

Appendix FI 1: Natura Impact Statement (NIS)
(under separate cover)

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**Proposed Continuation of use and
Lateral Extension of an Existing
Quarry at Kilree, Bennettsbridge,
Co. Kilkenny**

Natura Impact Statement

May 2026

Bennettsbridge Limestone Quarries

**Reference: QC24.010
Version 1.2**

REVISION HISTORY

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May 2026	QC-24.010 ver 1.2	Quarry Consulting on behalf of Bennettsbridge Limestone Quarries	Final report issued to client.

CONTRACT

This document has been prepared by Green & Blue Ecology for Quarry Consulting acting on behalf of Bennettsbridge Limestone Quarries to provide a Natura Impact Statement of the proposed continuation of use and lateral extension of the existing quarry at Kilree, Bennettsbridge, Co. Kilkenny.

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Date : May 2026

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1. INTRODUCTION

1.1. Background

Bennettsbridge Limestone Quarries is proposing the continuation of use and lateral extension of an existing permitted limestone quarry in the townland of Kilree, Sheastown, Bennettsbridge, Co. Kilkenny.

Under Article 33 of the Planning and Development Regulations 2001 (as amended) Kilkenny County Council has requested further information in respect of the planning application (Planning Register No. 25/60532) for the continuation of use and lateral extension of the limestone quarry. This included that a Stage 2 Natura Impact Statement (NIS) is prepared as detailed below:

“Numerous sections of the EIAR refer to mitigation measures including Chapter 17 “Mitigation and Monitoring” and that Chapter 8 “Water” the author states:

Considering the ‘Extremely High Importance’ Importance of Attribute and the ‘Adverse-Small’ magnitude of Impact (Appendix 8.9, Table 4), the overall potential outcome on hydrogeological receptors, in the absence of Mitigation Measures, could in the application of EIA Impact theory, be ‘SIGNIFICANT’ (Appendix 8.9, Table 5). However, that is the purpose of the Mitigation Measures.

Table 8.12 “Summary of Potential Effects on the Water Environment” lists a number of potential impacts on the River Barrow and River Nore SAC and River Nore SPA which would be adverse and significant “pre-mitigation”.

Having regard to the source-pathway-receptor identified between the site and the Natura 2000 sites associated with the River Nore, the applicant is requested to submit a Stage 2 Appropriate Assessment.”

Therefore in accordance with Part XAB of the Planning and Development Act 2000 (as amended), the Competent Authority has determined that the proposed continuation of use and lateral extension of the quarry at Kilree cannot be excluded, on the basis of objective information, that this proposed development, will have a significant effect on the River Barrow and River Nore Special Area of Conservation (SAC) and the River Nore Special Protection Area (SPA), individually or in combination with other plans or projects.

1.2. Purpose of this Report

This report has been produced to provide a NIS, as required under Part XAB of the Planning and Development Act 2000 (as amended). It assesses the implications of the proposed continuation of use and lateral extension of the quarry at Kilree on the River Barrow and River Nore SAC and/or River Nore SPA, in view of the conservation objectives of these sites, and whether the proposed development will have an adverse effect on the integrity of these Natura 2000 sites, either alone or in combination with other plans and projects. It follows the Appropriate Assessment Screening Report dated July 2025 prepared by Green and Blue Ecology submitted under Planning Reference No. 25/60532 and assessed by Kilkenny County Council.

The NIS provides further information to the assist the Competent Authority (in this case Kilkenny County Council), in carrying out its Appropriate Assessment as to whether or not the proposed development will adversely affect the integrity of any Natura 2000 sites, either alone or in combination with other plans and projects, taking into account their conservation objectives.

Where adverse effects are identified, appropriate mitigation measures are recommended to be implemented in order to avoid or reduce any potential negative impacts on the relevant Natura 2000 site, or sites.

1.3. Evidence of Technical Competence and Experience

This NIS has been undertaken by Steve Judge. Steve has over 25 years of experience in ecological and environmental consultancy and a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM).

Steve is highly experienced in the preparation of Appropriate Assessment Screening Reports and Natura Impact Statements for a wide range of projects and plans throughout Ireland and Habitat Regulations Assessments (HRA) in the United Kingdom.

