KEOHANE READYMIX LTD.

Sand & Gravel Extraction

Knockroe, Bandon, Co. Cork.

NON-TECHNICAL SUMMARY
Environmental Impact Assessment Report

keohane

APRIL 2025

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Environmental Impact Assessment Non-Technical Summary

[Subject]

Sand & Gravel Extraction
Knockroe, Bandon, Co. Cork

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Making Sustainability Happen

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Basis of Report

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1.0 Introduction

1.1 Development Overview

An Environmental Impact Assessment Report (EIAR) has been prepared in support of a planning application for sand & gravel extraction at Knockroe, Bandon, Co. Cork. This document provides a non-technical summary of the EIAR.

An Appropriate Assessment Screening Report has also been prepared in support of the planning application and is provided as a separate document.

1.2 Key Aspects of the Development

The key aspects of the proposed development are summarised below:

- The design of the scheme retains the natural woodland and the existing face of the historical sand & gravel pit to maximise topographic and visual screening, and to eliminate any potential significant landscape / visual impacts.
- The development will involve extraction of sand & gravel only, by dry working above the groundwater level. No processing of sand & gravel will take place on the site. There will be no processing plant located on the site. Provision is made for a wheelwash and a small welfare unit.
- The sand & gravel extracted will be transported by road a short distance (c. 0.5km) to the adjacent Dromkeen Pit for use in concrete production. Dromkeen Pit has planning permission for importation of sand & gravel for use in concrete production. There will be no public access to the site.
- The working hours will be limited to 09.00 to 17.00 Monday to Friday only. These working hours are shorter than the standard operating hours for the sector and can be implemented as the supply is for internal KRL use only (i.e. not bound by customer delivery obligations). There will be no site activity on Saturdays, Sundays or public holidays.
- The annual extraction rate will be low, a maximum of 100,000 tonnes per year, generating a maximum of one to two heavy goods vehicle (HGV) trips per hour. There will be no other HGV traffic associated with the development.
- During operation the only site activity will be a loading shovel loading sand & gravel onto one HGV truck travelling back and forth from Dromkeen Pit.
- The sand & gravel from Knockroe will be used in conjunction with the existing deposits at Dromkeen, to provide a secure supply of concrete aggregates for the business. It will not result in any increase in overall traffic from the Dromkeen Pit and Concrete Plant operations.
- Through the design / layout of the development for extraction only; the limited working hours; and the low extraction rate / low traffic generation Keohane Readymix Ltd. will ensure any potential impacts are minimised and will not impact on the residential amenity of the area.
- There will be no fuel storage or vehicle maintenance carried out at the site. Site machinery and vehicles will be re-fuelled and maintained at the adjacent Dromkeen Pit facility.
- There will be no groundwater abstraction or discharge off-site to surface waters from the proposed development.

- The land will be restored to agricultural and natural habitat afteruse on a phased basis.

1.3 The Applicant

Keohane Readymix is a family-owned enterprise employing approx. 120 people within Co. Cork at the company's locations at Ballygurteen, Kilmore Brinny, Fourcuil and Kilronan. In operation for over four decades, the company has competed against large multi-national companies and others in the Cork area and remains a significant competitive force and large regional supplier of aggregates and concrete products to the construction industry and various authorities in the wider area.

The sand & gravel from the Knockroe will be used to produce high specification concrete aggregates; plaster / mortar sands; drainage materials and Irish Water specification backfill materials. These products also comply with the relevant national standards.

The company has a strong reputation for good environmental management and health & safety practices across all of its locations, including winning awards at national level.

1.4 Site Location

The proposed development is located approximately 6km east of Bandon and 2km south of Innishannon in Co. Cork, refer to Figure NTS1.

The lands are bounded by woodland / local roads to the north and east; and woodland / agricultural lands to the south and west. The Bandon River is located on the eastern side of the L3204 local road flowing in a southerly direction, refer to Figures NTS1 and NTS2.

1.5 Surrounding Land-Use

The surrounding landuse is predominantly woodland and agricultural grazing land (refer to Figure NTS2). There is a history of sand & gravel extraction in the area the existing Dromkeen sand & gravel pit and concrete plant operated by Keohane Readymix Ltd. located c. 200metres to the north of the site. There are a number of residential dwellings located along the local county roads to the north and east of the site.

1.6 Site Access

There is an existing access to the site from the L3204 local road. This existing access to the site will be used. All truck traffic turns left on exiting the site and travels north on the L3204 road for c.0.5km to the Dromkeen Pit. The access will be surfaced with suitable gradients / drainage to ensure that no surface water drainage flows from the site onto the public road network. The existing internal road from the site access to the proposed extraction area will be used. It is well screened by the existing woodland area that will be retained.

1.7 Consideration of Alternatives

The proposed development is located in an area favourable to extraction activities, due to, *inter alia*:

- Established history of sand & gravel extraction and value-added concrete manufacturing landuse in the area, e.g. the adjacent Dromkeen Pit and the historical sand & gravel extraction activity on the site;

- Proven sand & gravel reserves, noting that these developments are resource tied (i.e. can only be worked where the resource / reserves are present) – refer to EIAR Chapter 6;
- Close proximity to an established concrete facility at Dromkeen Pit, very short haulage distances (c. 0.5km) – refer to EIAR Chapter 14;
- Favourable topography – the scheme design / layout maximises the screening provided by the existing topography and existing woodland;
- Low development costs – the development will comprise extraction of sand & gravel (and restoration) only and will supply the existing concrete facility at Dromkeen Pit.

1.7.1 Do Nothing Alternative

If the development did not proceed, the site would likely remain in agricultural use and the Applicant would have to source sand & gravel from another site at considerably greater distances from Dromkeen Pit.

1.7.2 Demand for Aggregates / Replenishment Requirements

The Irish Concrete Federation (ICF) estimates that annual consumption of aggregates in Ireland is now in the region of 60 million tonnes. Later this year, ICF will publish a report showing that over the past eight years (2017-2024) the 'replenishment' of aggregate reserves has been running behind annual consumption. The report will state that on average, approximately half of the annual consumption has been replenished by means of new planning authorisations. If this pattern continues, the authorised reserves of aggregate will diminish substantially. Continued failure to replenish sand & gravel, and rock reserves at anywhere near the same rate as the construction sector demands will diminish the aggregate reserve base upon which the delivery of public infrastructure and new housing is dependent. The proposed sand & gravel extraction at Knockroe will secure sand & gravel supply for the Applicant, supplementing the existing reserves at Dromkeen Pit, which is a strategically important facility for the supply of concrete to Cork and the wider region.

1.7.3 Alternative Sources Of Aggregates

In the medium term there are no real alternatives to the current land-based sources of construction aggregates. End of Waste criteria in respect of Construction & Demolition (C & D) materials for limited products and use are currently being implemented. Notwithstanding this, the volume of C&D waste suitable for recycling into secondary aggregates would be considered very low in comparison to the overall demand for aggregates. The demographic spread of the population results in only the large urban centres potentially being capable of generating sufficient volumes of construction and demolition (C&D) waste to justify a commercial operation producing secondary aggregates going forward.

In the longer term (>25 years), there may be some scope for extraction of sand and gravel from marine sources.

In the absence of significant volumes of aggregates from recycled / secondary and marine sources, land-based deposits (such as the sand & gravel resources at Knockroe) will continue to be the main source of construction aggregates in Ireland, including the wider Cork Region.

1.7.4 Alternative Locations

Sand & gravel resources provide the raw materials for concrete aggregates and other construction materials Keohane Readymix are continuously assessing potential lands for sand & gravel extraction, including both lands that could form extensions to their existing sand & gravel pits and lands for new "greenfield" sand & gravel extraction developments.

The current planning application is for extraction of sand & gravel at Knockroe, Bandon, Co. Cork to supply aggregates for concrete production at their Dromkeen Pit facility.

At the current time, there is no suitable alternative replenishment reserves available to the applicant in the Innishannon area. It is generally accepted that the overall timeframe for development of a 'greenfield' quarry site (from initial site selection, land acquisition, preparation of a planning application and accompanying EIAR, through planning process and site development to extraction of aggregates) takes between 5 and 10 years. On this basis it is important to replenish sand & gravel reserves on a continuous basis.

Notwithstanding the above, the proposed development would be beneficial in planning terms by eliminating the need for:

- Extracting additional materials from other pits within the county. This would result in faster depletion of aggregate resources at these other locations and potentially result in future intensification of those operations;
- Haulage of materials by road from other pits within the county, with potentially longer haulage distances and increased traffic levels on the wider road network.

This development is not like a factory for example that can be located at many locations; this is a resource tied development. Aggregates can only be worked where they exist and where the environmental effects of working such resources can be managed to an acceptable level.

On the basis of the above, it is considered that the proposed sand & gravel extraction at Knockroe, subject to the proposed scheme design (incl. restoration); implementation of best environmental management practice and compliance with appropriate planning controls (i.e. planning conditions and recommended emission limit values for the sector) is consistent with proper planning and sustainable development.

1.7.5 Alternative Designs/Layouts

The proposed development comprises sand & gravel extraction at Knockroe, Bandon, Co. Cork. Alternative designs and layouts have been considered, and these alternatives have included:

- Extraction Area: options for maximising the extraction area over the full land interest ownership were considered. The extent of the extraction area has been limited to maximise the benefit of screening from the natural topography (retaining the historical pit face) and existing woodland area.
- Depth of extraction: the sand & gravel reserves extend below the groundwater level. Consideration was given to extraction below the groundwater level. For this application, the depth of extraction has been limited to 2 metres above groundwater level, and extraction will take place by Dry working (i.e. no extraction below the groundwater level).

1.7.6 Alternative Techniques & Processes

Keohane Readymix are a company with expertise and experience in the field of sand & gravel extraction, aggregates production, and manufacturing of concrete products. Alternative extraction techniques are not relevant to the proposed development.

The Applicant uses / will use established industry standard and best practice mechanical extraction techniques to extract sand & gravel. Alternative extraction techniques are not relevant to the proposed development.

There will be no processing on site. The extracted sand & gravel will be transported a short distance c. (0.5km) to the adjacent Dromkeen Pit for use in concrete production.

2.0 DESCRIPTION OF THE DEVELOPMENT

2.1 Proposed Development

The proposed development comprises:

- Extraction of sand & gravel over an area of c.3.5 Ha.
- Extraction by dry working to 2 metres above the groundwater level, at a maximum rate of 100,000 tonnes per year.
- Transport of the extracted sand & gravel to the adjacent Dromkeen Pit (Plan. Ref. 23/04780) for use in concrete production;
- Upgrading of the existing internal access road and use of the existing access onto the local road L3204.
- Provision of wheelwash and welfare unit (c.8.3 sq.m).
- Restoration of the lands to agricultural and natural habitat use;
- All within an application area of c.4.0 hectares.

The proposed development being applied for under this planning application is shown on Figure NTS3, with existing and proposed cross-sections shown on Figure NTS4. Works will take place within an overall application area of c. 4.0 hectares. The proposed operational period is 15 years plus 2 years to complete final restoration (total duration sought c. 17 years).

2.2 Extraction Area

The proposed development will comprise sand & gravel extraction from existing agricultural lands c 3.5 hectares, refer to Figure NTS3.

