects on the surrounding environment. A copy of the EMS manual is provided in **Appendix 2-B**.

2.128 Limit values for environmental emissions arising from the site activities are identified by the existing consents from the planning authority. Environmental sampling, monitoring and testing is generally undertaken by external consultants as and when required. Records of environmental monitoring and testing are held on Kilsaran's cloud based networks and submitted to the Local Authority on a quarterly basis.

2.129 Environmental noise, blast, dust and water monitoring carried out on a regular basis, has demonstrated that the quarry has not had any significant adverse effects on the surrounding environment.

Dust Monitoring

2.130 A dust monitoring programme has been and will continue to be in implemented at Rathcore Quarry, in compliance with planning ref. 01/1018 (PL17.127391) - condition 18 and the Section 261 conditions imposed – condition 7.

2.131 Current dust deposition monitoring carried out at the site boundaries indicates that the current quarry operations have complied with the recommended dust deposition emission limit value of 350 mg/m2/day (averaged over 30 days) as set out in the revised Condition No.7 QY/53 of the section 261 conditions. Further details are provided in **Chapter 8** of the EIAR. The dust monitoring to-date has shown that the existing site can operate within the permitted limit of 350 mg/m2/day (averaged over 30 days).

2.132 The dust monitoring gauges are located close to emission sources or potentially sensitive receptors located beyond the site boundary. It is proposed that the existing dust monitoring stations will remain in place for the duration of extraction and processing operations at the site.

Ecological Monitoring

2.133 Cliff-nesting birds can establish nesting sites early in the bird nesting season; if construction works are to begin in the bird nesting season (1st March – 31st August), it is recommended that pre-construction surveys for cliff-nesting birds are undertaken on the Site. These surveys will confirm presence / absence of cliff-nesting nesting bids such as peregrine and allow appropriate mitigation to avoid disturbance of nesting birds, if present.

2.134 It is anticipated that cliff-nesting birds such as peregrines will be able to use other areas of the quarry that are not undergoing planned works, with retained areas of the quarry providing suitable ledges for nesting during the operational phase.

2.135 The restoration phase will allow the quarry to flood and create a permanent lake but will also leave exposed cliff faces above the water level. Therefore, it is likely that cliff-nesting birds will still be able to nest on the quarry face and may actually benefit from the flooding of the quarry, through increased protection from predators.

2.136 There is a c. 50m length of treeline to be removed as part of the development, within which there are three trees with low bat roosting potential that will be mitigated for and undergo a soft-felling technique. This will include individually removing limbs and slowly lowering to the ground. Any PRFs will be left unobstructed. All parts of the tree will be left for a minimum period of 24 hours to allow any bats potentially inside to escape. All existing external hedgerows, treelines, existing planting along the application site boundaries will be protected and retained as far as possible. This will retain ecological corridors along the boundaries of the Site.

2.137 No ecological monitoring is required in respect to St Gorman's Well, c. 1.6km west of the application site.

Groundwater Monitoring

2.138 Groundwater levels will continue to be recorded on a weekly basis for the onsite wells and on a monthly basis for nearby residences.

2.139 Groundwater sampling and testing will be undertaken on an annual basis at the site potable supply well (**SW2**) and at the groundwater monitoring wells (**D1-D4**) as outlined in EIAR Chapter 7. Groundwater samples will be tested for a range of physical and chemical parameters in order to assess water quality. The parameters to be tested for are:

- Conductivity;
- pH value;
- Total Coliforms cfu/100mls;
- Ammonia mg/l NH3-N;
- Nitrate mg/l NO3;
- Nitrite mg/l;
- Ortho Phosphate / Ortho Phosphate mg/l as P;
- TPH mg/l;
- PRO mg/l; and
- DRO mg/l.

2.140 No monitoring will be required at St. Gorman's Well with respect to potential impacts arising from the Proposed Development as there will be no residual effect on St. Gorman's Well. However, in order to advance the hydrogeological understanding at St. Gorman's well Kilsaran propose to continue to monitor groundwater levels in a borehole adjacent to the spring. A continuous water level datalogger will be installed and will be downloaded at quarterly intervals (permission has been granted by the landowner of Hotwell House for this activity). In the future this data can be used to further our understanding of Irish geothermal springs and will be made available to the GSI.

Noise Monitoring

2.141 Noise monitoring has been carried out at Rathore Quarry on a regular basis for the past 20 years. Currently noise is monitored at two location with the results for the period 2017-2022 contained in **Chapter 10** of the EIAR. The noise monitoring to-date has shown that the existing site can operate within the permitted threshold of 55 dB (A) Leq when measured outside any dwelling house in the vicinity of the site as set out in the revised Condition No.6 QY/53 of the section 261 conditions) and Condition 19 of planning ref. 01/1018 (PL17.127391). Further details are provided in **Chapter 10** of the EIAR.

2.142 Noise predictions for the proposed extension are attached in EIAR Section 10 "Noise & Vibration", and demonstrate that, as proposed the development can be operated within the current recognised national thresholds.

Blast Monitoring

2.143 Blast monitoring is carried out at Rathcore for each blast event at the quarry with the results for the period 2017-2022 contained in **Chapter 10** of the EIAR.

2.144 All blasts are monitored, with records kept detailing the results of vibration, air over pressure, and the blast design as part of the environmental monitoring programme implemented at the quarry.

2.145 Blasting is carried out by IIE's qualified "shotfirer". The blast design is reviewed on a regular basis and modified where necessary to ensure compliance with ground-borne vibration limits.

2.146 The blasting monitoring results at Rathcore Quarry indicate that blasting operations have complied with condition limits imposed.

Odour Monitoring

2.147 As the materials being extracted at the site are not organic or biodegradable and do not therefore emit odorous gases, the on-site recovery activities do not give rise to odour nuisance. Accordingly, no provision has been made for odour monitoring at the site.

Surface Water Monitoring

2.148 Discharge quality and volume is monitored as per the conditions in the existing discharge licence (Ref. No. 13/02) for the site. Monitoring will continue during the proposed works.

- Discharge water quality is monitored on a monthly basis for the following parameters:
- BOD (mg/l);
- COD (mg/l);
- Suspended Solids (mg/l);
- pH;
- Orthophosphate (mg/l);

- Nitrates (N) (mg/l);
- Ammonium (N) (mg/l);
- TPH (µg/l);
- BTEX (µg/l);

2.149 Discharge volume is monitored on a continuous basis using the existing weir and an automatic flow level logger.

PROPOSED LANDSCAPE MANGEMENT AND RESTORATION PLAN

Proposed Landscape Management Measures

2.150 The principal landscaping aims are:

- The physical and visual integration of the existing site and associated features into the surrounding landscape;
- Screening to minimise visual intrusion and to reduce any significant negative aspects regarding the visual impact of any associated new features of the proposed development on adjacent sensitive receptors;
- Positioning of proposed new constructed facilities on site to reduce visual prominence.

Site Screening Measures

- It is proposed to carry out barrier hedge planting in a number of locations along the southern and western boundary to tie into existing dense vegetation along those boundaries (330m in total). This planting will be carried out within the first year of receipt of planning permission, so that it will have matured by the time the extraction works are complete and will function as a secure barrier to prevent access into the site, once restored.
- The planting will be carried out in 2 staggered rows, with the rows 50cm apart and plants within each row 50cm apart (i.e. 4 plants per m).
- The tree stock will be made up from transplants and container grown stock at 40-90cm height, as these are known to establish more successfully.
- 4 Hawthorn, 4 Blackthorn, 1 Hazel and 1 Holly to be planted in random succession every 2.5m.
- Good quality topsoil and compost are to be worked into the top 20cm of the entire planting area, prior to planting.
- All plant handling, planting and establishment works will be carried out in accordance with current best practice.
- Works are to take place in the appropriate planting season (e.g. bareroot planting: November to March only) and in favourable weather conditions.
- Planting will be carried out by a suitably qualified landscape contractor.
- Establishment maintenance will be carried out for 2 years following the planting works. This will include weed control, replacement planting, watering (if required) and the adjustment of spiral guards.

2.151 In addition to the above, existing dense boundary vegetation is to be retained to keep the site secure. The boundary vegetation will be checked annually; dead trees will be removed and any gaps will be filled with new native planting.

Siting of New Rock Milling Plant

2.152 The proposed new milling unit will be located on the existing quarry floor (i.e. at an elevation of 75m AOD) and positioned in the northeast corner of the quarry void as shown on **Figure 2-2**. The existing quarry faces and surrounding perimeter berms and planting will afford maximum screening of the new plant as demonstrated in the cross sections provided in **Figure 2-3**.

Proposed Restoration Scheme

2.153 The principal activity which will be undertaken at the application site is the extraction of the in-situ rock with ultimate restoration of the overall application site to a natural habitat including lake, which is one of the beneficial after uses listed in the EPA Guidelines: 'Environmental Management in the Extractive Industry' (2006). The final restoration scheme and detail is shown on the Landscape Management and Restoration Plan and cross sections in **Figures 2-4** and **2-5**.

2.154 The proposed restoration scheme will be achieved by the following measures:

- the extraction void will be left to naturally fill with water to create a valuable wetland habitat. The rebound water level will be around 80m AOD.
- those quarry benches and faces that will remain above the rebound water level will be left for natural recolonisation by locally occurring tree and scrub species.
- on completion of all extraction works, all of the plant and machinery within the site will be removed. All hard standing areas will be ripped, in order to achieve a variety of ground conditions, including shallow depressions and small heaps of rock/rubble. These different conditions will encourage soil formation and plant colonisation resulting in diverse natural habitats.
- the settlement lagoons will be left to naturally develop into further wetland habitats on site.
- all existing boundary fences and hedgerows will be retained to ensure that the site is secure. The existing gates at the site entrance will be retained and kept locked at all times, except for maintenance access.

2.155 The majority of restoration works will be carried out on permanent completion of the extraction works. As the majority of the site is used for extraction and processing purposes it is not feasible to restore any parts of the quarry void at an earlier stage. However, it is proposed that all existing grass and scrub areas which have established along the site boundaries will be protected and retained, as much as possible.