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2. LEGISLATIVE CONTEXT

2.1. Appropriate Assessment Overview

The Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora) forms the basis for the designation SACs. Similarly, SPAs are classified under the Birds Directive (Council Directive 2009/147/EEC on the Conservation of Wild Birds). Collectively, SACs and SPAs are referred to as the Natura 2000 network and are considered to be of exceptional importance for rare, endangered or vulnerable habitats and species within the European Community.

Under Article 6(3) of the Habitats Directive an Appropriate Assessment must be undertaken for any plan or project that is likely to have a significant effect on the conservation objectives of a Natura 2000 site. An Appropriate Assessment is an evaluation of the potential impacts of a plan or project on the conservation objectives of a Natura 2000 site, and the development, where necessary, of mitigation or avoidance measures to preclude negative effects.

The requirements for an Appropriate Assessment are set out under Article 6 of the EU Habitats Directive (92/43/EEC) transposed into Irish law by Part XAB of the Planning and Development Acts 2000 to 2024 and through the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended). This legislation requires a Competent Authority to make an Appropriate Assessment of the implications for a Natura 2000 site, or sites, in view of a site's conservation objectives, before deciding to undertake, or give consent, permission or other authorisation for, a plan or project which:

- a. is not directly connected with or necessary to the management of that site; and
- b. is likely to have a significant effect on a Natura 2000 site, either alone or in combination with other plans and projects.

The European Commission's methodological guidance¹ promotes a four-stage process, as set out below, to complete an Appropriate Assessment:

- Stage 1 – Screening for Appropriate Assessment;
- Stage 2 – Appropriate Assessment;
- Stage 3 – Alternative Solutions; and
- Stage 4 – The 'IROPI Test' (Imperative Reasons of Overriding Public Interest).

A person applying for any such consent, permission or other authorisation must provide such information, as the Competent Authority may reasonably require, for the purposes of the assessment or to enable them to determine whether an Appropriate Assessment is required.

In considering whether a plan or project will adversely affect the integrity of any European site or sites, the Competent Authority should consider whether the effects of the proposal on the site or sites, either individually or in combination with other plans or projects, is likely to be significant in terms of the conservation objectives and in respect of each interest feature for which the site was designated a SAC under the Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive), or classified a SPA under Council Directive 2009/147/EC on the Conservation of Wild Birds (The Birds Directive) that codifies Directive 79/409/EEC.

In the light of the conclusions of the assessment, and in consideration of overriding public interest, the Competent Authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the Natura 2000 site.

¹ European Communities (2002). *Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites. Methodological Guidance on the Provision of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*. European Communities, Luxembourg.

2.2. Ascertaining the Threat to Site Integrity

The Competent Authority will be required to determine whether the proposed continuation of use and lateral extension of the quarry at Kilree would adversely affect the integrity of any Natura 2000 site, or sites in light of the conservation objectives for that particular site, or sites. The integrity of a site is defined as:

“The integrity of a site is the coherence of its ecological structure and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was designated/classified.”

Further to the above, an adverse effect on integrity can also be defined as one that is likely to prevent a Natura 2000 site from making the same contribution to favourable conservation status of the habitats and species of community interest as it did at the time of its designation/classification.

2.3. Conservation Objectives

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest for which a site has been designated an SAC or classified an SPA respectively.

A site-specific conservation objective aims to define the favourable conservation condition for a particular habitat or species at the site level, and which through the maintenance of favourable conservation condition will contribute to the conservation status of these habitats and species at a national level through the network of Natura 2000 site.

Favourable conservation status of habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing; and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and
- the conservation status of its typical species is favourable.

Favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural range; and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its population on a long-term basis.

Site-specific conservation objectives prepared for any given Natura 2000 site include a series of specific attributes and targets against which effects on conservation status, or integrity, can be assessed.

3. METHODOLOGY

3.1. Guidance and Approach

The following guidance documents have been considered in the preparation of this NIS, taking into account relevant Court of Justice of the European Union (CJEU) judgments and Supreme Court and High Court decisions in respect to the appropriate assessment process:

- OPR (2021). *Appropriate Assessment Screening for Development Management - OPR Practice Note PN01* dated March 2021. Office of the Planning Regulator, Dublin;
- European Commission (2018). *Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats Directive' 92/43/EEC*;
- NPWS (2009 revised February 2010). *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities*. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government. Dublin;
- DOEHLG (2010). *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular NPWS 1/10 and PSSP 2/10*. Department of the Environment, Heritage and Local Government. Dublin;
- European Commission (2001). *Assessment of Plans and Projects significantly affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*; and
- Atkinson, S., Magee, M., Moorkens, E.A. and Heavey, M. (2023). *Guidance on Assessment and Construction Management in Margaritifera Catchments in Ireland*. <https://e-mussels.eu/europe/conservation-guidelines>.