2.3 Phasing Plan

The phasing of the development is shown on Figure NTS5. The landscaping proposals detailed on Figure 2-5 Proposed Landscape & Restoration Plan will be undertaken at the start of the Phase 1. A small area of vegetation will need to be cut back / removed at the existing site access and along parts of the internal access road that will be upgraded as part of the initial works in Phase 1.

Phase 1 will comprise removal of topsoil and subsoil from the eastern part of the extraction area and extraction of sand & gravel. The soil stripped from the Phase 1 area will be temporarily stored in the Phase 2 area pending use in the phased and final restoration works.

Phase 2 will comprise use of the stripped soil temporarily stored in the Phase 2 area for progressive restoration of the Phase extraction area. Soil tripped from the Phase 2 area will be temporarily stored in the Phase 1 area pending use in the final restoration.

2.4 Aggregate Reserve Assessment

The total recoverable reserve of sand and gravel from within the proposed extraction area is assessed at c. 0.9 million tonnes.

2.5 Rate of Extraction & Duration of the Development

The extraction rate is estimated to be up to a maximum of 100,000 tonnes per year. Depending on market demand, and assuming an average extraction rate of 60,000 tonnes per year the duration of the extraction will be up to c. 15 years. Allowing a further two years for final restoration this would equate to a total development duration of c. 17 years.

2.6 Site Screening & Operational Landscaping

The existing site is partially screened from the surrounding roads by existing mature hedgerows and trees along the eastern, northern and western site boundaries. An operational landscaping and planting scheme has been designed to provide additional screening around the perimeter of the proposed development, refer to Figure NTS6 Proposed Landscape & Restoration Plan. This includes planting schedules for native tree planting and native hedge planting. It will be undertaken at the start of Phase 1.

2.7 Removal of Topsoil / Subsoil

Topsoil / subsoil will be removed as each phase of extraction area is developed. Soil stripping will be undertaken using a mechanical excavator and loaded directly onto dump trucks for haulage to the designated temporary soil storage. The maximum height of any temporary soil storage areas will be three metres. Soils will be reused in the restoration of the lands to agricultural use, refer to the Proposed Restoration Scheme section of this chapter.

2.8 Site Drainage

Rain falling across the application site percolates down through the existing ground surface as recharge to groundwater. The final pit floor level will be maintained at 2 metres above the groundwater level. Surface water collecting in the pit floor will percolate naturally into the underlying ground. There will be no off-site discharges to the Bandon River located to the east of the site. A hydrological / hydrogeological assessment has been carried out to determine what the requirements are for the proposed development, with regard to a water regime. 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 pit design and operation, (refer to EIAR Chapter 7 – Water).

2.9 Method of Extraction

Dry working extraction (i.e. above the groundwater table) will use an excavate, load and haul method. An excavator will be used to extract the sand & gravel materials from the working face and load them onto a truck for transport to the existing Dromkeen Pit operated by Keohane Readymix Ltd., for use in concrete production.

No blasting is required for sand & gravel extraction and no such operations will be carried out at the proposed development. No rock will be extracted.

The machinery used for the construction (soil stripping stage) and restoration will comprise 1 no. excavator and 1 no. dump truck. During pit operation the only plant used on site will be 1 no. loading shovel to excavate and loa the extracted sand & gravel onto a single truck for transport to the adjacent Drumkeen Pit for use in concrete production.

2.10 No Processing

There will be no processing of sand & gravel on the site. Extracted sand & gravel will be transported by road to the adjacent Dromkeen Pit for use in concrete production.

2.11 Working Hours

Keohane Readymix Ltd. (KR) has operated the Dromkeen Pit in Innishannon since 1983. KRL are part of the community, and the applicant will not jeopardise the reputation they have built over this period.

With respect to the local residents and hospitality businesses, the proposed working hours for sand & gravel extraction operations at the site are 09.00 hours to 17.00 hours Monday to Friday. No working will take place on Saturdays, Sundays or Public Holidays.

(Note: These reduced working hours (from typically 07.00 to 19.00 on weekdays and 07.00 to 14.00 on Saturdays) will be implemented at the site as it is only extracting sand & gravel for use in concrete production at the adjacent Dromkeen Pit and will not be bound by delivery times required for external customers in the wider construction sector).

2.12 Employment

The development will provide direct employment for up to 2 people during the construction / restoration stages (soil stripping / restoration to agricultural use) and 1 person during the operational stage (extraction) phase. This employment will be secured for the duration of the development.

2.13 Site Security

The boundaries of the site will be fenced with a combination of stock-proof fencing and mature hedgerows. The site boundary will be inspected on a regular basis and maintained as required under the Safety, Health & Welfare at Work (Quarries) Regulations 2008. Appropriate warning signs will be displayed at visible locations along the boundary at appropriate intervals. The entrance to the site has lockable gates to prevent unauthorised access outside of the working hours.

2.14 Site Roads & Parking

The existing internal road will provide the access to the extraction area. It will be upgraded and resurfaced to eliminate the risk of mud / dirt being transported onto the public road. A designated car parking area will be available for staff and visitors adjacent to the site welfare unit.

2.15 Wheelwash

A wheelwash will be provided and this will continue in use for the duration of the proposed development, refer to Figure 2-2 for wheelwash location.

2.16 Ancillary Facilities

A self-contained welfare unit will be provided on site, refer to Figure 2-2. It will include a recirculating chemical toilet, water storage and bottled drinking water. The unit will be

maintained on a regular basis under contract. Staff will also use the existing office and welfare facilities at the adjacent Dromkeen Pit.

2.17 Fuel and Oil Storage

There will be no fuel or oil storage at the site. All machinery will be re-fuelled and maintained at the adjacent Dromkeen Pit owned and operated by Keohane Readymix Ltd. Spill kits and spill kit training will be provided on site to contain / manage any limited accidental spillages in the unlikely event that they arise from the machinery used on site.

2.18 Extractive Waste Management

Topsoil and subsoil stripped from the site will be stored and reused for the restoration of the lands to agricultural use.

All sand & gravel extracted at the site will be transported to the adjacent Drumkeen site for processing. There will be no extractive waste arising on site.

2.19 Environmental Monitoring

An environmental management system (EMS) will be implemented at the site. An environmental monitoring programme will be implemented at the site covering dust deposition, noise, groundwater levels and groundwater quality, refer to further details below. This monitoring programme will be continued (and adapted where required) for the duration of the development. The environmental monitoring programme will comply with requirements in conditions attached to any planning permission granted by Cork County Council. Environmental sampling, monitoring and testing is generally undertaken by external consultants on behalf of KRL as and when required. Records of environmental monitoring and testing will be held on-site and forwarded to Cork Co. Council as required.

2.20 Proposed Restoration Scheme

2.20.1 Restoration to Agricultural and Natural Habitat Afteruse

The principal activity which will be undertaken at the application site is the extraction of sand and gravel with final restoration of the lands to an agricultural and natural habitat afteruse. This restoration afteruse is a beneficial afteruse listed in the EPA Guidelines: 'Environmental Management in the Extractive Industry' (2006).

The restoration plan as set out on Figure NTS6 has been prepared by SLR Consulting and approved by KRL (the Applicant).

Prior to grass seeding all areas to be restored to agricultural land will be stone picked, then promptly seeded, using a mix suitable to create pasture. When this operation is completed the dry working areas will fully revert back to agricultural land and will blend in with the surrounding landscape.

The side slopes of the extraction area will be left for natural regeneration (similar to the existing faces in the historical pit working area to the north. Pockets of native trees will be planted in the north-western part of the extraction area, refer to Figure NTS6 for details, including the native tree planting schedule.

2.20.2 Restoration Phasing

Figure NTS5 Phasing Plan shows the phased development of the site including the soil stripping and phased restoration stages for the site.

2.20.3 Final Restoration

As part of the final restoration of the overall site, all machinery will be removed. It is envisaged that this final restoration will take 2 years, following permanent cessation of extraction.

Prior to grass seeding all areas to be restored to agricultural land will be stone picked, then promptly seeded, using a mix suitable to create pasture.

KRL 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 supervised / controlled. A system of record keeping for the key restoration activities will be put in place.

2.20.4 Long Term Safety and Security

The existing boundary fences and hedgerows will be maintained in a stock proof state of repair. All components of the barrier system of the site protection outlined above will remain in place after extractive/processing operations have permanently ceased. This combined with the secure and locked entrance gates to the development will prevent unauthorised third-party access.

2.20.5 Long Term Stability of Pit Faces

The restored pit slopes will be constructed at stable angles, ensuring the long-term stability of slopes and faces.

2.20.6 Long Term Surface Water and Groundwater

The surface water run-off will continue will percolate naturally to ground. There is no requirement for any active long-term surface water or groundwater management at the site.

2.20.7 Decommissioning Machinery & Ancillary Facilities

Machinery, the welfare unit and the wheelwash will be removed from site on permanent cessation of the extraction activity. Machinery will either be used by Keohane Readymix on other sites or be sold as working machinery or scrap.

There will be no fuel, oil storage tanks and / or effluent treatment system on site. There will be no potential for fuel, oil or sewage to cause long-term water pollution following completion of extraction activities.

2.20.8 Aftercare and Monitoring

There will be no on-going requirement for monitoring noise, dust or water after extraction has ceased. Monitoring and maintenance will be undertaken over the two-year final restoration period to ensure that the restored agricultural land use is successful.

3.0 Existing Environment, Effects And Mitigation

3.1 Population and Human Health

The population of Knockroe ED increased considerably in the period between 2011 and 2016 (2%), and even higher growth occurred from 2016 to 2022 (9%). This is in line with the

population trends witnessed across Cork City and County combined, Munster and the State for the same period which experienced a 3-5% growth in population between 2011 and 2016, and a 7-8% growth in the period 2016-2022. The extent of population growth at the more localised level (small area) was higher than the rate observed within all the overarching levels, in particular for the period 2016-2022 when an increase of 13% of the small area population was experienced.

The total number of households within Knockroe ED increased from 228 to 254 between the 2011-2022 Census, representing an increase of 11.4%. Because of an increase in the Cork City administrative area between the 2016 and 2022 census periods, a direct comparison on total number of households within those areas is not possible. However, within the combined Cork County and City areas, there was a growth of 12.4% in household numbers between 2011 and 2022. Similar but lower growth rates were also recorded for the state with a figure of 11.3% during the same period. In all cases, the growth of household numbers between 2016 and 2022 was higher than between 2011 and 2016.

The population of Knockroe and County Cork categorised by occupation[1] at the time of Census 2022 is shown in Table 4.5 below. This shows that the population of the ED is more likely to be engaged in Professional, Managers, Directors and Senior Official and Skilled Trade occupations than the population of the wider county. The population of Knockroe is also slightly less likely to be engaged in Process, Plant and Machine Operative, Administrative, Caring, Elementary or Sales occupations than the County as a whole

The application site is located within the well-known tourist route along the Atlantic coast from Donegal to West Cork marketed as the 'Wild Atlantic Way'. It is a highly regarded tourist destination, well known for its spectacular landscapes, hospitality and potential for a range of adventure activities.