2.156 The exceptions to the above, where restoration works can be commenced prior to the final extraction operations being completed are outlined below.

2.157 It is proposed to carry out barrier hedge planting in a number of locations along the southern and western boundary to tie into existing dense vegetation along those boundaries (c.330m in total). This planting will be carried out within the first year of receipt of planning permission, so that it will have matured by the time the extraction works are complete and will function as a secure barrier to prevent access into the site, once restored.

2.158 It is further proposed that the remaining overburden will be stripped and placed in the storage area by the end of Year 4 of the extraction operations and whereby it can then be grass seeded to tie into the existing vegetated overburden storage area to the north. This will result in the entire overburden

storage areas to the northeast of the application are being matured by the time the extraction works are complete and will function as a secure barrier to prevent access into the site.

2.159 The restoration works will be carried out in accordance with the EPA Guidelines (2006). Ecological advice will also be incorporated into the restoration process to facilitate future habitat value in the area for biodiversity.

2.160 As the applicant is a long-established mineral extraction operator, it has ample experience and expertise in implementing mineral restoration programmes, as demonstrated in **Appendix 2-C**.

Site Management and Supervision

2.161 The Applicant will clearly define the management responsibility for the site restoration work and will ensure that this person has the necessary information (from the planning application) and authority to manage the whole restoration process. Relevant staff will be briefed on the scheme and will be adequately supervised / controlled. A system of record keeping for the key restoration activities will be put in place.

Long Term Safety and Security

2.162 All components of the barrier system of the site consisting of existing mature boundary hedgerows, fences and walls will remain in place after extractive/ processing operations have ceased.

2.163 As the lands will be restored in part to natural habitat use with a body of open water, secure fencing will be provided around the perimeter of the extraction area. Details of the proposed fencing can be submitted to and agreed with the Planning Authority.

2.164 Existing hedges surrounding the development will be gapped up and thickened where required. These combined with the secure and locked entrance gates to the development will prevent unauthorised third party access.

Long Term Surface Water and Groundwater

2.165 The surface water will percolate to ground. There will be no requirement for any active long-term surface water or groundwater management at the site.

Decommissioning of Plant and Machinery

2.166 Redundant structures, buildings, plant equipment and stockpiles within the overall site will be removed from site on permanent cessation of extraction activity. Machinery and buildings will either be utilised by Kilsaran on other sites or be sold as working machinery or scrap.

2.167 All fuels or oils stored on site will be removed by a licenced contractor and there will be no potential for fuel or oil to cause long-term water pollution following completion of extraction activities.

2.168 The waste water treatment unit within the existing site will be decommissioned, emptied by a licenced waste contractor and removed from the site to eliminate any risk of groundwater contamination by sewage.

Aftercare and Monitoring

2.169 The site will be monitored on a quarterly basis for 2 years following the extraction operations.

2.170 Establishment maintenance will be carried out for 2 years following the planting works proposed along the southern and western boundary areas. The works as set out in the proposed Landscape Management Plan are proposed to be carried out within the first year following receipt of planning permission. The works will include weed control, replacement planting, watering (if required) and the adjustment of spiral guards, ties and stakes.

APPENDICES

Appendix 2-A
Extractive Waste Management Plan

Appendix 2-B
Existing Environmental Management System (EMS)

Appendix 2-C
Previous and recent examples of restoration works of mineral extraction sites carried out by Kilsaran

Appendix 2-A
Extractive Waste Management Plan

Extractive Waste Management Plan

RATHCORE (ENFIELD) DEPOT

Waste Management (Management of Extractive Waste From the Extractive Industries) Regs 2009
[S.I. No. 566 of 2009]

Table of Content

1. The Operator[1]

Kilsaran Concrete Unlimited Company
Piercetown
Dunboyne
County Meath

Tel 01 8026300
Email info@kilsaran.ie

2. The Competent Authority[2]

Meath County Council
Buvinda House
Dublin Road
Navan
Co. Meath

Tel 046-9097000
Email customerservice@meathcoco.ie

3. The Objective of the Extractive Waste Management Plan:

In Ireland, the management of extractive waste is regulated by the Waste Management (Management of Waste from the Extractive Industries) Regulations 2009 (SI No. 566 of 2009). Under these Regulations, quarry operators are required to prepare an Extractive Waste Management Plan (EWMP) which outline the plans and procedures for minimisation, treatment, recovery and disposal of extractive wastes, having regard to the principle of sustainable development.

Section 5(2) of the 2009 Regulations states that the objectives of the extractive waste management plan shall be to:

(a) prevent or reduce waste production and its harmfulness, in particular by considering:

(i) waste management in the design phase and in the choice of method used for mineral extraction and treatment,

(ii) the change that the extractive waste may undergo in relation to an increase in surface area and exposure to conditions above ground,

(iii) placing extractive waste back into the excavation void after extraction of the mineral, as far as is technically and economically feasible and environmentally sound in accordance with the existing environmental standards at Community level and with the requirements of Directive 2006/21/EC where relevant,

(iv) putting topsoil back in place after the closure of the waste facility or, if this is not practically feasible, reusing topsoil elsewhere,

(v) using less dangerous substances for the treatment of mineral resources.

(b) encourage the recovery of extractive waste by means of recycling, reusing or reclaiming such waste, where this is environmentally sound in accordance with existing environmental standards at Community level and with the requirements of Directive 2006/21/EC where relevant,

(c) ensure short and long-term safe disposal of the extractive waste, in particular by considering, during the design phase, management during the operation and after-closure of a waste facility and by choosing a design which:

(i) requires minimal and, if possible, ultimately no monitoring, control and management of the closed facility,

(ii) prevents or at least minimises any long-term negative effects, for example attributable to migration of airbourne or aquatic pollutants from the waste facility, and

3. …Continued

(iii) ensures the long-term geotechnical stability of any dams or heaps rising above the pre-exiting ground surface.

4. Extractive Site Location and Description

Postal Address

Kilsaran Concrete Unlimited Company
Rathcore, Enfield, Co. Meath

National Grid Reference

ITM E675900 N744185

Description

Limestone quarry and associated processing previously permitted developments under P. Reg. Ref. No's. 01/1018 (PL17.127391); 95/1416 (PL17.099325) and 91/970 (PL17.089787) to include the existing quarry, drilling, blasting, crushing and screening of rock and related ancillary buildings and facilities.

Restoration of the site to a beneficial ecological after-use.

The existing site covers approximately 31.1 hectares (c. 76.8 acres) out of a total landholding area of c. 53.8 hectares (c. 132.9 acres).

Planning Status

P. Reg. Ref. No. 91/970 / ABP PL17.089787 – lodged 09/08/1991
P. Reg. Ref. No. 95/1416 / ABP Ref. PL17.099325 – lodged 21/12/1995
P. Reg. Ref. No. 01/1018 and ABP Ref. PL17.127391 – lodged 17/08/2001
P. Reg. Ref. No. QY/53 and ABP Ref. QC17.QC2167 – lodged 27/04/2005
P. Reg. Ref. No. TA/60594 and ABP Ref. PL17.222550 – lodged 02/01/2007
P. Reg. Ref. No. TA/120923 – lodged 02/01/2007

Non Extractive Waste Operations On-Site

None present.

5. Proposed Classification for the Waste Facility

Category A .....~~Yes~~/No

Non-Hazardous Non-Inert .....~~Yes~~/No

Unpolluted Soil .....~~Yes~~/No

Non-Hazardous Prospecting Waste .....~~Yes~~/No

Waste Resulting from Extraction .....~~Yes~~/No

Treatment and Storage of Peat .....~~Yes~~/No

Inert Waste .....Yes/No

Category A .....~~Yes~~/No

Failure or Incorrect Operation

Contains Hazardous Waste

Contains Substances or Preparations Classified as Dangerous

Document Demonstrating that a major-accident prevention Policy

Safety Management System

Internal Emergency Plan

Reasons for considering that a Category A waste facility is not required (include identification of possible accident hazards).

6. Waste Characterisation[3]

'Extractive Waste' is referred to in the Regulations as "waste resulting from prospecting, extraction, treatment and storage of mineral resources and the working of quarries.". Waste is defined in Section 4 of the Waste Management Act 1996 and means any substance or object which the holder discards, intends or is required to discard.

7. Description of the Waste Generating Operation

There is no intention on behalf of Kilsaran Concrete Unlimited to discard, where possible, any material extracted from the quarry at Rathcore. The principle aim of this extractive waste management plan is to prevent waste production which is in accordance with Section 5(2)(a) of the 2009 Regulations.

Extracted Material will fall into the following categories:

Soil and Sub-soil (Overburden) Stripping

This material is excavated to expose the underlying bedrock in the case of the quarry.

Topsoil – all topsoil stripped will either be used to construct perimeter visual/noise screening mounds or be place directly back into previously extracted areas as part of the progressive restoration scheme.

Sub-soil (Overburden) – this material will be dealt with in a similar manner to the items listed above.

Rock Extraction

Rock is extracted from the quarry face using commercial explosives, the blasted rock pile is processed through size reduction (crushing) and size classification (screening) to produce a suit of saleable aggregate products. Aggregates awaiting haulage off-site are stored temporarily in individual stockpiles, which are maintained in order to ensure stability, minimal visual intrusion and minimal environmental impact.

8. Subsequent Waste Treatment (if any)

In accordance with this extractive waste management plan there is no intention on behalf of Kilsaran Concrete to discard any material extracted from the quarry at Rathcore. The principle aim of this extractive waste management plan is to prevent waste production which is in accordance with Section 5(2)(a) of the 2009 Regulations. Therefore, no subsequent waste treatment is required.

9. Description of any Adverse Effects Resulting from Deposition of Waste

There will be no adverse effects on the Environment or on Human Health resulting from the deposition of waste as the aim of the extractive waste management plan is to avoid the generation of extractive waste. Extracted materials without a value as a construction aggregate will either be used for landscaping / screening berms during the operational stage of the development or be used for progressive and final site restoration, as part of the approved plan.

All berms will be constructed with safety as a priority to ensure there is no danger to the environment or to human health.

10. Description of Preventative Measures to Minimise Environmental Impacts[4]

The principal preventive measure of this extractive waste management is to prevent extractive waste production in the first place, in accordance with Section 5(2)(a) of the 2009 Regulations.