3.2. Assessment Methodology

The NIS has been prepared in accordance with the requirements of Article 6(3) of the Habitats Directive and includes:

- a description of the baseline environment at the site of the proposed development;
- the identification of the relevant Natura 2000 sites that could be potentially affected by the proposed development, based on Appropriate Assessment Screening;
- the compilation and review of site-specific information for each relevant Natura 2000 site including: conservation interests; qualifying interests or special conservation interest species; site vulnerabilities; and ecological sensitivities;
- the identification of other relevant plans and projects for consideration of any in-combination effects with the proposed development;
- the identification of potential direct, indirect, and cumulative effects of the proposed development on the integrity of each relevant Natura 2000 site, with specific reference qualifying interests or special conservation interest species and site-specific conservation objectives;
- an assessment of the likelihood and significance of effects on each relevant Natura 2000 site, applying the precautionary principle and considering the potential for adverse effects on site integrity, either as a stand-alone project or in-combination with other plans or projects; and
- the identification and description of mitigation measures that are necessary to avoid or reduce adverse effects on the integrity of European sites, ensuring that such measures are enforceable and capable of being implemented in full.

3.3. Baseline Data Collection

Baseline information was gathered through a combination of desk-based study, site visit and inspection of the proposed project site on 24th July 2025, and technical assessments consistent with current standard methodologies and published best practice guidelines.

The principal source of information on Natura sites and key qualifying features has been data collected from publicly available information sources managed by the National Parks and Wildlife Service (NPWS)² and other relevant sources which provide current baseline conditions at the application site and within its potential zone of influence.

3.4. Assessment of Potential Impacts

The assessment of potential impacts is based on the Source-Pathway-Receptor (S-P-R) model, that identifies the impact source, the relevant Natura 2000 site or its qualifying interest or special conservation interest species and the pathway between the source and the receptor.

Potential impacts on the relevant Natura 2000 site(s) were identified during the Appropriate Assessment Screening. This assessment was undertaken in consideration of all potential impact sources and pathways connecting the proposed development to relevant Natura 2000 site(s) and its qualifying interests or special conservation interests of likely significant effects arising from the proposed development. Table 1 provides a summary the identified potential impact sources, pathways and the likelihood of significant effects arising from the proposed continuation of use and lateral extension of the limestone quarry at Kilree through the screening process.

Table 1: Potential Likely Significant Effects on the Relevant Natura 2000 Sites

Potential Source of Effects	River Barrow and River Nore SAC	River Nore SPA
Habitat loss, damage and disturbance and its effects on qualifying species	Potential pathway but no Likely Significant Effects	Potential pathway but no Likely Significant Effects
Disturbance (i.e. noise, vibration and visual disturbance)	Potential pathway but no Likely Significant Effects	Potential pathway but no Likely Significant Effects
Dust deposition	Potential pathway but no Likely Significant Effects	Potential pathway but no Likely Significant Effects
Changes in air quality from traffic emissions	Potential pathway but no Likely Significant Effects	Potential pathway but no Likely Significant Effects
Alteration to the hydrogeological and hydrological regimes	Potential pathway but no Likely Significant Effects	Potential pathway but no Likely Significant Effects
Changes in water quality (groundwater / surface waters) and increased sedimentation	Potential pathway with Likely Significant Effects	Potential pathway Likely Significant Effects

² <http://www.npws.ie>

4. DESCRIPTION OF THE PROJECT

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4.1. Location and Setting

The site of the existing limestone quarry is located in the townland of Kilree, approximately 0.8km north west of the village of Bennettsbridge and 7km south east of Kilkenny city centre, Co. Kilkenny (please refer to Figure 1).

The application site covers approximately 61 hectares (ha). The existing operational quarry covers an area of approximately 36.5ha with a consented extraction area of 13.4ha and down to 12 metres Ordnance Datum (mOD). The proposed lateral extension area covers approximately 24.5ha of agricultural land lying to the west of the existing quarry.