Recreation and tourism amenities located within 2km of the proposed development are Innishannon House Hotel, Riverbank House and various B&Bs; Old Church and Tower of St. Mary; Bandon River (permits and licences for fishing) and Kilpadder Famine Burial Ground

Pobal is an organisation that works on behalf of Government to support communities and local agencies toward achieving social inclusion and development. The organisation produces mapping information including on deprivation indices in order to identify areas in need of social/community investment. The overall levels of deprivation have been based on census data in relation to demographic profile, social class composition and labour market situation. According to the deprivation indices based on 2022 census data, Knockroe ED is categorised as marginally above average (i.e. slightly advantaged).

The proposed development is for sand & gravel extraction. Topsoil and subsoil will be retained on site for use in restoration of the lands to agricultural and natural habitat use following cessation of extraction. With implementation of the management and mitigation measures no significant residual construction stage impacts on population and human health will arise.

As shown in the EIAR, the mitigation and management measures would successfully eliminate or reduce the effects of the proposed development during the operational / post-operational phases to acceptable levels. No further specific mitigation measures are required in relation to population and human health.

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3.2 Biodiversity

An ecological impact assessment has been carried out to inform the wider Environmental Impact Assessment process and production of an Environmental Impact Assessment Report to accompany the planning application by KRL for the proposed sand & gravel extraction at Knockroe. The ecological evaluation and assessment has been undertaken with reference to the relevant parts of the standard professional impact assessment guidance published in 2018 by the Chartered Institute of Ecology and Environmental Management (CIEEM).

The scope of the ecological impact assessment is to identify potential impacts likely to occur as a result of the proposed sand & gravel extraction, and to determine if the effects on biodiversity are significant in the absence of mitigation. The scope of the report includes the provision of mitigation, compensation and enhancement measures as required.

An Appropriate Assessment Screening report was also prepared for this project. There are no European sites within or directly adjacent to the Site. The nearest European sites are *Courtmacsherry Estuary* Special Area of Conservation (SAC) [001230] ca. 9.2 km south of the Site at the closest point when measured in a straight line, and *Courtmacsherry Bay* Special Protection Area (SPA) [004219] ca. 9.9 south-west of the Site.

These Sites are not connected via ecological features such as hedgerows or treelines or surface water / groundwater pathways to any European site. European sites are considered to be sufficiently distant from and unconnected to the project site to not be affected by the proposed sand & gravel extraction activities.

There are no Natural Heritage Areas (NHAs) located within 5 km of the Site. There are two proposed Natural Heritage Areas (pNHAs) located within 5 km of the Site and an additional two pNHAs are located either upstream or downstream of the Site via the Bandon Estuary; *Bandon Valley Below Inishannon* pNHA [001515] 30m to the east and *Bandon Valley Above Inishannon* (001740) pNHA 690m north-west and upstream of the Site. 5. There is the potential for a slight, but not significant impact from construction and operational activities, soil stripping and accidental leakage / spillage from vehicles to affect groundwater quality in the groundwater through vertical migration. *Bandon Valley Below Inishannon* (001515) is the only pNHA which may be indirectly affected by pollution of groundwater. Mitigation measures are proposed to reduce these potential impacts to insignificant.

There will be the loss of a narrow strip of scrub habitat associated with the upgrade of the existing internal access road from the existing site access sand & gravel extraction area. There will also be the need to strip the topsoil and grassland layer from the proposed extraction area, which is frequently tilled, and so there will be no loss of any significant trees or plant species. As there will be no significant loss of trees or grassland there will be no effects on the local bird or bat population. The compensatory planting of native hedgerow/scrub as part of the operational landscaping (refer to Figure 5) will replace the lost scrub habitat, and this will be of some benefit to foraging and nesting birds and bats.

The proposed development will not result in any significant effects on the biodiversity of the Site and provided the recommended mitigation, landscaping, and restoration measures are implemented it is considered that development will not result in any residual significant effects on the biodiversity of the Site or the surrounding area.

3.3 Land, Soils and Geology

This chapter of the Environmental Impact Assessment Report describes the existing land, soils and geological setting and an assessment of the potential impact of the proposed development on the land, soils and geological features. It is based on a desk study of the proposed site and surrounding lands using published geological data, the results from a

ground investigation and site visits. For the purposes of this assessment, the study area comprises the application site and the surrounding area up to 2km reflect the sensitivity of the Land, Soil and Geology.

There is an old historical disused Sand & Gravel Pit at the site entrance and an internal access road from the site entrance leading to the proposed extraction area at the site. The exposed faces at the existing adjacent Keohane Readymix Ltd pit at Dromkeen have been inspected and also provide information on the local soils and subsoils in the area.

The extraction of Sand & Gravel material at the proposed development site is a resource-tied land use activity, as it is dependent on the location and suitability of the material for its intended use.

The dominant land cover type in the area is Agricultural Pasture. The proposed development will result in a temporary loss of agricultural land across the extraction area. The soils at the site will be stripped and stored on site during the extraction and will be used for the restoration of the site to agricultural use.

The soil associations at the site is the Ross Carberry Soil Association, which is described as coarse, loamy drift with siliceous stones and are predominantly well drained soils. The soil is shallow and well-draining, although nutrient poor; it is considered a good agricultural soil and is widespread across Ireland but is predominantly in Co. Cork. The subsoils at the site are Sand & Gravel derived from Devonian sandstones.

A ground investigation comprising three boreholes was undertaken at the site in March 2025 to confirm the geology at the site. The investigation confirmed that Sand & Gravel deposits are present at the site to a maximum thickness of at least 28m. The material is thinner along the western boundary of the site. No bedrock will be extracted at the site as part of the proposed development and no bedrock outcrops were observed at the site.

The proposed extraction site is not designated as geological heritage site or a site of geological importance.

In terms of the land, soils and geology baseline conditions considered here, the sensitive receptors identified from this baseline are agricultural land use, agricultural soils and the Sand & Gravel subsoils. The proposed extraction will result in the temporary loss of agricultural land during extraction. On cessation of the extraction activities, the site will be restored back to agricultural and natural habitat land use.

The site will be developed and restored on a phased basis to reduce the exposed areas of soils at the site. The stripping, storage and reuse of the soils in restoration at the site will be undertaken on a phased basis; Soils will be managed on site in line with best practice. The development will be operated dry, 2 metres above the groundwater table to ensure that the restored soils will be free draining and suitable for agriculture. It is therefore considered that the dry working will ensure that the residual impact on soils during the restoration stage will be Not Significant.

With the phased extraction and appropriate management of the soils for reuse in restoration the residual impact on soil is considered Not Significant. The impact on the Sand & Gravel subsoil material extracted at the site will be permanent.

3.4 Water

This section provides a description of the surface water and groundwater conditions in the application area of the site within the context of the regional setting. Available information on the surface water and groundwater of the Knockroe townland area in Inishannon, Co. Cork and its surrounds was collated and evaluated. The proposed development will comprise Sand

& Gravel extraction by dry working to a level 2 metres above the groundwater table. There is no dewatering required for the development and there will be no discharge of water from the site. Any storm water at the site will percolate naturally and quickly to the ground to the groundwater.

There is no process water requirement for the site as the Sand & Gravel material will be transported to Dromkeen Pit for use in concrete production

There will be no fuel or oil storage on the site. Machinery will be re-fuelled at the existing facility in Dromkeen Pit

The potential impact of a sand and gravel extraction at the site on surface water and groundwater has been assessed and where necessary, recommendations for mitigation measures to reduce or eliminate any potential impacts have been made. The assessment process included a desk study, site investigation including three boreholes to identify the geological strata and allow for the monitoring of groundwater levels at the site.

The geology at the site comprises topsoil and overburden overlying sand and gravel subsoil material which is underlain by a bedrock comprising grey mudstones and limestone from the Kinsale Formation. The site is located in the Bandon-Ilen Catchment. The closest surface water bodies to the site are the transitional waters of the Upper Bandon estuary, located to the North-East, and The Knocknacurra Stream to the north of the site which flows in an easterly direction into the Bandon estuary. The Knocknacurra Stream channel is located above the groundwater in the Sand & Gravel beneath the site.

Under the Water Framework Directive the transitional waters of the Upper Bandon Estuary are classified as being of 'Poor' status, while the Knocknacurra Stream is classified as being of 'Good' status.

The site is underlain by a Locally Important bedrock aquifer. The groundwater vulnerability at the site is classified as 'Moderate'. The site is located within the Bandon Groundwater Body. Recorded groundwater levels in boreholes GW01 and GW03 are in the sand & gravel material are below 2.5 mOD.

The local groundwater flow direction is towards the Upper Bandon Estuary to the east of the site which forms the hydraulic boundary to the site. The groundwater levels at the site in the Sand & Gravel material are below the level of the Knocknacurra Stream; the stream does not receive groundwater flows from the Sand & Gravels at the site.

From the baseline study undertaken here, the following water environment sensitive receptors have been identified in the receiving environment:

- The transitional waters of the Upper Bandon Estuary;
- Locally important bedrock aquifer; and
- Groundwater supply well at residence located down gradient of the site.

The potential direct and indirect impacts to surface water and groundwater associated with the proposed development are assessed.

Appropriate mitigation measures for the identified potential impacts are discussed, and the residual impacts reassessed with mitigation measures in place. With mitigation measures in place, the potential impacts are considered not to be significant.

The environmental monitoring programme for the development will include groundwater level monitoring and groundwater quality monitoring.

3.5 Climate

Ireland has a typical maritime climate with relatively mild and moist winters and cool, cloudy summers. The prevailing winds are south westerly in direction. The climate is influenced by warm maritime air associated with the Gulf Stream, which has the effect of moderating the climate, and results in high average annual humidity across the country. The area of least precipitation is along the eastern seaboard of the country in the rain shadow of the Leinster uplands.

The climate data recorded within the region of Knockroe is from Cork Airport. The proposed development is not of sufficient scale to have any direct or indirect impacts on the regional or local climatic conditions.

All projects have the potential to emit greenhouse gas (GHG) emissions to the atmosphere during the construction, operational and decommissioning phases of the development. GHG emissions for the proposed development have been calculated and are assessed as not significant in the context of existing national emission levels. Measures will be implemented to assess and/or monitor greenhouse gas emissions and to reduce these wherever practically possible.

The vulnerability of to the effects of climate change has also been considered. The development is not considered to be particularly vulnerable to climate change events, nevertheless some consideration has been given to reducing vulnerability and improving resilience to extreme rainfall events, storms and high winds.

3.6 Air Quality

An assessment of fugitive dust emissions from the overall site (including the planning application area) has been undertaken. The assessment takes into consideration the potential sources, surrounding receptors, and the pathway between source and receptor in order to assess the magnitude of risk of impact without mitigation measures in place.

The main focus of the assessment is the potential impact on sensitive receptors from fugitive dust emissions from the following activities:

- transport – access road and internal haulage routes;
- soil and overburden handling;
- excavation of sand & gravel.

The sensitive receptors within c. 250 metres of the extraction area were identified based on the land-use. These receptors were assessed in greater detail, as they were considered to have a potential for a greater risk of dust impact.

In the absence of any mitigation measures, the risk of impact from dust emissions was determined to be 'acceptable' to 'Slight adverse' at the receptors located within 250 meters. With mitigation measures in place, the risk of dust impacts is reduced to 'insignificant / acceptable' at all receptors.