11. Control & Monitoring Procedures[5]

As part of an established environmental management system (EMS), Kilsaran has implemented a comprehensive environmental monitoring programme at Rathcore in compliance with the various grants of planning permission granted previously by Meath County Council and An Bord Pleanála on the operation of the quarry and associated works.

Environmental noise, ground/surface water, blast, and dust monitoring is carried out on a regular basis, and past monitoring has demonstrated that the quarry has not had any significant adverse effects on the surrounding environment.

12. Closure and After-Closure Procedures[6]

The requirement for closure and after-closure procedures is not applicable to inert waste and unpolluted soil resulting from prospecting, extraction, treatment and storage of mineral resources and the working of quarries unless deposited in a Category A waste facility.

It is not envisaged that the operation of the Rathcore facility will generate any extractive waste during its operational phase. The extractive operations once ceased will be restored in accordance with the approved restoration plan.

13. Measures for the Prevention of Water Status Deterioration[7]

It is an aim of this extractive waste management plan not to generate any extractive waste. The operations at the Rathcore facility extract natural rock. No chemicals or hazardous materials are used in the processing operations. Currently water is pumped to a settlement pond and constructed reedbed lying to the west of the site and subsequently discharged off-site under effluent trade discharge license 13/02 via a buried pipe to a water course on the western side of the public road, c. 150m to the west of the quarry. Thresholds are applied to the water effluent and are monitored per conditions attached to the licence.

14. Measures for the Prevention/ Minimisation of Air and Soil Pollution[8]

It is an aim of this extractive waste management plan not to generate any extractive waste. Normal extractive operations, including aggregates processing are subject to mitigation measures to minimise the creation of dust, these include the following.

In dry, windy weather conditions, site activities may give rise to dust blows across and beyond the planned development site areas. To control dust emissions, the following measures will be implemented:-

- water will be sprayed from a tractor drawn bowser on dry exposed surfaces and stockpiles (paved roads, unsealed haul roads and hardstand areas);
- areas of bare or exposed soils will, insofar as practicable, be kept to a minimum through ongoing and future phased restoration;
- newly constructed screening berms / soil storage areas will be grassed at the earliest opportunity;
- emission of fugitive dust from machinery such as the crushing plant has, and will continue to be minimised by utilising dust suppression and by locating the primary mobile crushing plant within the quarry extraction area;
- all HGV's exiting the site will be routed through the wheelwash. This will minimise the transport of fines by HGVs over the access / egress road and the public road network;

The amount of dust or fines carried onto the public road network will be further reduced by periodic sweeping of internal paved site roads and surrounding public roads as required.

15. Survey of Condition of Land to be Affected

No lands are lands are affected, as there are no extractive waste facilities within the subject site at Rathcore quarry.

16. Boundary Map Showing Limits of Excavation

Please refer to the attached Boundary Map showing the existing approved limit of excavation and the limit of excavation sought under the recent planning application.

17. Explanation Required under Regulation 5(3)[9]

The information required under Regulation 5(3) is contained under the preceding sections of this Extractive Waste Management Plan.

The Plan will be reviewed at least every 5 years, or sooner if substantial changes to the operations should generate an extractive waste.

18. End Notes

[1] As defined by Regulation 3(2) of the Waste Management (Management of Waste from the Extractive Industries) Regulations 2009

[2] As defined by Regulation 22 of the Waste Management (Management of Waste from the Extractive Industries) Regulations 2009

[3] Schedule 2(1) – description of the expected physical and chemical characteristics of the waste to be deposited in the short and the long term, with particular reference to the stability under surface and atmospheric/meteorological conditions, taking account of the type of mineral or minerals to be extracted and the nature of any overburden and/or gangue minerals that will be displaced in the course of the extractive operations.

[4] Must include aspects referred to in Regulation 11(2) – see Appendix 1

[5] Must include aspects referred to in Regulation 10 & 11(2)(c) – see Appendix 1

[6] Not applicable to inert waste and unpolluted soil resulting from prospecting, extraction, treatment and storage of mineral resources and the working of quarries unless deposited in a Category A waste facility.

[7] Pursuant to Regulation 13 – Prevention of water status deterioration, air and soil pollution

[8] Pursuant to Regulation 13 – Prevention of water status deterioration, air and soil pollution

[9] The plan shall explain, in particular, how the option and method chosen as mentioned in 5(2)(a)(i) will fulfil the objectives of the extractive waste management plan as laid down in 5(2)(a).

Appendix A

Excavation voids

10. (1) The competent authority shall ensure that the operator, when placing extractive waste back into the excavation voids for rehabilitation and construction purposes, whether created through surface or underground extraction, takes appropriate measures in order to:

(*a*) secure the stability of the extractive waste in accordance, mutatis mutandis, with Regulation 11(2),

(*b*) prevent the pollution of soil, surface water and groundwater in accordance, mutatis mutandis, with Regulation13(1), (3) and (5),

(*c*) ensure the monitoring of the extractive waste and the excavation void in accordance, mutatis mutandis, with Regulation 12(4) and (5).

(2) Directive 1999/31/EC 3 as transposed into Irish legislation shall continue to apply to waste, other than extractive waste, used for filling in excavation voids as appropriate.

Construction and management of waste facilities

11. (1) The competent authority shall take appropriate measures to ensure that the management of a waste facility is in the hands of a competent person and that technical development and training of staff are provided.

(2) The competent authority shall satisfy itself that, in constructing a new waste facility or modifying an existing waste facility, the operator ensures that:

(*a*) the waste facility is suitably located, taking into account in particular Community or national obligations relating to protected areas, and geological, hydrological, hydrogeological, seismic and geotechnical factors, and is designed so as to meet the necessary conditions for, in the short and long-term perspectives, preventing pollution of the soil, air, groundwater or surface water, taking into account especially Directives 76/464/EEC 15 , 80/68/EEC 16 and 2000/60/EC 2 , and ensuring efficient collection of contaminated water and leachate as and when required under the permit, and reducing erosion caused by water or wind as far as it is technically possible and economically viable,

(*b*) the waste facility is suitably constructed, managed and maintained to ensure its physical stability and to prevent pollution or contamination of soil, air, surface water or groundwater in the short and long-term perspectives as well as to minimise as far as possible damage to landscape,

(*c*) there are suitable plans and arrangements for regular monitoring and inspection of the waste facility by competent persons and for taking action in the event of results indicating instability or water or soil contamination,

(*d*) suitable arrangements are made for the rehabilitation of the land and the closure of the waste facility,

(*e*) suitable arrangements are made for the after-closure phase of the waste facility.

Records of the monitoring and inspections referred to in point (*c*) shall be kept, together with licence documentation, in order to ensure the appropriate hand- over of information, particularly in the event of a change of operator.

(3) The operator shall, without undue delay and in any event not later than 48 hours thereafter, notify the competent authority of any events likely to affect the stability of the waste facility and any significant adverse environmental effects revealed by the control and monitoring procedures of the waste facility. The operator shall implement the internal emergency plan, where applicable, and follow any other instruction from the competent authority as to the corrective measures to be taken.

The operator shall bear the costs of the measures to be undertaken.

At a frequency to be determined by the competent authority, and in any event at least once a year, the operator shall report, on the basis of aggregated data, all monitoring results to the competent authorities for the purposes of demonstrating compliance with licence conditions and increasing knowledge of waste and waste facility behaviour. On the basis of this report the competent authority may decide that validation by an independent expert is necessary.

Closure and after-closure procedures for waste facilities

12. (1) The competent authority shall take measures to ensure compliance with paragraphs 2 to 5.

(2) A waste facility shall only start the closure procedure if one of the following conditions is satisfied:

(*a*) the relevant conditions stated in the licence are met,

(*b*) authorisation is granted by the competent authority, at the request of the operator,

(*c*) the competent authority issues a reasoned decision to that effect.

(3) A waste facility may be considered as finally closed only after the competent authority has, without undue delay, carried out a final on-site inspection, assessed all the reports submitted by the operator, certified that the land affected by a waste facility has been rehabilitated and communicated to the operator its approval of the closure.

That approval shall not in any way reduce the operators obligations under the conditions of the licence or otherwise in law.

(4) The operator shall be responsible for the maintenance, monitoring, control and corrective measures in the after-closure phase for as long as may be required by the competent authority, taking into account the nature and duration of the hazard, save where the competent authority or a Minister of the Government, as appropriate, decides to take over such tasks from the operator, after a waste facility has been finally closed and without prejudice to any national or Community legislation governing the liability of the waste holder.

(5) When considered necessary by the competent authority, in order to fulfil relevant environmental requirements set out in Community legislation, in particular those in Directives 76/464/EEC 15 , 80/68/EEC 16 and 2000/60/EC 2 , following closure of a waste facility, the operator shall, inter alia, control the physical and chemical stability of the facility and minimise any negative environmental effect, in particular with respect to surface and groundwater, by ensuring that:

(*a*) all the structures pertaining to the facility are monitored and conserved with control and measuring apparatus always ready for use,

(*b*) where applicable, overflow channels and spillways are kept clean and free.

(6) Following closure of a waste facility, the operator shall, without delay, notify the competent authority of any events or developments likely to affect the stability of the waste facility, and any significant adverse environmental effects revealed by the relevant control and monitoring procedures. The operator shall implement the internal emergency plan, where applicable, and follow any other instruction from the competent authority as to the corrective measures to be taken.

The operator shall bear the costs of the measures to be undertaken. In cases and at a frequency to be determined by the competent authority, the operator shall report, on the basis of aggregated data, all monitoring results to the competent authorities for the purposes of demonstrating compliance with licence conditions and increasing knowledge of waste and waste facility behaviour.

Appendix 2-B

Existing Environmental Management System (EMS)

Environmental Management System (EMS)

MANUAL

RATHCORE QUARRY

Planning Register Reference Number: QY/53

(An Bord Pleanála Reference Number ABP QC17.QC2167)

Table of Content

1. Introduction

Kilsaran Concrete (Enfield) owns and operates the high purity limestone quarry at Rathcore, Enfield, County Meath.