Existing manufacturing plants at the quarry include a crushing plant, precast manufacturing facility and associated ancillary works for the manufacturing of concrete products, batching of lime products, asphalt plant, general storage of products and plant.

Ancillary infrastructural facilities at the existing quarry include an office, weighbridges, wheelwash, car park area, staff facilities and bunded fuel storage tanks as well as a water management system that includes two settlement ponds and a hydrocarbon interceptor.

The surrounding landscape is dominated by agricultural land comprising of fields under permanent pasture and arable typically bounded by hedgerows / treelines interspersed by small patches of woodland and a number of other quarry sites. The River Nore flowing in a southerly direction approximately 660m east of the application site and 1.1km from the proposed extension area forms a dominant landscape feature along with the M9 motorway that runs in a north east to south west direction and immediately adjacent the southern boundary of the quarry.

The largest local urban population is the village of Bennettsbridge to the south east of the quarry with other smaller rural settlements and ribbon development along the roads and lanes that cross this area.

4.2. Outline Description of the Project

The project relates to the continuation of use and lateral extension of an existing limestone quarry at Kilree within an overall application area of c.61 ha (Figure 2).

The existing operational limestone quarry covers an area of 36.5ha with the extraction of rock currently permitted and conditioned under Plan File Reference No. 18858 to a floor level of 12 metres above Ordnance Datum (mOD).

The project specifically relates to:

- A lateral extension of the existing limestone quarry, within an area of approx. 24.5 ha., comprising:
 - approximately 18.2 ha of extraction, including blasting, over 2 no. c 19 metre high benches to a final floor level ranging from 25 to 30 mOD; and
 - overburden storage areas and landscaped screening berms (6.3 ha).
- To access the extension lands rock will be extracted - predominantly by controlled blasting - from under:
 - approx. 1.4 ha of land that is currently under landscaping measures authorised under Plan File Ref. No. 18/858;
 - approx. 2.1 ha of land that is currently in use as an access ramp authorised under Plan File Ref. No. 18/858.
- All related ancillary development and associated site works including: processing (crushing, screening and washing), stockpiling of materials, provision of landscaped screening berms and all other related activities.

- Removal and demolition of an existing farmyard and slatted shed to facilitate the expansion of the quarry and removal of approximately 6.8 hectares of commercial forestry within the proposed extension area to allow for the proposed quarry development.
- The restoration of the application site to natural habitat after uses following completion of limestone extraction.

The limestone extraction system will continue to use blasting, typically one day per month but which may increase to twice per month during periods of high demand, to win and fragment the limestone prior to its processing using static and mobile crushing and screening plant within the quarry void to produce a range of aggregate materials. Processed rock will be stored in the existing permitted quarry area pending sale off site or use in the ancillary manufacturing plants (asphalt plant, concrete batching plant, lime plant) on site.

Other ancillary facilities at the existing quarry include an office building, weighbridges, wheelwash with side spray bars.

The quarry will extract an estimated 17 million tonnes of aggregate reserves over an operational period of 25 years and requires a further 2 years to complete the final restoration of the site, dependent upon the market demand for extracted material.

The quarry operational hours are and will continue to be 07.00 hours to 19.00 hours Monday to Friday and 07:00 – 14:00 hours on Saturdays. No operations are or will be carried outside these periods or Public Holidays.

Incidental rainwater and groundwater seepages currently entering the quarry are and will continue to be directed to a sump located in the centre of the existing quarry extraction area. Water is then pumped from the sump to two settlement ponds / lagoons located in the southeastern corner of the landholding quarry. Following a two stage settlement process, including direction through an oil interceptor, water is discharged (Discharge Licence Reference: ENV/W/78 issued 15th September 2017) to a stream (the Dunbell Little) which flows approx. 600m, initially to the south and then in a generally easterly direction under the M9 and the R700, to the River Nore (please refer to Figure2). It is understood that this stream, although modified in the vicinity of the quarry and M9, was an original and natural watercourse draining this area. The lagoons, interceptor, and routine water-quality monitoring are embedded standard design measures (i.e. integral to the project in the sense clarified by CJEU Case C-721/21) and ensure that only treated water meeting the licence ELVs is released to the receiving environment.