A number of mitigation measures have been and are in place to minimise the generation / migration of fugitive dust and to ensure that the extraction, processing and restoration operations comply with the relevant threshold values. These mitigation measures are in accordance with the best practice measures for the sector, and include:

- Scheme design, maximising the natural topographic screening and retaining the woodland area.
- All machinery will be regularly maintained.

- Dust suppression (e.g. water bowser) will be utilised to suppress dust on internal haul road surfaces, in dry weather.
- Provision of a wheelwash for HGV traffic existing the site.
- Existing site boundary hedgerows will be maintained and supplemented by additional operation landscaping to minimise the migration of dust beyond the overall site boundary.
- Vehicle speeds will be controlled on all internal haul roads.

Based on the above, it is concluded that the sand & gravel operations with the range of mitigation measures implemented, will not have a significant dust deposition impact.

The environmental monitoring programme will include dust deposition monitoring at the site boundaries.

3.7 Noise

The principal noise sources within the proposed development will be machinery operating within the site. Extraction of sand & gravel will be undertaken using mechanical excavation techniques. There will be no processing on site. Sand & gravel extracted will be transported a short distance (c. 0.5km) to the adjacent Dromkeen Pit for use in concrete production.

A noise prediction assessment shows that the cumulative short-term noise impact from the proposed development at all receptors is determined to Minor at one receptor and Negligible at all other receptors in a worst-case scenario. The cumulative long-term noise impact from the proposed development at all receptors is determined to be Negligible in a worst-case scenario. The cumulative noise impacts at the nearest boundary of the pNHA area are assessed as Minor and Negligible over the short and long term, respectively (i.e. none / not significant). Accordingly, the pNHA Bandon Valley below Inishannon will not be impacted by the proposed development.

Notwithstanding the noise assessment which indicates the noise impacts on the nearest receptors will be Minor / Negligible in the short term and Negligible in the long term, the following best practice noise mitigation and management measures will be implemented. These measures will comprise:

Screening :-

- scheme design to maximise topographic and natural woodland screening;
- existing perimeter hedge planting will be retained and enhanced along the boundary of the site;

Machinery:-

- all machinery used at the development will have noise emission levels that comply with the limiting levels defined in EC Directive 86/662/EEC and any subsequent amendments;
- all machinery will be properly and regularly maintained and operated according to the manufacturers' recommendations, in such a manner as to avoid causing excessive noise;

Traffic :-

- care will be taken when loading HGV's to reduce or minimise potential noise disturbance to local residents;

- access / internal access road will be kept clean and maintained in a good state of repair, to avoid unwanted rattle and "body-slap" from heavy goods vehicles;
- vehicles waiting within the site will be prohibited from leaving their engines running and there will be no unnecessary revving of engines.

Experience and monitoring have demonstrated that by implementing these best practice noise management & mitigation measures, ambient noise levels from site activities and operations can be reduced by up to 5dB(A).

With implementation of the mitigation and management measures detailed above the residual noise impacts at all receptors will reduce to Negligible in the short-term and long-term.

The environmental monitoring programme will include noise monitoring at the nearest sensitive receptors.

3.8 Material Assets

The local material assets in the vicinity of the site include residential and commercial buildings, historic buildings/monuments, road infrastructure, built services (ESB and water mains etc.) and waste management. Consideration of residential and commercial buildings; historic buildings / monuments and road infrastructure is assessed under the topics of Air Quality; Noise; Cultural Heritage and Traffic.

3.8.1 Built Services / Utilities

There is no requirement for utilities during the construction stage or operational sates of the development. There will be no construction, or operational stage impacts in relation to built services / utilities. Given that the proposed development does not require the provision of any built services it is considered that the proposed development would not have any significant, adverse, direct or indirect effects on built services / utilities.

The post-operational stage relates to the application area following the cessation of extraction operations and the completion of any restoration works. It is proposed to restore the lands to agricultural and natural habitat landuse. No activities that would have the potential to affect any built services / utilities in the vicinity would be undertaken during this stage. It is not anticipated that there would be any significant direct or indirect effects on built services / utilities during the restoration works.

3.8.2 Waste

There will be no waste arising within the proposed development during the construction or operational stages of the development. Accordingly, there will be no direct or indict effects arising from waste management during the construction or operational stages.

By the post-operational stage, the extraction area will be restored to agricultural and natural habitat use. There will be no waste arising within the proposed development during the post-operational stage of the development. Accordingly, there will be no direct or indict effects arising from waste management during the construction or operational stages.

3.9 Cultural Heritage

An archaeological and cultural heritage impact assessment has been carried out by a qualified archaeologist. Impacts on the archaeological, architectural, and cultural heritage of the application site and the surrounding area arising from the Proposed Development were assessed. The assessment consisted of desk study, baseline Studies; and assessment of the site.

The Cork County Development Plan 2022-28 is the statutory plan detailing the development objectives / policies of the local authority. The plan includes objectives and policies, relevant to this assessment.

Baseline studies of the application site consisted of using existing written and graphical information to identify the likely context, character, significance, and sensitivity of the known or potential cultural heritage, archaeological and structural resource. A detailed investigation of the archaeological and historical background of the application site, the landholding and the surrounding area extending 1km from the development boundary was undertaken. A field inspection was also carried out on the on 1st of October 2024 to identify and assess any known archaeological sites and previously unrecorded features and portable finds within the site.

There are no structures listed in the Record of Protected Structures located within the application site or vicinity. There are no structures listed in the National Inventory of Architectural Heritage located within the application site or vicinity. The field inspection identified no unlisted upstanding structures of special architectural significance in the vicinity of the application site.

Examination of the Record of Monuments and Places indicates indicated that there are no Recorded Monuments in the application site. Monuments in the vicinity will not effected by the proposal. There are no sites or monuments listed in the sites and monuments record (SMR) within the application site or in the study area. Examination of cartography and aerial photographic resources identified no items of archaeological or architectural heritage in the application site. The site inspection identified no items of archaeological or architectural heritage in the application site.

A detailed archaeo-geophysical (magnetometer) survey conducted by AMS in September 2024 (NMS Licence No. 23R0461) in the application site identified 20 anomalies. A test excavation carried out by Ewelina Rondelez for Rubicon Heritage (Licence No. 25E0042) in February 2025 with the objectives to:

- Test trench all 20 anomalies to define their interpretation and archaeological significance.
- Test trench additional areas within the application area where no geophysical anomalies were detected to test the results of the survey.

The most significant archaeological feature was a Burnt Mound (C008) a deposit of charcoal-rich soil containing fire-affected/shattered stones (C008) was identified in trench 21. The spread of burnt mound material measured 7.7 metres in length, 5.7metres in width, and 0.15 metres in depth. Agricultural Features of no archaeological significance consisted of a Field boundary and linear feature together with the evidence of in situ burning in trenches 6, 10 and 16 and field clearance indicate ongoing agricultural land use.

There would be an irreversible significant and permanent negative effect on a Burnt Mound (C008) a deposit of charcoal-rich soil containing fire-affected/shattered stones identified in Trench 21 through geophysical survey and test excavation.

There will be no direct effects on any other known items of archaeology, buildings of special architectural heritage interest, or cultural heritage in the application area or the vicinity during the construction and operational phase of the proposal.

Due to the irreversible significant and permanent negative effect on a Burnt Mound (C008) a deposit of charcoal-rich soil containing fire-affected/shattered stones identified in Trench 21 this feature will be preserved in situ and omitted from the planning application area for the proposed development (mitigation by avoidance).

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3.10 Landscape & Visual

A detailed landscape and visual impact assessment (LVIA) of the proposed development associated with the proposed sand and gravel pit at Knockroe, approximately 1.5 km south of the village of Inishannon, Co. Cork, was completed in accordance with accepted guidance. The planning application area (hereafter 'application area' or 'site') is located approximately 5.5 km east of the town of Bandon, 200m west of the R605 – Regional Road (separated from the site by the Bandon River) and 1.5 km south of the N71 – National Road. The proposed development comprises the extraction of sand and gravel from an existing agricultural field, as well as the widening of an existing track through a former sand and gravel pit to the north of the site, which will facilitate access into the proposed extraction area. Some trees and scrub / woodland vegetation will need to be removed to facilitate the access. Also, some of the existing hedgerow vegetation to the east of the site entrance will need to be reduced / removed to facilitate the sightlines. The loss of vegetation will be compensated by planting a diverse native hedgerow, enclosing the proposed extraction area. On completion of the works, the extraction area will be restored to a combination of agricultural grassland on the pit floor and natural habitat, by leaving the pit slopes for natural regeneration.

A study area for the LVIA was identified, as an area of approximately 3km surrounding the application area. While the application area is visible from a much more restricted area, due to existing undulating topography surrounding the site and an abundance of mature boundary hedgerows, the 3km area is maintained for the purposes of providing landscape context.

The application area comprises the existing internal access track, which traverses a wooded area (i.e. the former sand and gravel pit) and one agricultural field to the south. The agricultural field, which is currently under pasture, is near triangular in shape and gently sloping upwards to the south-west. Its northern boundary is marked by a mix of scrub and woodland vegetation, associated with the adjoining former pit. The eastern boundary is also marked by woodland vegetation, which forms part of the wooded slopes on the western banks of the Bandon River Valley. The field is adjoined by another agricultural field to the southwest, the boundary of which is not marked by vegetation or fencing, but by a change in topography, as the adjoining field is much more steeply sloping. Due to this steep slope large parts of this field are covered in scrub vegetation, mostly gorse.

The levels along the proposed access road range from 3 m above Ordnance Datum (AOD) at the site entrance to 8 m AOD at the southern end of the existing internal access track on the former pit floor. Levels within the agricultural field range from 22 m AOD at its eastern end to 26 m AOD along the south-western boundary. Immediately south-west of the application area, the ground begins to rise steeply towards a broad local ridge. Several such local ridges surround the site in all directions, forming an undulating topography and enclosing the application area visually. The topography of the wider landscape continues to be broadly undulating. These undulations are created by many small streams and their associated valleys, most of which have an approximately east-west orientation and merge with the Bandon River valley.

The application area is located within a landscape, dominated by agricultural land, with most fields under pasture. Most fields are bound by hedgerows, some of which are dense and tightly cut, while others are lined with mature trees. The river valleys within the study area are well wooded, in particular where they have steep sides, as is the case for the Bandon River to the east of the site. Other than that tree cover, which is largely deciduous, is restricted to boundary hedgerows and shelterbelts surrounding farmsteads throughout the area.

The application area and land to the south-east, along the River Bandon, are located within landscape character type (LCT) 3: Indented Estuarine Coast, as identified in the 2007 Draft Landscape Strategy for County Cork. This is designated as a High Value Landscape and is described as follows: "*...This landscape comprises gently undulating topography incised by*

shallow river estuaries or 'drowned' valleys formed by glacial activity…. In terms of landcover, fertile soils predominantly of brown podzolics allow the undulating landscape to be farmed relatively intensively. Fields of moderate size gently rise and fall with the topography, creating a patchwork further articulated by bounding broadleaf hedgerows of generally low height as well as post and wire fencing. …"

Two other LCTs cover the remainder of the study area, with LCT 6a: Broad Fertile Lowland Valleys adjoining the site immediately to the north. The description for this LCT, which is not much different from LCT3, includes: "*The valleys in these areas are created by the rivers flowing east to west and are surrounded by low well spaced ridges…. Landcover comprises highly fertile, regularly shaped fields typically of medium size and with mature broadleaf hedgerows".*

The agricultural field, which forms part of the site, was identified as a landscape element highly susceptible to the proposed development, as it will be removed. The value of the improved grassland field, in landscape terms, was assessed at a community level, due to its lack of natural heritage and perceptual values. Combined with the high susceptibility, this results in a medium sensitivity to the proposed works.