Quarrying of rock has taken place at Rathcore Quarry since initial planning permission was granted in 1993. Two further planning permissions for extensions have been granted since then. In addition a fully approved waste recovery facility, where certain types of construction and demolition waste are recovered was also located within the quarry.

On-site operations include stripping of soil and overburden, drilling and blasting of rock, excavation, crushing and screening to produce a number of aggregate products of various grades.

There is a workshop for the servicing of plant and machinery and offices that accommodate the site management and sales team associated with the business. There are employees facilities comprising canteens, cloakrooms, showers and toilets.

The Quarry is located in the townland of Rathcore, County Meath. The land that makes up the quarry is owned by Kilsaran Concrete (Enfield) and has full planning approval for all operations at the site.

In order to achieve continuous improvement in environmental performance of this operation and site, an environmental management system (hereafter referred to as EMS) has been implemented at this facility. This EMS manual represents the environmental policy, structure of management system, EMS procedures and related documents.

This EMS Manual illustrates the commitment of Kilsaran Concrete to good environmental practices demonstrated by its environmental policy statement, operational and emergency procedures, ongoing comprehensive environmental monitoring programme, proposed annual environmental audits and reviews.

2. Definitions

Environmental aspect – elements of the extractive sites activities that can interact with the environment.

Environmental impact – any change to the environment, whether adverse or beneficial to site activities.

External interested parties – individual or group concerned with or affected by the environmental performance of the site (neighbours, media, environmental organisations, etc.).

Significant environmental aspect – an environmental aspect that has or can have a significant environmental impact.

Other requirements – requirements to which the organisation subscribes but which are not legal or regulatory requirements.

Air Blast – Air Overpressure - A pressure wave in the atmosphere produced by the detonation of explosives, consisting of both audible (noise) and inaudible (concussion) energy. It is generally expressed as dB (Lin).

Ground Vibration – Peak Particle Velocity is the parameter usually used to describe ground vibration in relation to blasting activities. A measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second.

Flyrock – the projection of material from the blast site to any area beyond the designated danger zone.

Dust – in this context, dust is considered to be any solid matter emanating from a surface aggregates working, or from vehicles serving it, which is borne by the air in the size range of 1 - 75µm in diameter. Particles greater than 10µm are associated with public perception and nuisance.

Noise – unwanted sound. Any sound that has a potential to cause disturbance, discomfort, or physical stress to a subject exposed to it.

Overburden –soil, subsoil and weathered rock overlying production rock to be extracted (overburden is a restoration material).

Soil – in soil science: the natural medium for the growth of land plants and classifiable into soil types and soil horizons on characteristic physical properties such as structure, texture, colour and chemical composition including organic content, acidity, alkalinity etc.

3. Scope

An Environmental Management System (EMS) shall be put in place to safeguard the amenities of the area.

As a member of the Irish Concrete Federation, Kilsaran Concrete applies the ICF Environmental Code (2nd Edition) to the operation of its business.

It is stated in the Code that… "An Environmental Management System will be installed appropriate to the nature of the activity. This EMS will be set up to facilitate compliance with the legal planning and environmental requirements of the site including any planning permissions, local authority permits, IPPC Licences where relevant and will facilitate compliance with the principles of this Environmental Code."

The Department of the Environment, Heritage and Local Government's Quarries and Ancillary Activities Guidelines for Planning Authorities document states that… "A well-prepared Environmental Management System is a valuable tool to assist the operations managers of businesses to meet current and future environmental requirements and challenges. It is a quality assurance system that can be used to measure a company's operations against environmental performance indicators, thereby helping the company to reach its environmental targets. A good EMS will integrate environmental management into a company's daily operations, long-term planning and other quality assurance systems."

The Environmental Protection Agency's document 'Environmental Management in the Extractive Industry (Non-Scheduled Minerals) – Environmental Management Guidelines' makes reference to the scope of an EMS. in Section 2.3 it sets out the main components that an EMS should include, which are:- Organisational Commitment; Environmental Policy Statement; Environmental Audits and Site Assessments; Environmental Monitoring; and Operational and Emergency Procedures.

The EPA Guidance also states that… "Each quarry operator should implement an EMS in accordance with the principles set out in Section 2.3.

The system should include an ongoing environmental monitoring programme. The purpose of the monitoring is to demonstrate compliance with any conditions attached to planning permissions, discharge licenses, etc. and to enable the operator to address any third-party complaints in relation to activities within the quarry. The monitoring programme should be agreed with the local authority and reviewed on an annual basis. Monitoring results should be submitted to the local authority on a regular basis and be available at the local authority offices for review by any interested third parties. A copy of the monitoring results should be retained on-site for a period not less than 7 years."

Reference to the information in Appendix C 'Guidelines on the Requirement for an EMS' of the EPA Guidelines was made when reviewing this EMS.

The EMS will include all of the quarrying and associated operations at the Quarry Site undertaken by Kilsaran Concrete, including the concrete product manufacturing undertakings.

4. Environmental Policy

Kilsaran INTERNATIONAL

Environmental Management Policy

Kilsaran is Ireland's leading Independent Concrete Products and Construction Materials Producer. The Company produces ready-mix concrete, concrete blocks, mortar, aggregates, asphalt and macadam, hard-core and fill materials for the Irish construction industry market. Kilsaran also undertakes road surfacing contracts for road construction, local authority and civil engineering works.

In recent years the company has focused on a substantial expansion programme to its Paving & Walling division and Pre-mixed Dry Product facilities. The company operates from numerous locations mainly in the East, midlands and the South of Ireland with one location in the UK. Our goal is to establish Kilsaran as the best building materials company within the market sectors it serves, both domestically and internationally.

We recognise that our activities have an impact on the environment. Kilsaran are committed to protecting the environment, preventing pollution and enhancing the environmental performance of the company. It is our policy to manage our obligations to the environment in a responsible manner and to take a sustainable approach in our business and production activities. Kilsaran regards environmental protection as an integral and essential part of good business practice. We are committed to achieving and maintaining a high standard of environmental performance in all of our operations.

Kilsaran achieves this through the following:

- Establishing Environmental Management Systems throughout our operational facilities, from the extractive sites through to the manufacturing facilities and in the company's support infrastructure.
- Following best environmental practice in regard to our own activities, ensuring that pollution prevention is a major consideration in all operational activities.
- Operating in compliance with all relevant environmental legislation, regulations, waste permit requirements and best management practices.
- Developing objectives, targets and management programmes to help us to improve our environmental performance and achieve a level of continual environmental improvement.
- Raising staff awareness of the environmental issues and the environmental effects of our activities through communication and training.
- Reviewing our Environmental Policy and considering the need for any amendments in the light of changing circumstances.
- This Environmental Management Policy is made available to our employees, business colleagues, customers, the public and other interested parties.

Roy McKeown
Director

Date: 09/03/20.

Padraic Hogan
Director

5. Legal and Other Requirements

Kilsaran Concrete is committed to compliance with legal and other requirements that are applicable to the environmental aspects of its activities.

Kilsaran Concrete subscribes to the Red-On-Line Legal Register, a customised web-based Legal Register for Environment (and Energy). Red-On-Line is a subscription service.

Red-On-Line publishes all legislation relevant to the organisation - not only national legislation currently in force but also upcoming EU Directives and Regulations that could impact on Kilsaran's business activities in the scope of Environment (and Energy). Red-On-Line is customised to the company's specific needs, incorporating the regulations and legislation that apply to its business activities and the sector in which Kilsaran works.

Red-On-Line continuously updates the register with legislation relevant to Kilsaran's business and industry and provides email notifications of changes to legislation and to the register.

Red-On-Line's experts interpret each piece of legislation to provide customised, expert guidance on its purpose and implications for the business. The interpretations are presented in simpler terms, so that the requirements for compliance are accessible to a wider range of employees, not just specialists.

Red-On-Line provides compliance questionnaires enabling compliance evaluation with management standards, regulations and legislation relevant to the organisation. These questionnaires relate to individual pieces of legislation and will be assigned, completed and tracked through Red-On-Line. Users can record, communicate and monitor action plans to address any non-compliance identified by the evaluation process.

6. Environmental Aspects

Kilsaran Concrete has identified all known environmental aspects and related impacts of its activities and products, over which it has control and can have an influence, in order to determine which can have a significant impact on the environment.

• The list of environmental aspects and related impacts will be reviewed at least annually by the **Environmental Manager** in order to identify the significant aspects. Review will also take place within **6 months** of implementing new activities or modifying existing activities.

• The **Environmental Manager** will use the following aspect procedure and related documents to carry out the identification of aspects and associated impacts.

Table. 1 Environmental Aspects/Impacts Table

	Activity/Aspect	Potential Environmental Impact
1	Soil Handling and Storage	A,D,N,SW
2	Overburden Handling and Storage	D,N,SW
3	Drilling & Blasting	D,N,V,B,FR
4	Excavating	D,N,GW,SW
5	Loading/Unloading Activities	D,N
6	Processing (Crushing/Screening)	D,N,GW,SW
7	Material Handling/Storage	D,N,SW
8	Transportation (On & Off Site)	D,N,V
9	Restoration/Rehabilitation	D,N,SW
10	Miscellaneous	
	Fuel/Oil Storage	GW,SW
	Waste Batteries	GW,SW
	Waste Oil	GW,SW
	Worn Tyres	HK
	Scrap Metal	HK
	Septic Tank/Sanitary Waste	GW,SW
	Building Fire	GW,SW
	Disposal of Domestic Style Waste	GW,SW,HK

A	Archaeology (loss off)
D	Dust
N	Noise
GW	Ground Water (pollution)
SW	Surface Water (pollution)
V	Ground Vibration
B	Air Blast
FR	Fly Rock
HK	On-Site Housekeeping

7. Environmental Emission Limit Values

The following emission limit values are prescribed by condition attached to the current planning permissions for the quarry development.

The quarry operates under restated conditions imposed under Section 261(6)(a)(ii) of the Planning & Development Act, 2000. The Meath County Council register reference is **P.Reg.Ref.No. QY53**.