Fuel is delivered to site and stored in a bunded, double-skinned tank within the existing working quarry. Plant and machinery are either refuelled directly from this tank or using an intermediate bulk container.

Sufficient lighting is and will continue to be provided at the site to ensure safe operations during winter periods.

The proposed development is anticipated to generate up to 80 heavy goods vehicles (HGV) movements (two-way) per day on the R700 regional road..

Upon cessation of extraction operations, the site will be restored to natural habitats.

5. NATURA IMPACT STATEMENT

5.1. Potential Impacts

The following elements of the Proposed Development were identified and assessed for their potential to cause likely significant effects on Natura 2000 sites including River Barrow and River Nore SAC and River Nore SPA within the Appropriate Assessment Screening Report:

- Habitat loss, damage and disturbance and its effects on qualifying species;
- Disturbance (i.e. noise and visual disturbance);
- Lighting;
- Air quality;
- Dust deposition;
- Changes in air quality (traffic emissions); and
- Changes in water quality and increased sedimentation.

Of these the only likely significant effects are from changes in water quality through the continued discharge of treated water from the quarry to the River Nore via the Dunbell Little stream. However, it is important to note that the existing authorised discharge forms part of the existing baseline conditions.

The Emission Limit Values (ELVs) for the discharge licence (Licence Reference No. ENV/W/78 granted in 2017 by Kilkenny County Council) were determined to ensure compliance to the European Communities Environmental Objectives (Surface Waters) Regulations 2009 and the European Communities Environmental Objectives (Groundwater) Regulations 2010, whilst also taking into account the requirements of the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended).

The resultant ELVs issued by Kilkenny County Council were cognisant of the capability of the River Nore to assimilate the discharge of treated water to ensure there were no implications for water quality and flow in the receiving River Nore and for the qualifying habitats and/or species for which the River Barrow and River Nore SAC and River Nore SPA are of European importance.

5.2. Existing Environment

5.2.1. Hydrogeology and Groundwater Quality

The quarry at Kilree lies within a karstified landscape characterised by numerous karst features such as springs and enclosed depressions.

The quarry is underlain by the Kilkenny Groundwater Body (GWB) as defined for the purposes of the Water Framework Directive (WFD) (2000/60/EC). The GWB is currently classified as being of 'Good' quality status (2019-2024) with no deterioration from WFD Cycle 1.

The Summary of Initial Characterisation for the Kilkenny GWB defines it as a regionally important karst aquifer with groundwater flows concentrated within 20m of the top of the limestone and towards the River Nore³. The groundwater vulnerability is mapped by the Geological Survey Ireland (GSI) as 'X – Rock at or Near Surface' in parts of the existing quarry and 'H – High' within the proposed extension area.

The continuation and lateral extension of the quarry will not result in any cone of depression affecting the River Nore due to the localised bedrock characteristics and will not significantly affect the hydrogeological connectivity of the groundwater body to the hydrological regime of the River Nore.

The continuation and lateral extension of the quarry to a floor level of 25m to 30mOD is not predicted to result in any significant increase of inflows of groundwater based on the formation of the limestone at this location,

³<https://gsi.geodata.gov.ie/downloads/Groundwater/Reports/GWB/KilkennyGWB.pdf>

historic and recent (2024) drilling of investigation boreholes within the extension area and observation of the exposed wall of bedrock that lies along the boundary between the active consented quarry and the proposed extension area. The groundwater managed at the site has been demonstrated to be a very small proportion of groundwater in the GWB and groundwater baseflows to the River Nore.

With respect to the extension area under consideration, the main ingress contribution of water will continue to be from the subsoil/bedrock transition zone from the immediate surrounding area during periods of high or prolonged rainfall. The amount of water that will ingress the quarry is not predicted to significantly change as a result of the proposed extension of quarrying operations. As a result there will be no requirement to increase the rate of dewatering in the quarry and the volume of treated water discharged to the River Nore via the Dunbell Little stream.

Discharge Licence Reference No. ENV/W/78 was granted in 2017 and was based on the full hydrological catchment of the quarry landholding, encompassing not only the existing quarry void but also the adjoining greenfield areas that naturally drain towards the quarry, to calculate and underpin the licensed flow and water quality limits. As a result, the existing water management system (sump, pumps, settlement ponds/lagoons, hydrocarbon interceptor and licensed discharge point) was designed to accommodate any runoff and groundwater ingress from the proposed extension area. The continuation and extension of the quarry will therefore not require any changes to the existing discharge licence for the volume of water discharged from the quarry.