Two distinct landscape character areas (LCA) were identified as sensitive landscape receptors, based on the LCT information and site survey findings, i.e. a Gently Undulating Farmland LCA and a Wooded River Valley LCA. The High Value Landscape designation was taken into account as part of the assessment of receptor sensitivity, by affording both LCAs local authority value level. Both LCAs are considered able to accommodate the relevant sections of the proposed development. The farmland LCA, due to the enclosure of the site from vegetation and topography and the river valley LCA, as the only elements affecting this LCA will be the limited vegetation removal and internal access track surfacing. As a result, the sensitivity of the LCA landscape receptors was assessed as medium.

No strong perceptual aspect landscape receptors, which are likely to be affected by the proposed development, such as remoteness, wildness or tranquillity, were identified in the immediate vicinity of the application area.

While the development would result in the loss of one agricultural fields, this is not a distinctive element in the vast agricultural landscape surrounding the site. Also, the proposed development would not result in completely new elements in the local landscape, considering the presence of the nearby existing sand and gravel pit. Overall, the composition / balance of the landscape would not change. Also, the loss of vegetation / changes would only influence the landscape at a local level, i.e. the site and area immediately surrounding it. Proposed hedge planting surrounding the extraction area would be carried out on commencement of the development, while the remainder of the site would be restored to a mix of agricultural land and natural regeneration, both of which will blend with the surrounding landscape within a long-term period. As a result, the magnitude of change for all landscape receptors was assessed as slight or less.

The sensitivity of the landscape receptors and magnitude of change they experience were then combined to assess the overall landscape effects. These were judged to be moderate/minor or less and not significant.

Views of the application area are greatly restricted by roadside and intervening vegetation, as well as the undulating topography within the study area. The application area is visible in views from a small number of locations in the immediate vicinity of the site entrance and from elevated locations within 1.2-2.0 km to the north-east of the site within 1.5km to the south-west, 1km to the west and between 1.5-2km to the east. In most cases, views are only intermittently available along roads, through gaps in the roadside hedgerows (e.g. at field gates) or where said vegetation is kept low. Visual receptors were identified as residents and vehicle users within these areas of visibility. It should be noted that while some of the

vegetation removal will be visible in the vicinity of the site entrance, the proposed extraction works will be fully screened in views from within the River Bandon valley, by topography and vegetation. And subsequently views from the designated scenic routes along the roads on both sides of the river will not be affected by the proposed development, except for the small changes to existing vegetation, visible in the vicinity of the site entrance. Views from one residential property in the vicinity of the site entrance, and along the scenic route west of the River Bandon, are assessed as highly sensitive. Views from all other residential receptors, not located along scenic routes are assessed as medium. Views from roads users along the scenic route area assessed as having medium sensitivity and views from all other vehicular receptors as low sensitivity.

The magnitude of change was assessed as negligible for views from the property and road users in the immediate vicinity of the site entrance, where only the limited loss of vegetation would be visible, against a backdrop of dense woodland vegetation, which will be retained. In views from a limited section of roads and number of properties from elevated locations within 1.2-2.0 km to the north-east of the site the proposed extraction area will be partially visible, as a small element in the midground of the available panoramic views. The overall composition of views would not be altered. The application area would be restored to a mix of agricultural land and natural regeneration, which will merge in views with the surrounding landscape, within a long-term period. The resulting magnitude of change was assessed as slight.

The sensitivity of the visual receptors and magnitude of change they experience were then combined to assess the overall visual effects. These were judged to be moderate/minor for all residential receptors and minor for all vehicular visual receptors, all of which are not significant.

All landscape and visual effects would reduce to minor/negligible after all of the extraction and restoration works are completed, due to the continued screening from vegetation and topography and as the pit slopes would become colonised with locally occurring grass and scrub species. As a result, the site will merge more and more with the surrounding landscape.

In summary, the proposed operations at the application site will not have a significant effect on any of the landscape and visual receptors. Further to that, no designated landscapes, protected views or scenic routes will be affected.

3.11 Traffic

The site is estimated to extract up to a maximum of 100,000 tonnes of material from the site annually. The extracted sand & gravel will be transported a short distance by road to the adjacent Dromkeen Pit and Concrete Plant (Dromkeen site) operated by Keohane Readymix Ltd., for use in concrete production. The duration of the development will depend on market demand, and planning permission is being sought for 15 years extraction and 2 years final restoration, i.e. a planning permission duration of 17 years. Following extraction, the lands will be restored to agricultural and natural habitat use.

A Traffic & Transport Assessment has been carried out for the proposed development. At the maximum extraction rate the traffic generated by the proposed development will be 1 to 2 heavy goods vehicle (HGV) trips per hour.

Link capacity analysis was carried out on L3204, and it was determined that all roads will continue to operate within capacity for each of the assessment years: 2026, 2031, and 2041. The results of the junction capacity analysis indicates that the junction assessed will operate within capacity for each of the assessment years: 2026, 2031, and 2041.

Following the link, and junction, capacity assessments, the trips associated with the operation of the proposed development, were found to have an imperceptible impact on the link capacity of the L3204 Local Road, and the junction capacity of site access junction.

Visibility to the north (left out of the L3204/L6070 Junction) exceeds the 90m sightline requirement. However, visibility to the south (looking right out of the L3204/L6070 junction) is restricted by the L3204's horizontal alignment, and vegetation in the verge, limiting visibility to 60m.// Improvements can be achieved at this existing junction through removal of the hedgerow, which is within the applicant's land. Hedges and trees near the existing site entrance will be trimmed/removed, and maintained regularly, thereby offering improvements over the existing visibility at the existing junction.

A wheelwash will be provided on site, and the section of internal access road from the wheelwash to the site entrance will be surfaced to mitigate the transport of any mud / dirt onto the public road.

Signage informing road users of site entrance ahead will be provided 100 metres north and south of the L3204/L6070 Junction.

The impact of the proposed development, in relation to road safety and the existing road infrastructure, was also determined to be imperceptible. The residual effects of the development, in relation to traffic, on the surrounding road environment are deemed to be imperceptible.

3.12 Interaction of the Foregoing

The interactions of the various potential impacts and mitigation measures have been covered, where applicable, under the relevant chapters within the EIAR.

Figures

Figure NTS1 – Site Location

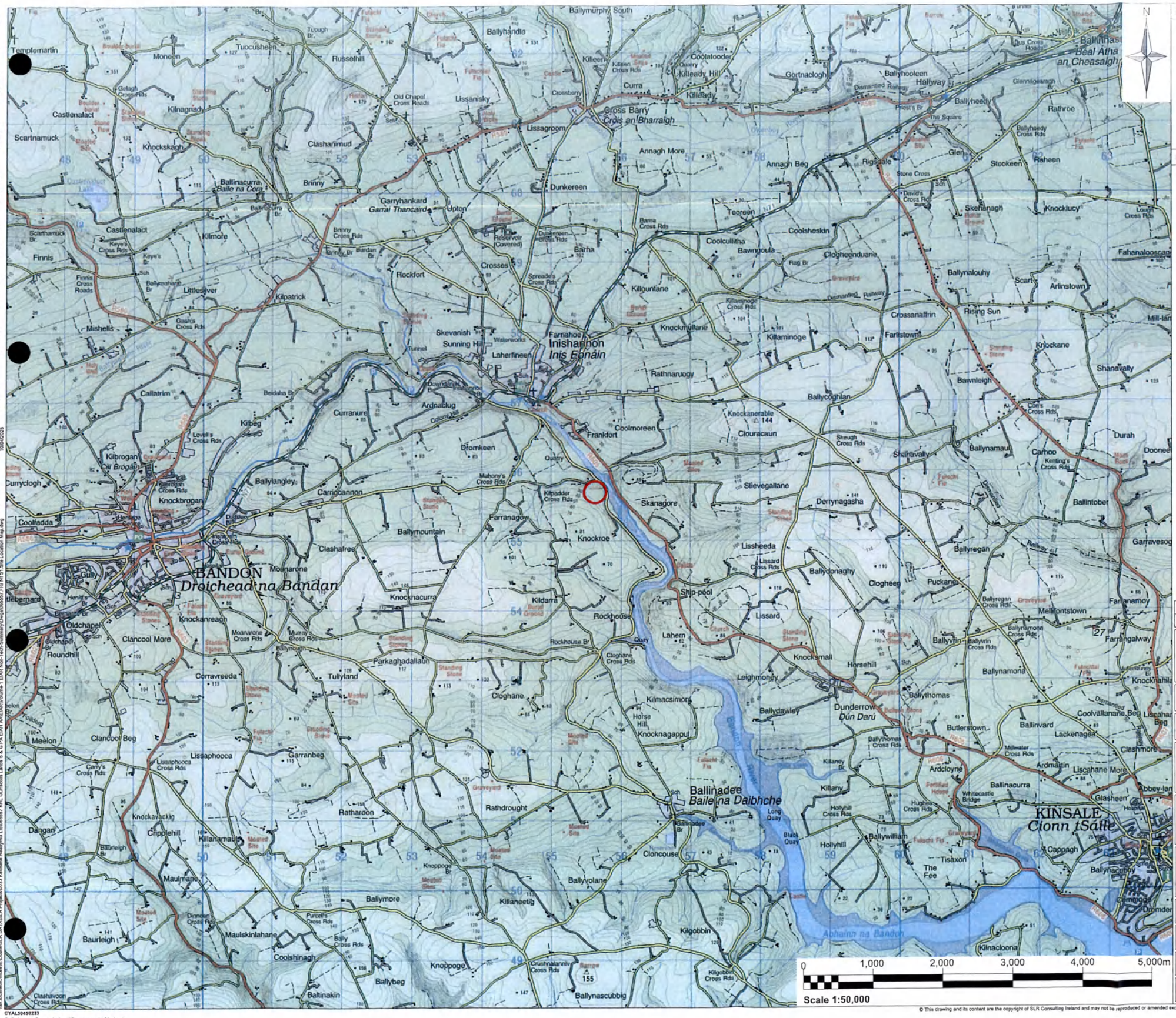
Figure NTS2 – Existing Site Layout

Figure NTS3 – Proposed Site Layout

Figure NTS4 – Existing / Proposed Cross Sections

Figure NTS5 – Proposed Phasing

Figure NTS6 – Proposed Landscape & Restoration Plan



Notes:

1. Extract from Ordnance Survey Map No. 86.

Legend:

LOCATION OF SITE

Rev	Amendments	Date	By	Chk	Auth

SLR

www.slrconsulting.com

Drawing Status & Suitability Code: **FINAL**

Client: KEOHANE READYMIX LTD.