Noise

P.Reg.Ref.No. QY53

Condition 6. The noise levels associated with the day-to-day quarrying activity, when measured from any house in the vicinity of the quarry, shall not exceed 55dB(A) leq over a measured time interval of one hour by day time and shall not exceed 45dB(A) leq over a measured time interval of 15 minutes by night time. These levels may be exceeded to allow temporary but exceptionally noisey phases in the extraction process or for short term construction activity which is required to bring long-term environmental benefits following written consent by Meath County Council.

Reason: In the interests of residential amentity.

Dust

P.Reg.Ref.No. QY53

Condition 7. The total dust deposition (soluble and insoluble) arising from the on site operations associated with the development shall not exceed 350 milligrams per square meter per day averaged over a continuous period of 30 days. No stripping of topsoil or overburden shall be carried in periods of dry and windy weather.

Reason: To protect the amenities of properties in the vicinity.

Surface Water

Discharge Licence Ref.No. in Register 13/02

Thresholds applied to water effluent:

- Biochemical oxygen demand (BOD): 2.5mg/L
- Chemical oxygen demand (COD): 50mg/L
- Suspended Solids: 20mg/L
- pH: 6.0-9.0
- Ortho-phosphate, as P: 0.065mg/L
- Nitrates, as N: 12mg/L
- Ammonium, as N: 0.10mg/L
- Total Petroleum Hydrocarbons: 50µg/L
- BTEX Compounds: 10µg/L

Ground Water

P.Reg.Ref.No. QY53

Condition 9. The developer shall monitor groundwater levels in the existing site water supply well. The new production well, and the six on-site groundwater monitoring well on a monthly basis from the date of this order to commencement of excavation below 90m AOD. Results shall be submitted to the planning authority on a quarterly basis within one month of the end of the quarter being reported on. On the basis of results submitted over time, the planning authority may review the frequency of monitoring

Reason: In the interest of the proper planning and development of the area and public health.

Condition 10. The developer shall monitor groundwater levels in the existing neighbouring private wells (DW1 to DW17 inclusive and DW20 as identified in the EIS, subject to access agreements with the owners consent) on a quarterly basis from the date of this order to six months before commencement of excavation below 90m AOD, and on a monthly basis six months prior to commencement of excavation below 90m AOD. Results shall be submitted to the planning authority on a quarterly basis within one month of the end of the quarter being reported on. On the basis of results submitted over time, the planning authority may review the frequency of monitoring

Reason: In the interest of the proper planning and development of the area and public health.

Ground Vibration & Air Blast

P.Reg.Ref.No. QY53

Condition 21. **(1)** The transmitted ground vibration arising from any blast carried out on the site, when measured on the foundations of the house nearest the location of the blast and not owned by the developer or on a part of the house in close contact with the foundations, shall not exceed a peak particle velocity of 12 millimetres per second in any one of three mutually orthogonal planes.

(2) The air over pressure arsising from any blast carried out on the site when measured outside the house that is nearest the location of he blast and not owned by the developer shall not exceed 125bB(linear) at frequencies of 2 hertz or over.

Reason: In the interest of the proper planning and development of the area and public health.

8. Operational Control

Kilsaran Concrete, through its long experience of quarrying operations has identified operations and activities associated with the identified significant environmental aspects. Operational controls to mitigate the identified significant environmental aspects arising from the significant aspects are summarised in Table 4 below.

Notification of emergency contacts for visitors, contractors, aggregate delivery personnel, and fuel delivery personnel is posted outside the **Quarry Office**.

The **Quarry Manager** shall plan these activities, including maintenance, to ensure they are carried out under specified operating conditions.

Table 2 – Operation Controls

Activity/Aspect	Potential Environmental Impact	Operational Control
1 Soil Handling and Storage	Not Applicable	All topsoil has been stripped from the approved extraction area, therefore this activity will not be required.
2 Overburden Handling and Storage	D,N,SW	i) All embankments & stockpiles will be vegetated immediately to anchor the exposed surface, ii) Stripping will not take place in extended dry periods, iii) Overburden will be used to construct acoustic berms on the boundaries of the site.
3 Drilling & Blasting	D,N,V,B,FR	i) Drill rig will be fitted with a bag filter to control dust, ii) Blasting does not typically occur more frequently than once per week, iii) Ensure 'mic' is optimised so that ground vibration are minimised, iii) Provide sufficient amount of quality stemming, iv) overcharging avoided by careful charge weigh calculation, v) Blasting not carried out early or late in the day, vi) No exposed detonating fuse or chord used in blasting, vii) All blasts monitored, viii) Face Profiling is employed when deemed appropriate.
4 Excavating	D,N	i) Excavation will take place within the quarry void, being screened from significant outside views.
5 Loading/Unloading Activities	D,N	i) Drops from buckets/conveyors will be minimised, ii) Mobile plant will be maintained to reduce any tonal or impulsive sounds, iii) Mobile plant will be throttled down or switched off when not in use.
6 Processing (Crushing & Screening)	D,N	i) Processing Plant will be fitted with a suitable dust supression system, ii) Drops from conveyors will be minimised, iii) Primary crushing will take place within the quarry void, iv) All chutes will have rubber linings & head drums/screens will be fitted with top covers, v) All conveyors will be covered.
7 Material Handling/Storage	D,N	i) Stockpiles will be dampened during dry windy periods, ii) stockpiles will be located at distance from sensitive receptors, iii) Drop heights will be minimised.
8 Transportation (On & Off Site)	D,N,V	i) Internal haul roads will be sprayed with water during dry periods, ii) Wheelwash has been provided, iii) Haulage vehicles will be regularly maintained, iv) The entrance and access road will be paved, v) surfaced areas will be regulalry swept.
9 Restoration /Rehabilitation	D,N,SW	i) Water spraying will be used to suppress dust associated with the replacement of soils, ii) Restored areas will be promptly vegetated minimising dust and preventing wash down of soils into surface water courses, iii) all plant employed will be modern and well maintained.
10 Miscellaneous		
Fuel/Oil Storage	GW,SW	i) Diesel fuel and oils will be stored within bunded areas, ii) Spill kits will be maintained on site to deal with all spills and leaks, iii) Spill training will be provided.
Waste Batteries	GW,SW	i) Collected within central designated storage area while awaiting collection by licensed contractor for disposal/recycling.
Waste Oil	GW,SW	i) Collected within central designated storage area while awaiting collection by licensed contractor for disposal/recycling.
Worn Tyres	HK	i) Collected within central designated storage area while awaiting collection by licensed contractor for disposal/recycling.
Scrap Metal	HK	i) Designated scrap storage area established and build up monitored with regular clear-outs.
Septic Tank/Sanitary Waste	GW,SW	i) Private septic tank with Puraflo system installed in accordance with manufactures instructions, ii) Unit regularly maintained under service contract.
Building Fire	GW,SW	i) Emergency Action Plan, ii) Fire fighting equipment provided, iii) Containment and treatment where possible of dirty fire fighting water.
Disposal of Domestic Style Waste	GW,SW,HK	i) Collected in appropriate bins for regular removal by licensed waste contractor.

A Archaeology (loss off)
D Dust
N Noise
GW Ground Water (pollution)
SW Surface Water (pollution)
V Ground Vibration
B Air Blast
FR Fly Rock
HK On-Site Housekeeping

Environmental Management System

The development shall be operated and managed in accordance with an Environmental Management System (EMS), which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. This shall include, but not be limited to, operation controls for dust, noise, waste management, management of landscaping, protection of groundwaters, emergency response planning, site environmental policy, environmental regulatory requirements and project roles and responsibilities.

An Environmental Management System (EMS) shall be put in place to safeguard the amenities of the area.

Certain aspects controlling the impacts of the development are included in this EMS.

These are addressed specifically below and augment the operational controls presented in Table 3:

(a) Proposals for the suppression of on-site noise.

- Provision of screening berms with screen planting around the perimeter of the quarry excavation act as acoustic barriers.
- Quarry haul roads are and will be kept clean and maintained in a good state of repair, *i.e.* any potholes will be filled and large bumps removed, to avoid unwanted rattle and "body-slap" from heavy goods vehicles.
- Heavy goods vehicles (HGV's) entering the site will be required to have their tailgates securely fastened.
- All mobile plant to be used at the site will have noise emission levels that comply with the limiting levels defined in EC Directive 86/662/EEC and any subsequent amendments.
- Primary and secondary crushing units will be located and operated within the quarry void at the working face helping to reduce external noise impacts.
- Processing plants will be operated in a proper manner with respect to minimising noise emissions, *e.g.* minimisation of drop heights, no unnecessary revving of engines, and plant used intermittently will not be left idling.
- Plant will be subject to regular maintenance, *i.e.* all moving parts will be kept well lubricated, all cutting edges will be kept sharpened, and the integrity of silencers and acoustic hoods will be maintained.
- All plant at the site will be fitted with effective exhaust silencers which will be maintained in good working order to meet manufacturers' noise rating levels. Defective silencers will be replaced immediately.

(b) Proposals for the on-going monitoring of sound emissions from the development.

Please refer to Section 10 of the EMS which provides details of the proposed Monitoring Schedule.

(c) Proposals for the suppression of dust on site.

- Fixed sprinklers will be fitted at the entrance area, yard, car and truck park areas. These are manually operated and turned on during dry periods.
- Operations at the fixed tertiary processing plant can be suspended during certain extreme wind events to help mitigate windblown dust.
- A road sweep is employed routinely, it sweeps the internal paved areas of the yard and entrance area as well as the public road in both directions at the entrance.
- A road sweep will be available at short notice to respond to an acute situation.
- Procedure in place that if a spill occurs on the public road the sweep will be called immediately to clean it up.
- A wheelwash is provided onsite at the access road to the quarry.
- Only modern drill rigs equipped with filters and dust collection systems will be used to drill blast holes.
- The fixed aggregates processing plant is fitted with a dust suppression system and will be operated during dry periods.
- The mobile primary and secondary crushing units at the quarry face are also equipped with dust suppression systems, which comprise water spray bars, and will be operated when handling dry material.
- A dust suppression unit (water bowser with spray bars) is available on site at all times and will be used to dampen down operating and haulage areas during dry periods.
- Speed limits will apply to internal areas of the quarry to minimise dust generation from mobile plant and haulage vehicles.
- Fine dry loads of aggregate will either be covered or be dampened down prior to leaving the quarry.