Upon cessation of quarrying operations, groundwater levels are expected to return to current baseline levels, partially filling the quarry voids over a c.10 - 15 years period. The elevation of the epikarst zone in the south eastern boundary of the operational quarry site will control the maximum final water level equilibrium at 47mOD with a 6m freeboard between the final water level and the elevation of adjacent lands.

5.2.2. Hydrology and Water Quality

The River Nore, including the Dunbell Little tributary receiving the discharge from the quarry, is assessed under the WFD as being of Moderate quality status upstream and downstream of Bennettsbridge (Nore_190 and Nore_210 waterbodies respectively) with Good quality status within Bennettsbridge itself (Nore_200 waterbody) (2019-2024). The Nore_190 waterbody is currently classified as Moderate. The available data does not indicate that the quarry discharge has caused any measurable deterioration in water quality in the River Nore.

The Environmental Protection Agency's (EPA) latest assessment of water quality for the River Nore shows it has a Q-rating of Q3-4 (Moderate) at river stations up and downstream of Bennettsbridge at a point NE of Warrington, downstream of Kilkenny and at Ballylinch Bridge respectively (2025).

Treated water is currently, and will continue to be, discharged via an oil interceptor and two settlement ponds / lagoons , to the Dunbell Little stream which then flows approximately 600m passing under the M9 and R700 roads before joining the River Nore.

Monthly monitoring of water discharged from the quarry indicates that quarry has complied with the specific ELVs of Discharge Licence ENV/W/78 and in accordance with the Surface Water Regulations 2009 (as amended) over the last five years (2020-25). The existing discharge from the quarry has not resulted in any deterioration in the ecological status and/or in the chemical water quality status of the River Nore.

The continuation of use and lateral extension of quarrying operations at Kilree will not require any changes or modifications to the existing water management system or to the existing discharge licence.

5.3. River Barrow and River Nore SAC

5.3.1. Site Description

The River Barrow and River Nore SAC consists of the freshwater stretches of the Barrow and Nore River catchments as far upstream as the Slieve Bloom Mountains, and it also includes the tidal elements and estuary as far downstream as Creadun Head in Waterford.

A wide range of habitats associated with the rivers are included within the site, including substantial areas of woodland (deciduous, mixed), dry heath, wet grassland, swamp and marsh vegetation, salt marshes, a small dune system, biogenic reefs and intertidal sand and mud flats. Areas of improved grassland, arable land and coniferous plantations are included in the site for water quality reasons.

5.3.2. Qualifying Interest and Conservation Objectives

The qualifying interests and conservation objectives for River Barrow and River Nore SAC⁴ and whether there is any complete source-pathway-receptor chain, by which adverse effects may occur, are detailed in Table 2. Where a complete source-pathway-receptor link is identified, from changes in water quality through the continued discharge of treated water from the quarry to the River Nore via the Dunbell Little stream, these are highlighted in Table 1 and carried forward for further assessment against each of the individual attributes and targets associated with the conservation objectives for those highlighted individual qualifying interest (Table 7).

⁴ NPWS (2025). *Conservation Objectives: River Barrow and River Nore SAC 002162*. Version 2. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage..

Table 2: Qualifying Interests and Conservation Objectives for River Barrow and River Nore SAC with Identified Impact Pathways