Project: SAND & GRAVEL PIT
KNOCKROE, BANDON, CO. CORK

Drawing Title: SITE LOCATION MAP

Scale		SLR Project No.
1:50,000	@ A3	065557.00001

Designed	Drawn	Checked	Authorised
EW	EW	TP	TP
Date 04/25	Date 04/25	Date 04/25	Date 04/25

Drawing Number: **FIGURE NTS1** Rev. 1

CYAL50450233

Notes:

1. EXTRACT FROM TAILTE EIREANN DIGITAL MAPPING 1:2,500 SCALE MAP, NO. 6578

Legend:

- LAND INTEREST BOUNDARY
- PLANNING APPLICATION AREA (c.4.0 Hectares)
- EXTRACTION AREA (c.3.5 Hectares)
- CROSS SECTION LOCATION
- EXISTING BOREHOLE (BH3)
- CONTOURS (40 m)

Rev	Amendments	Date	By	Chk	Auth

SLR

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Drawing Status & Suitability Code: **FINAL**

Client: KEOHANE READYMIX LTD.

Project: SAND & GRAVEL PIT
KNOCKROE, BANDON, CO. CORK

Drawing Title: EXISTING SITE LAYOUT

Scale	SLR Project No.
1:2,000 @ A3	065557.00001

Designed	Drawn	Checked	Authorised
EW	EW	TP	TP
Date: 04/25	Date: 04/25	Date: 04/25	Date: 04/25

Drawing Number: **FIGURE NTS2** Rev. 1

Scale 1:2,000

0 20 40 60 80 100 120 140 160 180 200m

Notes:

1. EXTRACT FROM TAILTE EIREANN DIGITAL MAPPING 1:2,500 SCALE, MAP NO. 6578
2. REFER TO FIGURE 2-3 FOR CROSS SECTION DETAILS.

Legend:

- LAND INTEREST BOUNDARY
- PLANNING APPLICATION AREA (c.4.0 Hectares)
- EXTRACTION AREA (c.3.5 Hectares)
- CROSS SECTION LOCATION
- CONTOURS

Rev	Amendments	Date	By	Chk	Auth

SLR

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Drawing Status & Suitability Code: **FINAL**

Client: KEOHANE READYMIX LTD.

Project: SAND & GRAVEL PIT
KNOCKROE, BANDON, CO. CORK

Drawing Title: PROPOSED SITE LAYOUT

Scale	SLR Project No.
1:2,000 @ A3	065557.00001

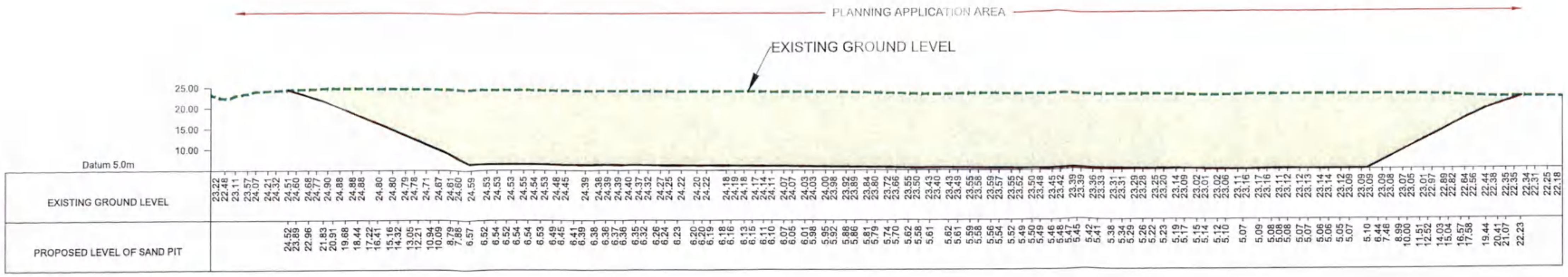
Designed	Drawn	Checked	Authorised
EW	EW	TP	TP
Date 04/25	Date 04/25	Date 04/25	Date 04/25

Drawing Number: **FIGURE NTS3** Rev. 1

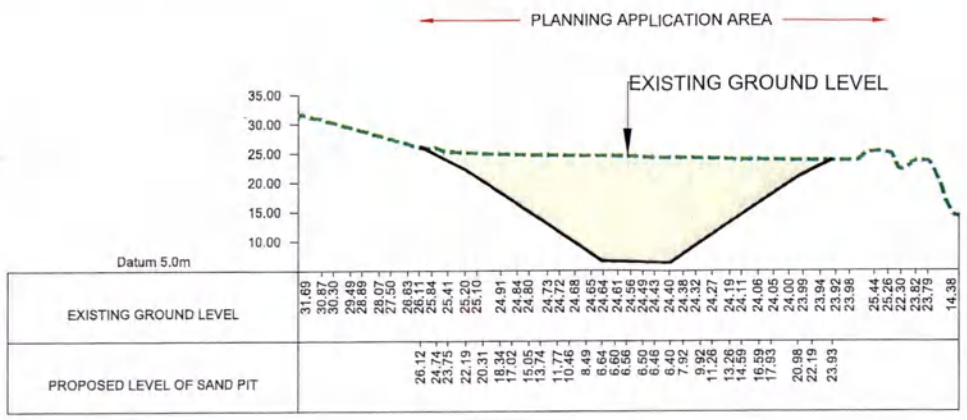
CYAL50450233

Notes

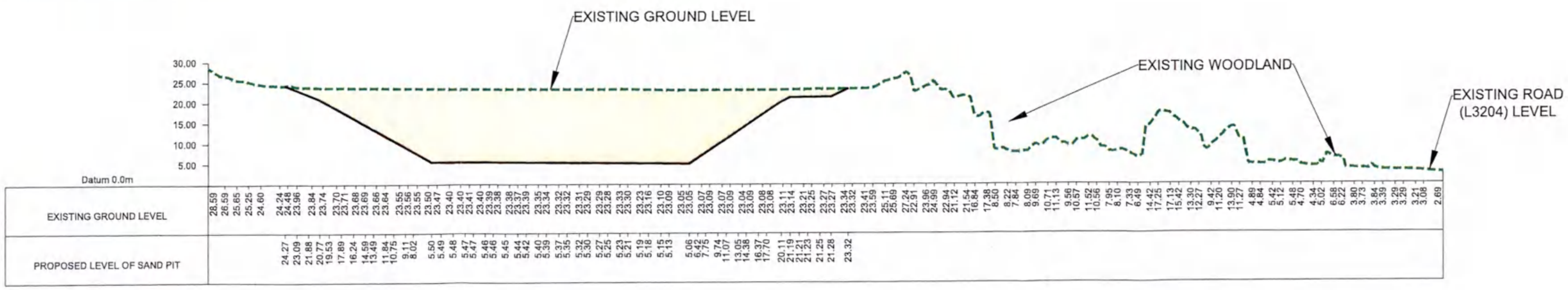
1. REFER TO FIGURE 2-1 & FIGURE 2-2 FOR LOCATION OF CROSS SECTIONS.



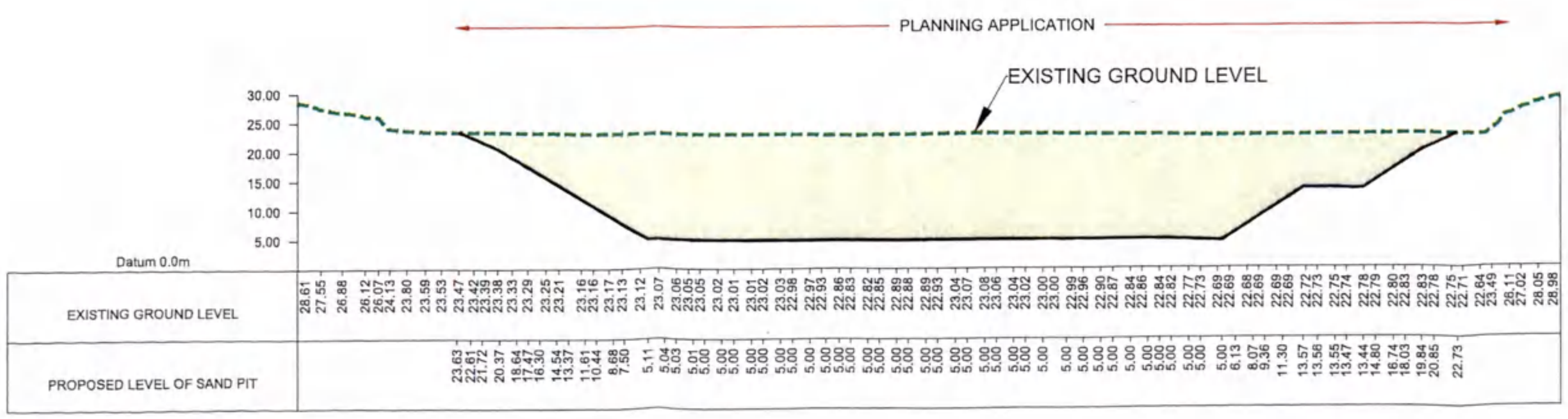
SECTION A-A'



SECTION B-B'



SECTION C-C'



SECTION D-D'

Rev	Amendments	Date	By	Chk	Auth

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Drawing Status & Suitability Code: **FINAL**

Client: KEOHANE READYMIX LTD.

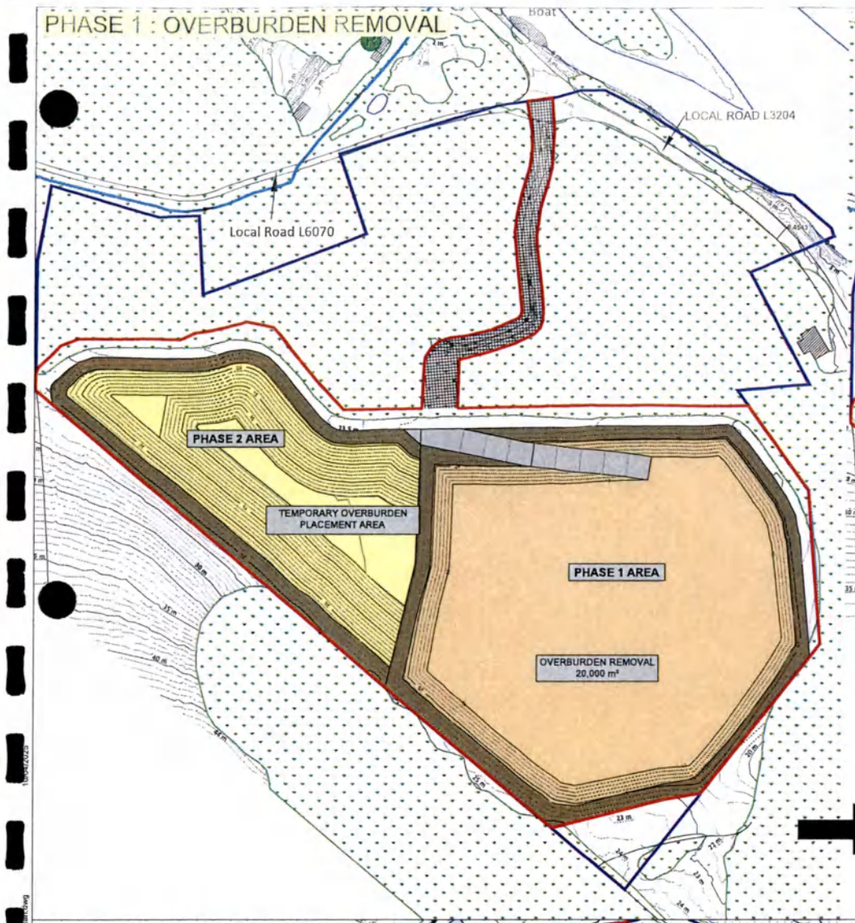
Project: SAND & GRAVEL PIT
KNOCKROE, BANDON, CO. CORK