(d) Details of safety measures for the land above the quarry, to include warning signs and stock proof fencing.

The perimeter of the quarry is currently fenced. Additional child and stock proof fencing comprising wooden post, sheep proof wire will be erected outside the perimeter of the quarry.
Danger Deep Excavation signs or other appropriate signage will be posted and maintained at regular intervals around the quarry to comply with the requirements of The Safety, Health and Welfare at Work (Quarries) Regulations, 2008, (S.I. 28 of 2008).

(e) Management of all landscaping.

A qualified Landscape Architect shall be engaged to manage all landscaping.

(f) Monitoring of ground and surface water quality, levels and discharges.

Please refer to Section 10 of this EMS which provides details of the proposed Monitoring Schedule.

(g) Details of site manager, contact numbers (including out of hours) for public information.

Rathcore Site Manager is Mr. Jonathan Bennett. He can be contacted during and out of hours on 086 812 6490.

9. Emergency Preparedness & Response

Kilsaran Concrete has established and maintains procedures for and response to accidents and emergency situations, and for preventing and mitigating the environmental impacts that may be associated with them.

Emergency Preparedness and Response Procedure:

- Kilsaran Concrete has an Emergency Action Plan and Emergency Telephone Contact List in the event of an environmental or other emergency. The plan and list are located in the **Quarry Office**. The Emergency Action Plan identifies the potential for emergency situations and the corresponding response. The Emergency Action Plan also considers the prevention and mitigation of any environmental impacts associated with accidents or emergency situations.
- The Emergency Telephone Contact List, posted in the **Quarry Office** contains the names and numbers of persons to be contacted in the event of an emergency. This contact list will be reviewed at least annually and revised if necessary, to ensure accuracy.

In the event of fire, or other emergency, staff shall remove themselves from danger, contact the **Quarry Manager**, and contact appropriate fire/police/rescue personnel by dialling 999 or 112.

10. Monitoring & Measurement

To demonstrate compliance with the requirements of a number of the planning conditions (which specify that details of the ongoing environmental monitoring programme be agreed with the planning authority prior to the commencement of the development), Kilsaran proposes the following comprehensive monitoring programme for the quarry.

Table 3 – Environmental Monitoring Schedule

Aspect	Parameter	Locations	Frequency
Noise	A Weighted	2	monthly
Dust	Fugitive Dust	3	continuously
Surface Water	Physical Properties	1	monthly
Ground Water	Elevation	Multiple	monthly/weekly
Blast Monitoring	Ground Vibration	various	every blast
	Air Overpressure	various	every blast

Note 1: Dust monitoring will be carried out in accordance with the German TA Luft Air Quality Standards (1996) – The Bergerhoff Method (German Standard VDI 2119, 1972). Levels recorded will be compared to the TA Luft dust deposition limit of 350mg/m2/day (when averaged over a 30 day period) (+ or – 2 days). Monitoring will be carried out at the site boundary adjacent to sensitive receptors.

Note 2: Noise Monitoring will be carried out monthly for a period of 30 minutes at each locations at the site boundary adjacent to sensitive receptors located to the north and south west of the excavation area.

Note 3: Surface water monitoring requirements per Discharge Licence Ref.No. in Register 13/02.

Note 4: Irish Industrial Explosives will be responsible for monitoring ground vibration and air overpressure arising from every blast at neighbouring residences. Typically two locations will be monitored for every blast with monitoring equipment rotating between the locations shown on the attached Drawing EMS1C

The locations of these monitoring and recording stations are marked on the attached drawing, Plan EMS1C.

Kilsaran Concrete will engage independent experts to monitor noise, dust, and surface water.

Irish Industrial Explosives will be responsible for monitoring ground vibration and air overpressure arising from every blast at neighbouring residences. Typically two locations will be monitored for every blast with monitoring equipment rotating between the locations shown on the attached Drawing EMS1C.

11. Reporting

It is proposed that quarterly reports of the environmental monitoring results for noise, dust and blast monitoring will be submitted to the planning authority (in addition to the annual environmental audit described below in Section 12).

The reporting quarters shall be as follows:

Quarter 1 – January to March

Quarter 2 – April to June

Quarter 3 – July to September

Quarter 4 – October to December

Quarterly reports shall be submitted to the planning authority as expeditiously as possible following the end of a preceding quarter, bearing in mind there are lead in times associated with analysis of certain environmental parameters.

12. Environmental Management System Audits

Kilsaran Build audits its EMS at least **once a year**. The purpose of audits is to determine if the EMS has been properly implemented and maintained. The EMS Audit procedure is as follows:

Scope

- The audit will include all components of this EMS.

Frequency

- The audit will occur Annually.

Methodology

- The **Audit Team** will review EMS documents prior to the audit.
- An on-site audit using the Irish Concrete Federation Environmental Code Audit Checklist will be carried out every year by the **Audit Team**.
- The audit will also consist of the **Audit Team** reviewing the EMS and noting any findings or corrections needed.
- Audit findings will be recorded and dated.

Responsibility

- The **Environmental Manager** will verify that all negative observations or non-conformances identified during the audit are effectively addressed.

Appendix 2-C

Previous and recent examples of restoration works of mineral extraction sites carried out by Kilsaran

Site 1: Ballysaxhills, Kilcullen, County Kildare

Current and ongoing restoration works

Prior to restoration activities

Restoration activities commenced

Prior to restoration activities

Restoration activities commenced

Site 2: Halverstown, Kilcullen, County Kildare

Sand & Gravel Pit prior to and during restoration works

Halverstown Restoration to Agricultural Use: completed in 2015

Site 3: Ballynamona, Summerhill, County Meath

Restoration of Sand & Gravel Pit to agricultural use: completed in 2008

Site 4: Mitchelstown, Summerhill, County Meath

Restoration of Sand & Gravel Pit to agricultural use: completed in 2014

FIGURES

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N

Generator & Control Cabin
Bunded Fuel Storage
Dust shed
Perimeter Screening Mound
Aggregates Processing (Fixed) Plant
Intake Hoppers
Overburden Storage Area
Proposed Extraction Area
Stockpile Storage Area
Workshop & Employee Facilities
Bunded Fuel Storage
Wheelwash
Perimeter Screening Mound
Weighbridge
Office
Site Entrance
Piezo D4
Hydrocarbon Interceptor
Septic Tank
Car Parking
Current Quarry Access Ramp
Portion of Treeline Ridge (c.50m / 9 beech trees) to be removed along with underling soils / overburden
Water Settlement Pond
Future Settlement Pond
Reed Bed
Site Treated Water Discharge Location
Surface Water Flow to Sump
Existing Quary Sump
Sump Water pumped to Settement Ponds
Quarry Floor @ c.75mAOD
Stockpile Storage Area
Remaining Area of Localised Soils / Overburden to be stripped from this area during initial extraction operations(0-7 years)
To be moved to permanent overburden storage area
Area for future placement of overburden when stripped from quarry working area
Existing Overburden Storage Area
Telecommunications Tower
Perimeter Screening Mound
Access Ramp
Bench @ c.90mAOD
General direction of extraction
(Benches are worked concurrently)
Piezo D1
Piezo D2
Perimeter Screening Mound
CONNELLSTOWN

0 50 100 150 200m 300 400 500
Metres 1:5000

NOTES

Extract from Ordnance Survey 2500 Scale Digital Mapping
3053-B, 2984-C, 3054-A

CYAL 50381397
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LEGEND

- LANDHOLDING BOUNDARY (c.53.8 HA.)
- APPLICATION AREA (c.31.1 HA.)
- LIMIT OF EXCAVATION (c.10.6 HA.)
- CROSS SECTIONS
- CONTOURS
- GROUNDWATER MONITORING WELL LOCATIONS (D1 - D4)
- WATER SETTLEMENT POND
- SITE FACILITIES / PLANT
- GENERAL SURFACE WATER FLOW DIRECTION
- GENERAL DIRECTION OF EXTRACTION OPERATIONS / ADVANCEMENT OF FACES
- PROPOSED TREELINE (c. 50m / 9 beech trees) TO BE REMOVED

Should planning permission be received, the affected trees are deemed to be exempt from requiring a felling licence in line with the Forestry Act 2014.

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ENVIRONMENTAL IMPACT ASSESSMENT REPORT

RATHCORE QUARRY
RATHCORE / CONNELLSTOWN TOWNLANDS
ENFIELD, CO. MEATH

EXISTING SITE LAYOUT

FIGURE 2-1

Scale	Date
1:5,000 @ A3	FEBRUARY 2024

00036.064960 Rathcore EIAR-Fig 2-1 Existing-Layout.dwg

RECEIVED: 01/03/2024

N

Overburden Storage Area

Bunded Fuel Storage

Generator & Control Cabin

Perimeter Screening Mound

Dust shed

Aggregates Processing (Fixed) Plant

Workshop & Employee Facilities

Intake Hoppers

Access Ramp

Proposed New Mill Plant (refer to SLR Drawing 17)

Overburden Storage Areas

Perimeter Screening Mound

Bunded Fuel Storage

Wheelwash

Weighbridge

Office

Site Entrance

Hydrocarbon Interceptor

Piezo D4

Existing Septic Tank and location of new WWTP

Water Settlement Pond

Reed Bed

Future Settlement Pond

Flow Meter and Sampling Chamber

Site Treated Water Discharge Location

Tertiary Treatment through sand polishing area (10 sq. m.)

Proposed Percolation area for new WWTP (15 sq. m.)