Qualifying Feature	Conservation Objective	Impact Pathway	Potential for Adverse Effects Requiring Further Assessment
1130 Estuaries	To maintain the favourable conservation condition of this habitat in River Barrow and River Nore SAC	No Impact Pathway 1130 habitat is located downstream but outside the mixing zone where the treated water from the quarry mixes with the receiving water of the River Nore allowing for initial dilution and ensuring water quality standards are met. As no changes are proposed to the existing discharge licence there is no source-pathway-receptor link exists between the quarry at Kilree and the 1130 habitat.	No No potential adverse effects in light of conservation objective or on the integrity of River Barrow and River Nore SAC
1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of this habitat in River Barrow and River Nore SAC	No Impact Pathway 1140 habitat is located downstream but outside the mixing zone where the treated water from the quarry mixes with the receiving water of the River Nore allowing for initial dilution and ensuring water quality standards are met. As no changes are proposed to the existing discharge licence there is no source-pathway-receptor link exists between the quarry at Kilree and the 1140 habitat.	No No potential adverse effects in light of conservation objective or on the integrity of River Barrow and River Nore SAC
1170 Reefs	To maintain the favourable conservation condition of this habitat in River Barrow and River Nore SAC	No Impact Pathway 1170 habitat is located downstream but outside the mixing zone where the treated water from the quarry mixes with the receiving water of the River Nore allowing for initial dilution and ensuring water quality standards are met. As no changes are proposed to the existing discharge licence there is no source-pathway-receptor link exists between the quarry at Kilree and the 1170 habitat.	No No potential adverse effects in light of conservation objective or on the integrity of River Barrow and River Nore SAC
1310 <i>Salicornia</i> and other annuals colonising mud and sand	To maintain the favourable conservation condition of this habitat in River Barrow and River Nore SAC	No Impact Pathway 1310 habitat is located downstream but outside the mixing zone where the treated water from the quarry mixes with the receiving water of the River Nore allowing for initial dilution and ensuring water quality standards are met. As no changes are proposed to the existing discharge licence there is no source-pathway-receptor link exists between the quarry at Kilree and the 1310 habitat.	No No potential adverse effects in light of conservation objective or on the integrity of River Barrow and River Nore SAC

Qualifying Feature	Conservation Objective	Impact Pathway	Potential for Adverse Effects Requiring Further Assessment
1330 Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>)	To restore the favourable conservation condition of this habitat in River Barrow and River Nore SAC	No Impact Pathway 1330 habitat is located downstream but outside the mixing zone where the treated water from the quarry mixes with the receiving water of the River Nore allowing for initial dilution and ensuring water quality standards are met. As no changes are proposed to the existing discharge licence there is no source-pathway-receptor link exists between the quarry at Kilree and the 1330 habitat.	No No potential adverse effects in light of conservation objective or on the integrity of River Barrow and River Nore SAC
1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>)	To restore the favourable conservation condition of this habitat in River Barrow and River Nore SAC	No Impact Pathway 1410 habitat is located downstream but outside the mixing zone where the treated water from the quarry mixes with the receiving water of the River Nore allowing for initial dilution and ensuring water quality standards are met. As no changes are proposed to the existing discharge licence there is no source-pathway-receptor link exists between the quarry at Kilree and the 1410 habitat.	No No potential adverse effects in light of conservation objective or on the integrity of River Barrow and River Nore SAC
3260 Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	To maintain the favourable conservation condition of this habitat in River Barrow and River Nore SAC	Potential Impact Pathway 3260 habitat has the potential to be present within the mixing zone where the treated water from the quarry mixes with the receiving water of the River Nore.	Yes Further assessment required on the individual attributes and targets for 3260 Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation habitat
4030 European dry heaths	To maintain the favourable conservation condition of this habitat in River Barrow and River Nore SAC	No Pathway 4030 is a terrestrial habitat with no pathway linking the discharge of treated water from the quarry to the River Nore.	No No potential adverse effects in light of conservation objective or on the integrity of River Barrow and River Nore SAC
6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine level	To maintain the favourable conservation condition of this habitat in River Barrow and River Nore SAC	Potential Impact Pathway 6430 habitat has the potential to be present within or in close proximity the mixing zone where the treated water from the quarry mixes with the receiving water of the River Nore.	Yes Further assessment required on the individual attributes and targets for 6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine level habitat