Drawing Title: EXISTING / PROPOSED CROSS SECTIONS

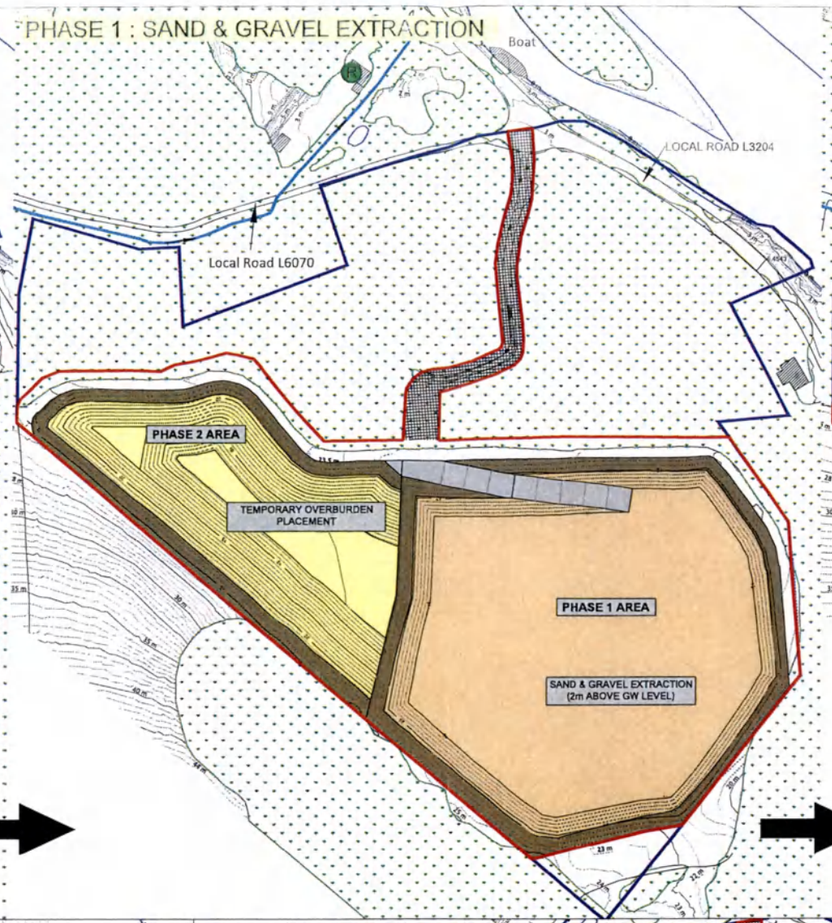
Scale		SLR Project No.	
1:1,250 @ A3		065557.00001	
Designed	Drawn	Checked	Authorised
EW	EW	TP	TP
Date	Date	Date	Date
04/25	04/25	04/25	04/25

Drawing Number: **FIGURE NTS4** Rev. 1

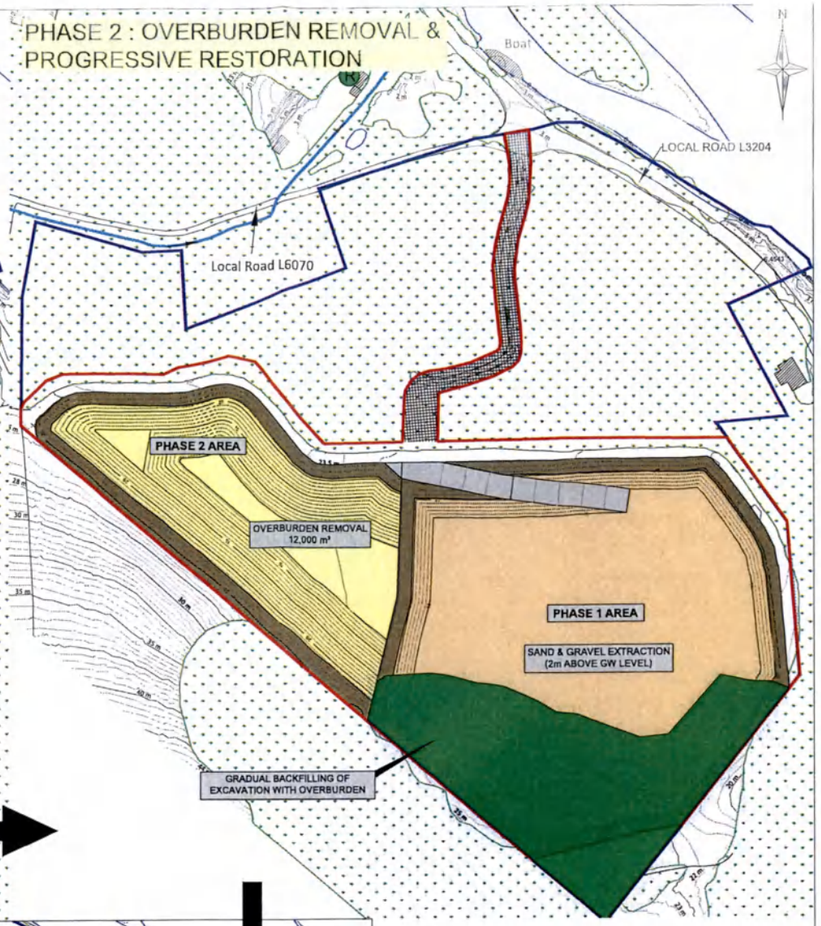
PHASE 1 : OVERBURDEN REMOVAL



PHASE 1 : SAND & GRAVEL EXTRACTION

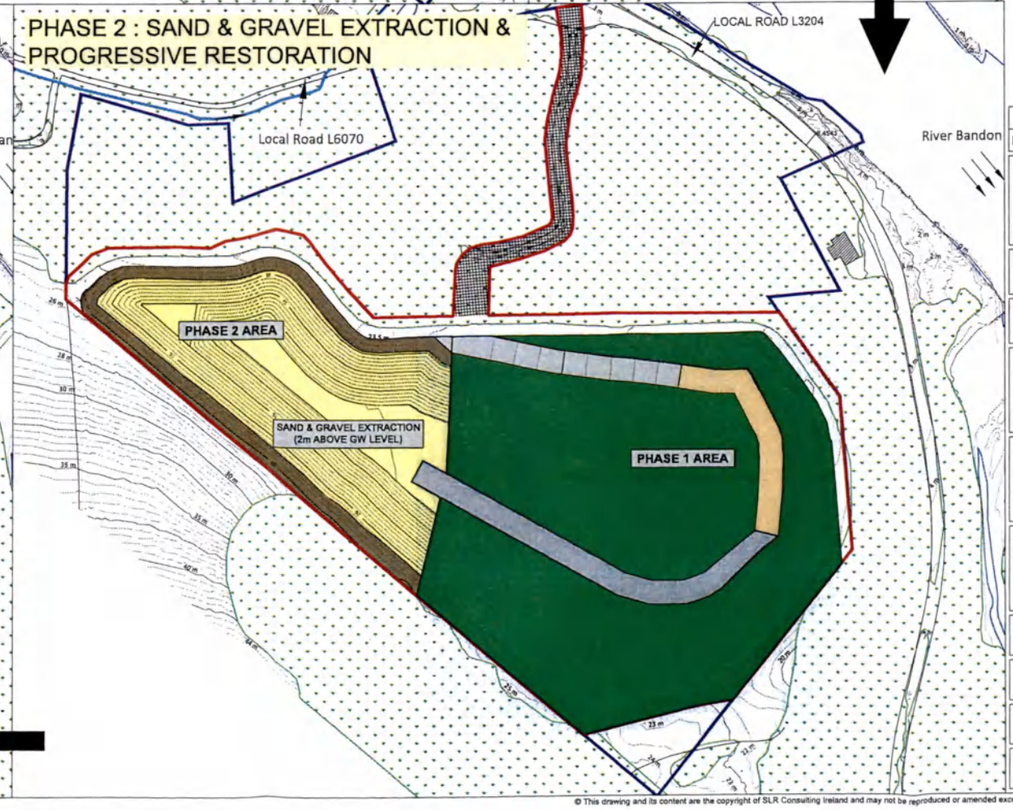


PHASE 2 : OVERBURDEN REMOVAL & PROGRESSIVE RESTORATION



FINAL RESTORATION

PHASE 2 : SAND & GRAVEL EXTRACTION & PROGRESSIVE RESTORATION



Rev	Amendments	Date	By	Chk	Auth

SLR

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Drawing Status & Suitability Code: **FINAL**

Client: KEOHANE READYMIX LTD.

Project: SAND & GRAVEL PIT
KNOCKROE, BANDON, CO. CORK

Drawing Title: PROPOSED PHASING LAYOUT

Scale	SLR Project No.
1:2,500 @ A3	065557.00001

Designed	Drawn	Checked	Authorised
EW	EW	TP	TP
Date 04/25	Date 04/25	Date 04/25	Date 04/25

Drawing Number: **FIGURE NTS5** Rev. 1

CYAL50450233

LANDSCAPE & RESTORATION SCHEME

The landscape and restoration scheme for the proposed sand & gravel pit at Knockroe aims at minimising the visibility of the extraction works during the operational period, as well as restoring the existing and proposed pit areas to a combination of a natural habitat and a agricultural land use. Both are benficial afteruses, as recommended in the 2006 EPA Guidelines - Environmental Management in the Extractive Industry (Non-Scheduled Minerals).

LANDSCAPE PHASE

To be carried out on commencement of the proposed development, consisting of the following elements:

- Retention of all existing trees / scrub / woodland vegetation within the land interest boundary of the applicant, with the exception of a small number of trees / scrub vegetation along the proposed access track (refer to Figure 2-6 Vegetation Removal Plan for further information).
- Native hedge planting along the northern and part of the south-western and eastern boundaries of the proposed extraction area, to mark / secure the edge of the pit slopes, provide habitat linkage and, compensate for the loss of existing trees / scrub.

RESTORATION PHASE

To be carried out on completion of all proposed extraction works, consisting of the following elements:

- Restoration of the pit floor to agricultural grassland. This will be achieved by the removal of any machinery and stockpiles, the spreading of subsoil and topsoil (using material stored on site), the cultivation of the ground in preparation for grass seeding and seeding with a suitable agricultural grass mix.
- The pit slopes will be left at stable angles, using subsoil and topsoil material stored on site. They will then be left to be naturally colonised with locally occurring grass and scrub species (i.e. natural regeneration).
- Planting of two pockets of native trees in the north-western corner of the extraction area to support the natural regeneration of the pit slopes.

GENERAL NOTES

Earthworks: All topsoil will be stripped first and will be stored in temporary stockpiles less than 2m in height. The overburden will be stripped next and stored in separate stockpiles.

Grass Seeding: All grass sowing will take place, whilst suitable weather conditions prevail. The surface preparation and the sowing specifications will be as per the seed manufacturer's instructions.