Sump Water pumped to Settement Ponds

Telecommunications Tower

Perimeter Screening Mound

Piezo D1

Piezo D2

Perimeter Screening Mound

CONNELLSTOWN

0 80m 200

Metres 1:2500

NOTES

Extract from Ordnance Survey 2500 Scale Digital Mapping
3053-B, 2984-C, 3054-A

CYAL 50381397
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LEGEND

- LANDHOLDING BOUNDARY (c.53.8 HA.)
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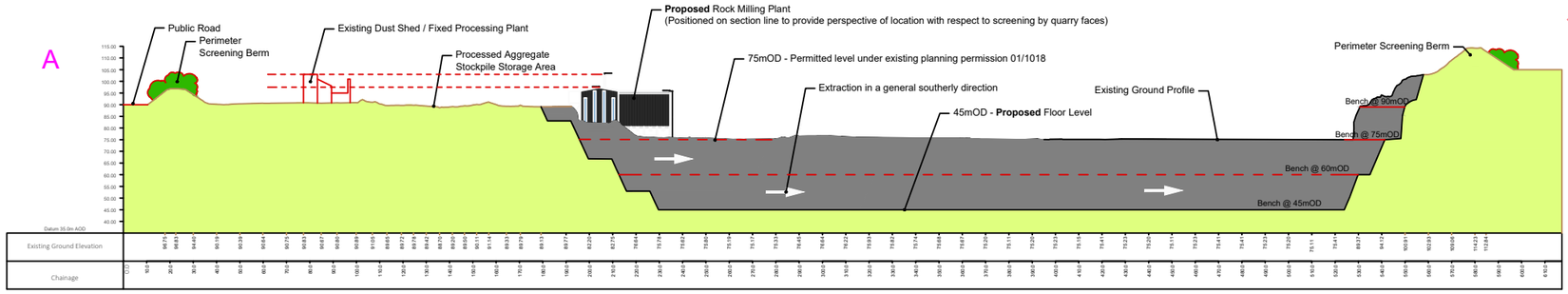
PROPOSED SITE LAYOUT (FINAL EXTRACTION - YEAR 20)

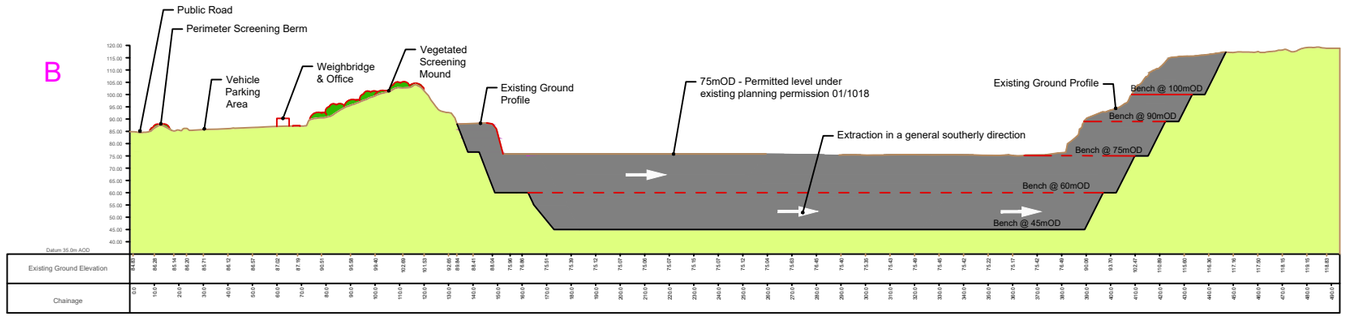
FIGURE 2-2

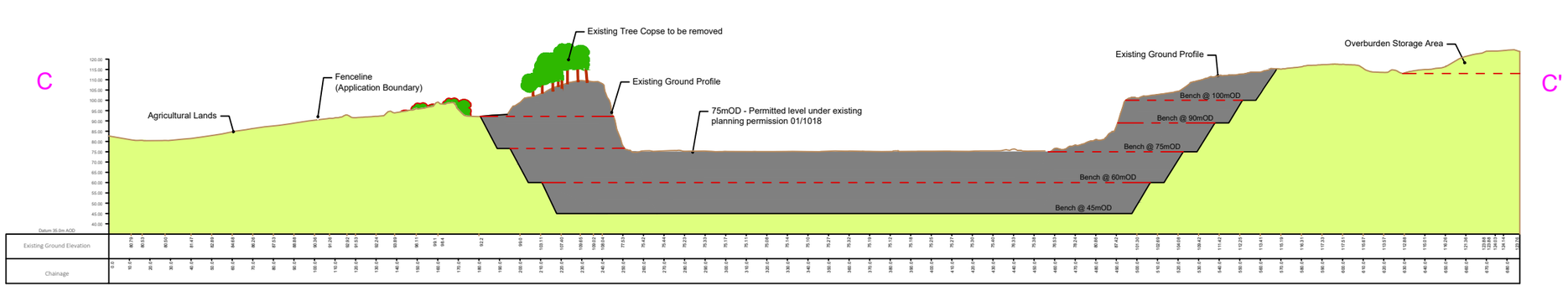
Scale 1:2,500 @ A3

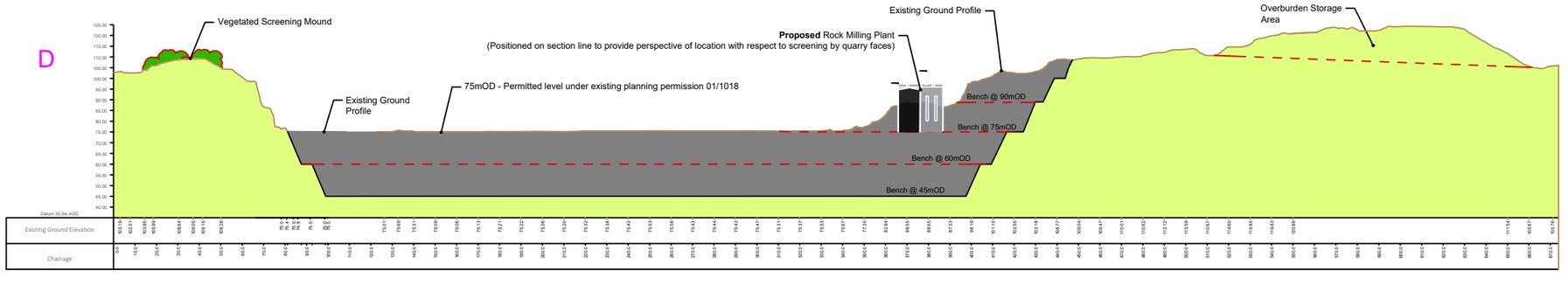
Date FEBRUARY 2024

00036.064960 Rathcore EIAR-Fig 2-2 Proposed Layout.dwg









0 80m 200

Metres 1:2500

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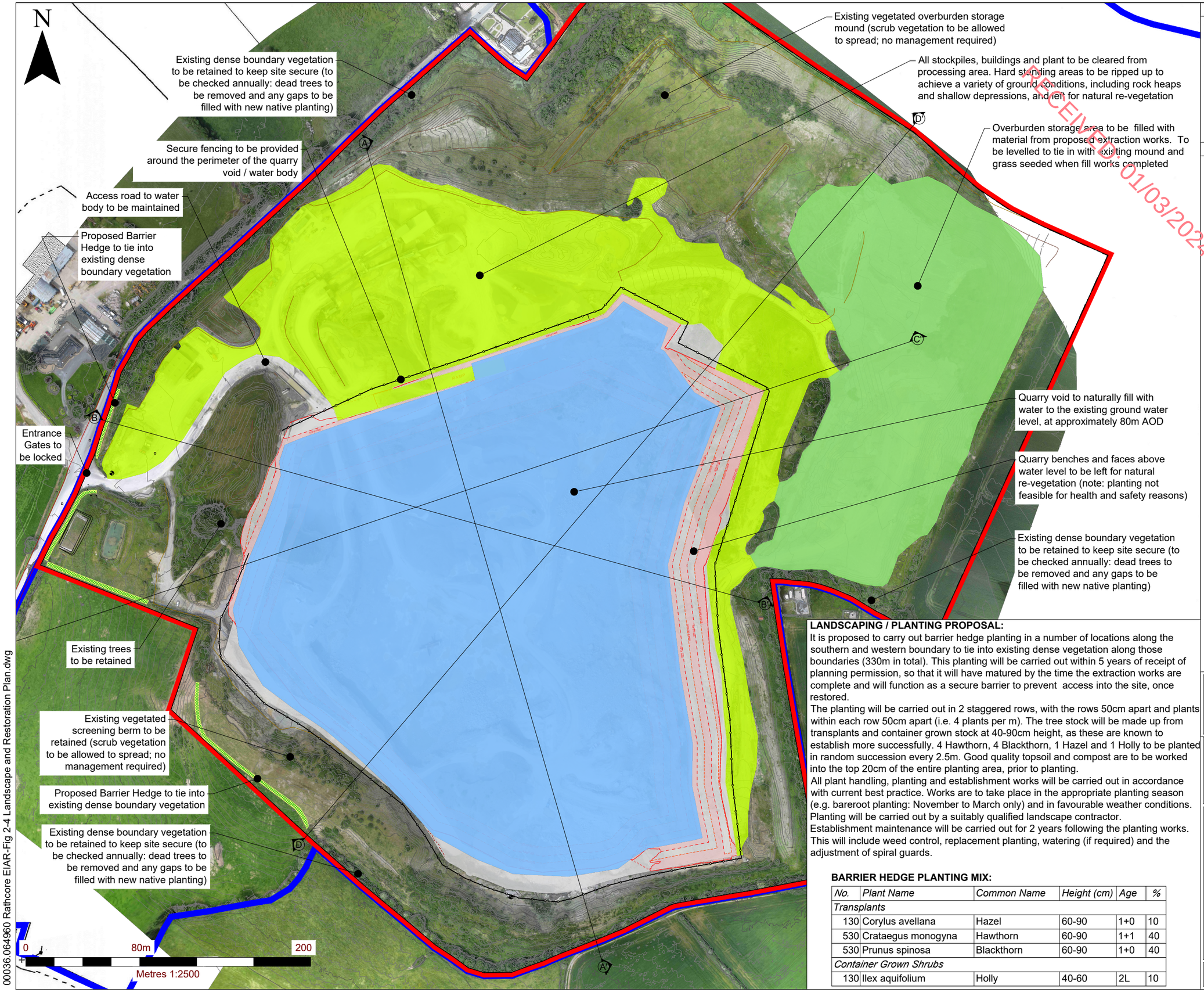
EXISTING / PROPOSED WORKING CROSS SECTIONS

FIGURE 2-3

Scale: 1:2,500 @ A3

Date: FEBRUARY 2024

00036.064960 Rathcore EIAR-Fig 2-3 Cross-Sections R1.dwg



00036.064960 Rathcore EIAR-Fig 2-4 Landscape and Restoration Plan.dwg

NOTES

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The accuracy of the orthomosaics and the digital elevation models (DEM) strongly depends on the flight height, lighting conditions, availability of textures, image quality, overlap, and type of terrain. Contours / 3D data relates to the surface model and not terrain levels. Typical accuracies: E: 0.05 m; N:0.05 m; Levels: 0.30 m.
All Dimensions and Levels are to be checked on site.
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LEGEND

- LANDHOLDING BOUNDARY (c.53.8 HA.)
- APPLICATION AREA (c.31.1 HA.)
- CROSS SECTION LOCATIONS

LANDSCAPE PROPOSALS
(TO BE CARRIED OUT WITHIN 5 YEARS OF COMMENCEMENT OF DEVELOPMENT)

- BARRIER HEDGE PLANTING TO PREVENT SITE ACCESS PLANTED WITHIN 5 YEARS

RESTORATION PROPOSALS
(SITE TO BE RESTORED TO A BENEFICIAL NATURAL HABITAT AFTERUSE)

- OVERBURDEN STORAGE AREA TO BE GRASS SEEDED AS SOON AS FILLED
- PROCESSING AREA TO BE CLEARED AND LEFT FOR NATURAL RE-VEGETATION ON COMPLETION OF ALL EXTRACTION WORKS
- WATER FILLED QUARRY VOID (APPROX. REBOUND LEVEL 80M AOD)
- SECURE FENCING TO BE PROVIDED AROUND THE QUARRY VOID / WATER BODY

LANDSCAPING / PLANTING PROPOSAL:

It is proposed to carry out barrier hedge planting in a number of locations along the southern and western boundary to tie into existing dense vegetation along those boundaries (330m in total). This planting will be carried out within 5 years of receipt of planning permission, so that it will have matured by the time the extraction works are complete and will function as a secure barrier to prevent access into the site, once restored.

The planting will be carried out in 2 staggered rows, with the rows 50cm apart and plants within each row 50cm apart (i.e. 4 plants per m). The tree stock will be made up from transplants and container grown stock at 40-90cm height, as these are known to establish more successfully. 4 Hawthorn, 4 Blackthorn, 1 Hazel and 1 Holly to be planted in random succession every 2.5m. Good quality topsoil and compost are to be worked into the top 20cm of the entire planting area, prior to planting.

All plant handling, planting and establishment works will be carried out in accordance with current best practice. Works are to take place in the appropriate planting season (e.g. bareroot planting: November to March only) and in favourable weather conditions.

Planting will be carried out by a suitably qualified landscape contractor.

Establishment maintenance will be carried out for 2 years following the planting works. This will include weed control, replacement planting, watering (if required) and the adjustment of spiral guards.

BARRIER HEDGE PLANTING MIX:

No.	*Plant Name*	*Common Name*	*Height (cm)*	*Age*	*%*
Transplants					
130	Corylus avellana	Hazel	60-90	1+0	10
530	Crataegus monogyna	Hawthorn	60-90	1+1	40
530	Prunus spinosa	Blackthorn	60-90	1+0	40
Container Grown Shrubs					
130	Ilex aquifolium	Holly	40-60	2L	10

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PROPOSED LANDSCAPE AND RESTORATION PLAN

FIGURE 2-4

Scale: 1:2,500 @ A3
Date: FEBRUARY 2024

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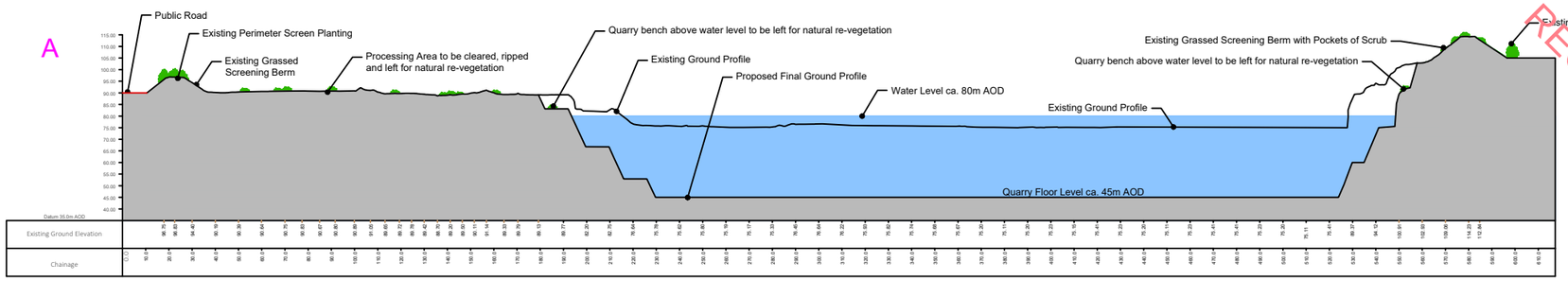
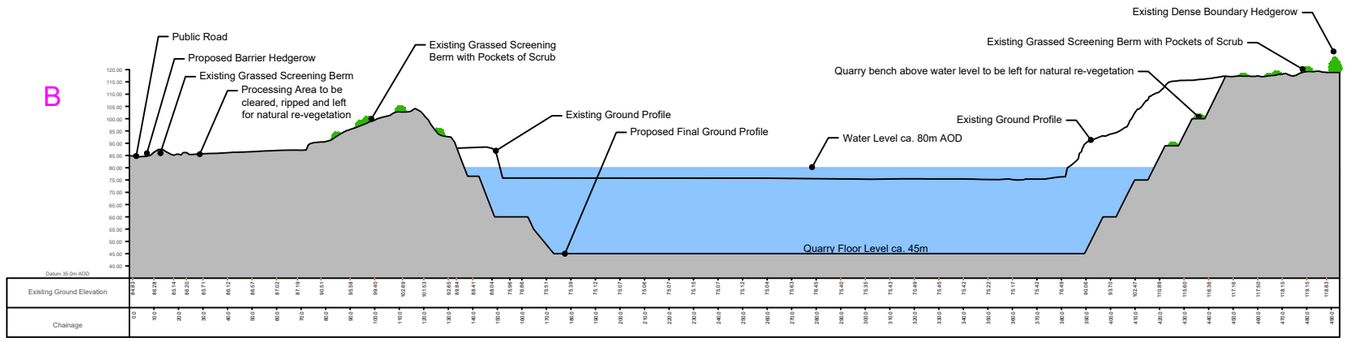


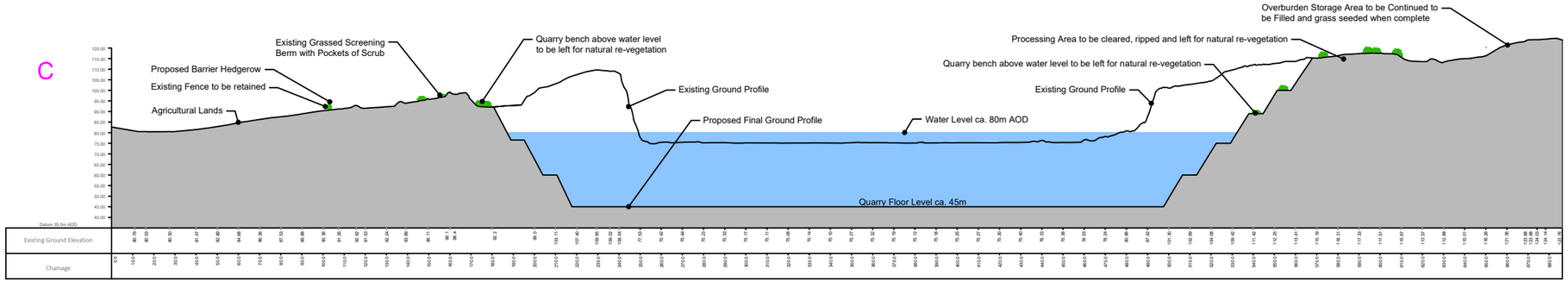
A'

B



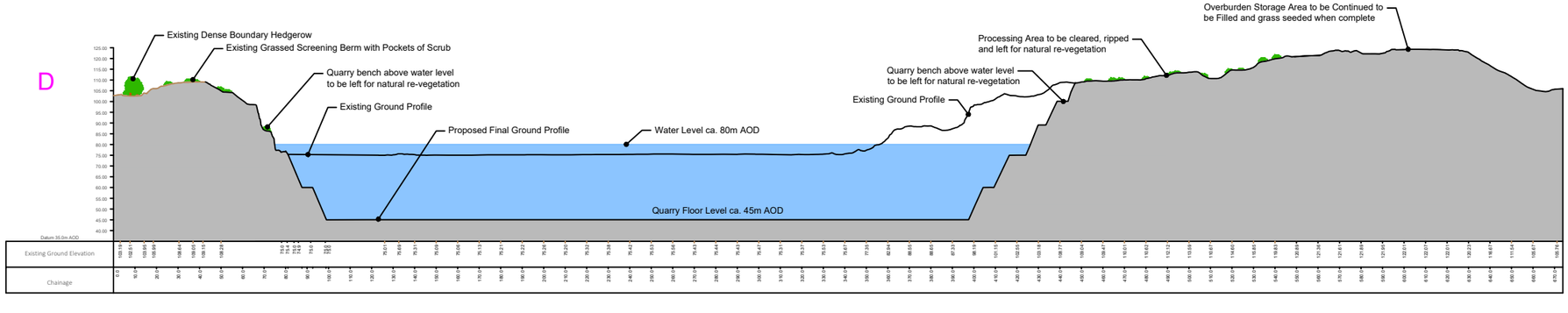
B'

C



C'

D



D'

0 80m 200

Metres 1:2500

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RESTORATION CROSS SECTIONS

FIGURE 2-5

Scale 1:2,500 @ A3

Date FEBRUARY 2024

00036.064960 Rathcore EIAR-Fig 2-5 Restoration Sections R1.dwg