Tree stock: Both proposed mixes contain locally occurring native species. All of the trees/shrubs are proposed to be supplied as transplants at 40-120cm height, as this type of stock is known to establish more successfully compared to larger stock.

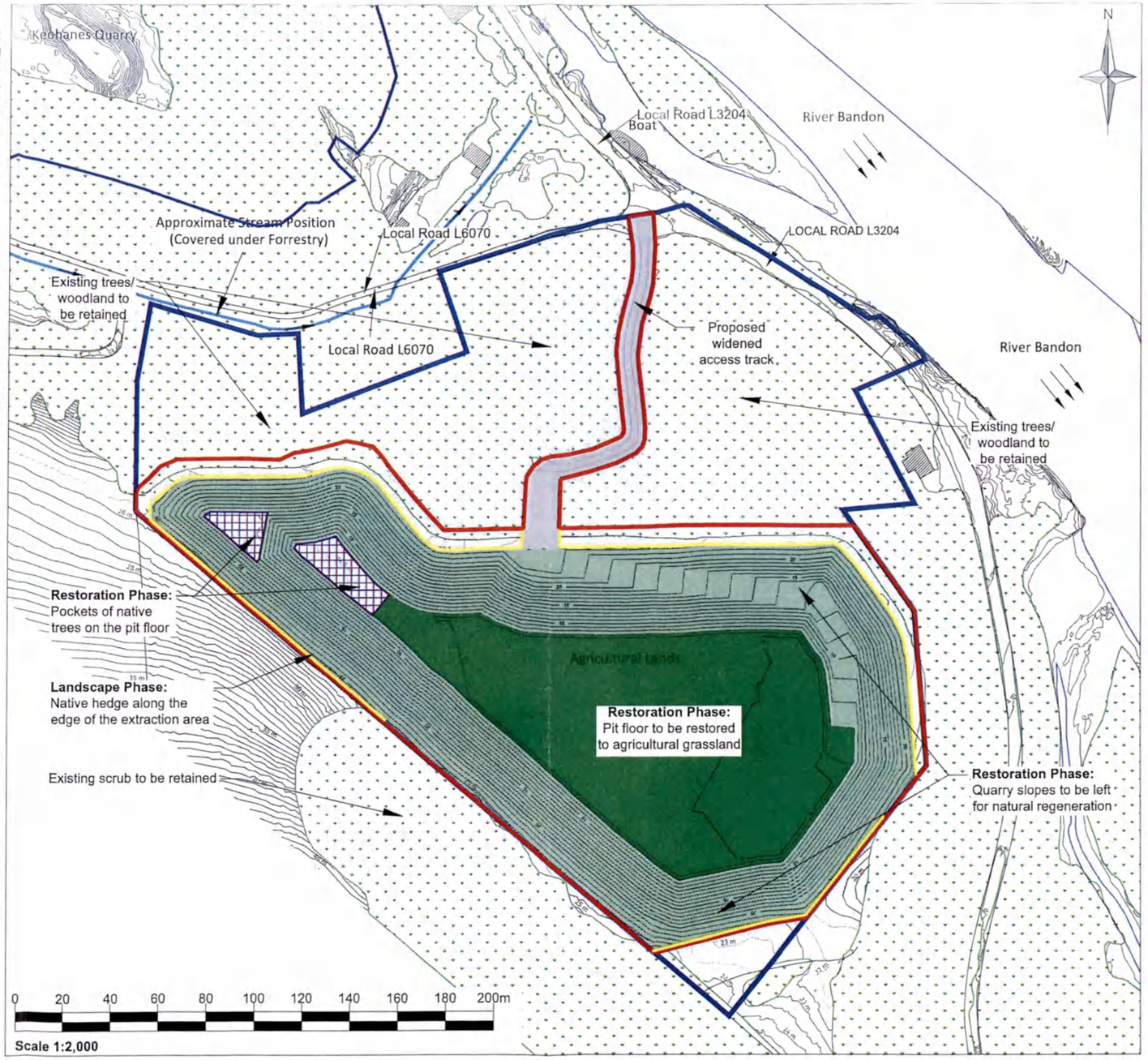
Native Tree Planting: To be planted at 1.5m centres, i.e. 1 plant per 2.25m² (Approx. 800m² in total = 350 plants). Transplants to be planted randomly with no more than 4-8 plants of the same species in a group. All plants to be protected with spiral guards.

Hedge Planting: To be planted as a double row of staggered plants, using 4 plants/meter (40cm between the rows and ca. 25cm between the staggered plants; Approx. 660 lin.m. in total = 2,600 plants). Transplants to be planted randomly with no more than 5 plants of the same species in a row. All plants to be protected with spiral guards.

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

Aftercare: Establishment maintenance will be carried out for 2 years following the planting works (minimum 3 maintenance visits per year; i.e. spring, summer and autumn). This will include weed control, replacement planting where required and the adjustment/removal of spiral guards.

All planting and maintenance works will be carried out by a suitably qualified landscape contractor.



Notes:

1. Aerial photo by ASM Ireland, dated August 2024.

Legend:

- Land Interest Boundary
- Planning Application Boundary (c. 4.0 hectares)

Landscape Phase
(to be implemented on commencement of the extraction works)

- Proposed native hedge

Restoration Phase
(to be implemented on completion of extraction works)

- Area to be restored to agricultural grassland
- Area to be left for natural regeneration
- Proposed native tree planting

Native Tree Mix

No.	Plant Name	Common Name	Height (cm)	Age/Pot Size	%
Transplants					
20	Alnus glutinosa	Common Alder	60-90	1+1	05
50	Corylus avellana	Hazel	60-90	1+0	15
35	Crataegus monogyna	Hawthorn	60-90	1+1	10
50	Ilex aquifolium	Holly	60-80	2L	15
35	Prunus spinosa	Blackthorn	60-90	1+0	10
20	Quercus robur	Pedunculate oak	60-90	1+1	05
35	Rosa canina	Dog rose	40-60	1+1	10
35	Salix cinerea	Sally	60-120	0+1	10
35	Sambucus nigra	Elder	60-90	1+1	10
35	Sorbus aucuparia	Rowan	60-90	1+1	10

NATIVE HEDGE MIX

No.	Plant Name	Common Name	Height (cm)	Age/Pot Size	%
Transplants					
130	Alnus glutinosa	Common alder	60-90	1+1	05
390	Corylus avellana	Hazel	60-90	1+0	15
780	Crataegus monogyna	Hawthorn	60-90	1+1	30
260	Ilex aquifolium	Holly	60-80	2L	10
520	Prunus spinosa	Blackthorn	60-90	1+0	20
390	Rosa canina	Dog rose	40-60	1+1	15
130	Sambucus nigra	Elder	60-90	1+1	05

Rev	Amendments	Date	By	Chk	Auth

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Drawing Status & Suitability Code: **FINAL**

Client: KEOHANE READYMIX LTD.

Project: SAND & GRAVEL PIT
KNOCKROE, BANDON, CO. CORK

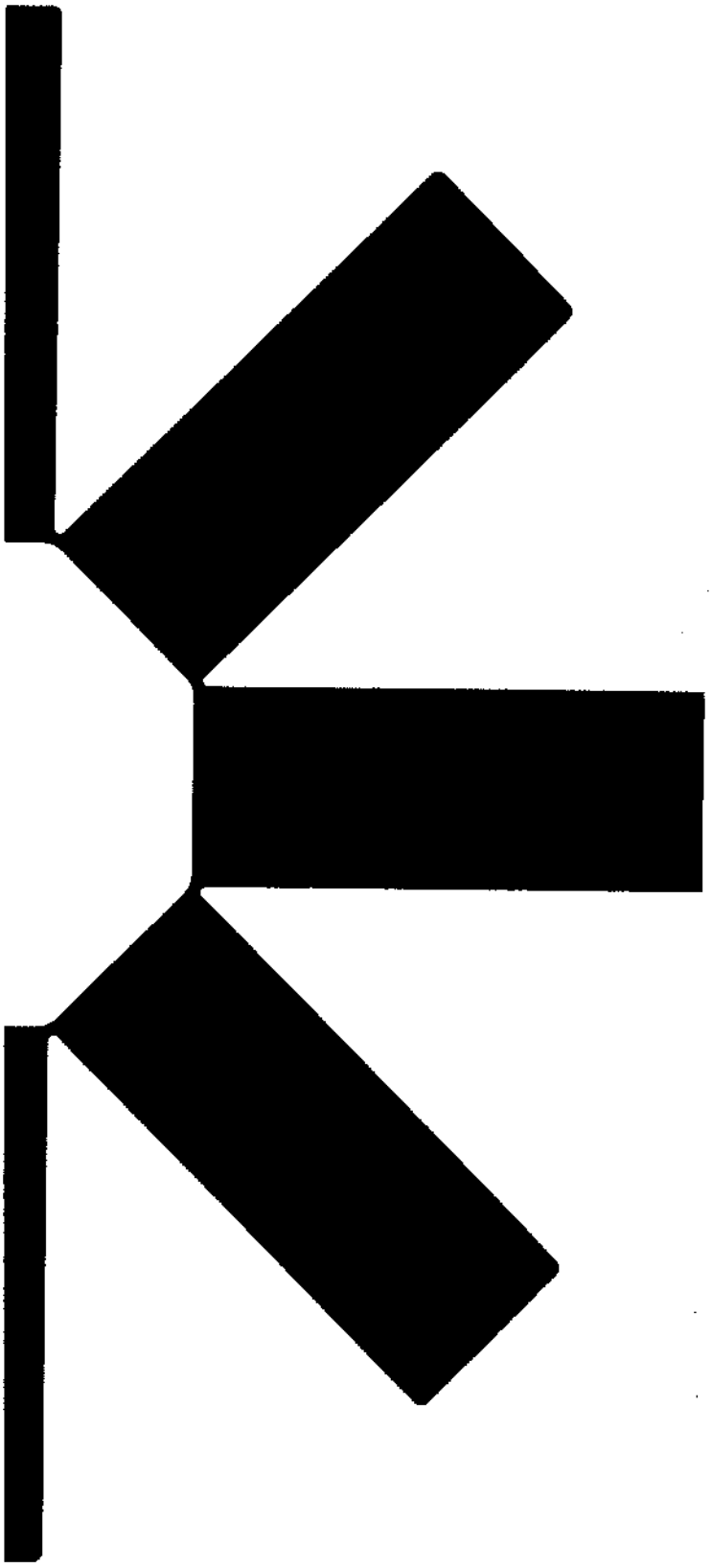
Drawing Title: PROPOSED LANDSCAPE AND RESTORATION PLAN

Scale	SLR Project No.
1:2,000 @ A3	065557.00001

Designed	Drawn	Checked	Authorised
CN	CN	AM	AM
Date: 04/25	Date: 04/25	Date: 04/25	Date: 04/25

Drawing Number: **FIGURE NTS6** Rev. **0**

10/04/2025
\\slr.local\ie\Office\IE\Dublin\SLR DATA\SLR Projects\065557 KRL ODriscolls Lands S & G PA EIAR AA\EIAR\Volume-1 EIAR Non-Tech-Summary\Dwgs\065557 FIG NTS6 Landscape & Restoration Plan.dwg



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