Qualifying Feature	Conservation Objective	Impact Pathway	Potential for Adverse Effects Requiring Further Assessment
7220 Petrifying springs with tufa formation (<i>Cratoneurion</i>)	To maintain the favourable conservation condition of this habitat in River Barrow and River Nore SAC	No Impact Pathway 7220 habitat is located downstream but outside the mixing zone where the treated water from the quarry mixes with the receiving water of the River Nore allowing for initial dilution and ensuring water quality standards are met. As no changes are proposed to the existing discharge licence there is no source-pathway-receptor link exists between the quarry at Kilree and the 7220 habitat.	No No potential adverse effects in light of conservation objective or on the integrity of River Barrow and River Nore SAC
91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in British Isles	To restore the favourable conservation condition of this habitat in River Barrow and River Nore SAC	No Impact Pathway 7120 is a terrestrial habitat and not in the proximity of the mixing zone where the treated water from the quarry mixes with the receiving water of the River Nore.	No No potential adverse effects in light of conservation objective or on the integrity of River Barrow and River Nore SAC
91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)	To restore the favourable conservation condition of this habitat in River Barrow and River Nore SAC	No Impact Pathway 7120 is a terrestrial habitat and not in the proximity of the mixing zone where the treated water from the quarry mixes with the receiving water of the River Nore.	No No potential adverse effects in light of conservation objective or on the integrity of River Barrow and River Nore SAC
1016 Desmoulin's Whorl Snail (<i>Vertigo moulinsiana</i>)	To maintain the favourable conservation condition of this species in River Barrow and River Nore SAC	No Impact Pathway Desmoulin's Whorl Snail is a terrestrial species that has been recorded at two sites one on the River Barrow and one far upstream of the quarry at Kilree on the River Nore.	No No potential adverse effects in light of conservation objective or on the integrity of River Barrow and River Nore SAC
1029 Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>)	To restore the favourable conservation condition of this species in River Barrow and River Nore SAC	Potential Impact Pathway The populations of Freshwater Pearl Mussel are based on the Ballymurphy and Mountain populations located within the catchment of the River Barrow and the Nore population located far upstream of the quarry and with no direct risk of impacts arising from the discharge of treated water. However, Freshwater Pearl Mussel are dependent upon salmonid fish, including Atlantic Salmon to host their larval stage and essential for the completion of their life cycle. Therefore where there is a risk of impacts on Atlantic Salmon this may indirectly impact Freshwater Pearl Mussel.	Yes Further assessment required on the individual attributes and targets for Freshwater Pearl Mussel

Qualifying Feature	Conservation Objective	Impact Pathway	Potential for Adverse Effects Requiring Further Assessment
1092 White-clawed Crayfish (<i>Austropotamobius pallipes</i>)	To maintain the favourable conservation condition of this species in River Barrow and River Nore SAC	Potential Impact Pathway White-clawed Crayfish is recorded throughout the SAC and extending as far downstream as Thomastown on the River Nore. There is therefore the potential for this species to be present within or in close proximity the mixing zone where the treated water from the quarry mixes with the receiving water of the River Nore.	Yes Further assessment required on the individual attributes and targets for White-clawed Crayfish
1095 Sea Lamprey (<i>Petromyzon marinus</i>)	To restore the favourable conservation condition of this species in River Barrow and River Nore SAC	Potential Impact Pathway Sea Lamprey have the potential to migrate up and downstream up and downstream of the mixing zone where the treated water from the quarry mixes with the receiving water of the River Nore. Whilst it is unlikely this section of river is used for spawning it may provide some habitat for juveniles.	Yes Further assessment required on the individual attributes and targets for Sea Lamprey
1096 Brook Lamprey (<i>Lampetra planeri</i>)	To restore the favourable conservation condition of this species in River Barrow and River Nore SAC	Potential Impact Pathway Brook Lamprey has the potential to be present within or in close proximity the mixing zone where the treated water from the quarry mixes with the receiving water of the River Nore. Whilst it is unlikely this section of river is used for spawning it may provide some habitat for juveniles.	Yes Further assessment required on the individual attributes and targets for Brook Lamprey
1099 River Lamprey (<i>Lampetra fluviatilis</i>)	To restore the favourable conservation condition of this species in River Barrow and River Nore SAC	Potential Impact Pathway River Lamprey have the potential to migrate up and downstream of the mixing zone where the treated water from the quarry mixes with the receiving water of the River Nore. Whilst it is unlikely this section of river is used for spawning it may provide some habitat for juveniles.	Yes Further assessment required on the individual attributes and targets for River Lamprey
1103 Twaite Shad (<i>Alosa fallax fallax</i>)	To restore the favourable conservation condition of this species in River Barrow and River Nore SAC	No Impact Pathway Twaite Shad in recent years has regularly bred in the River Barrow but not the River Nore.	No No potential adverse effects in light of conservation objective or on the integrity of River Barrow and River Nore SAC

Qualifying Feature	Conservation Objective	Impact Pathway	Potential for Adverse Effects Requiring Further Assessment
1106 Atlantic Salmon (<i>Salmo salar</i>)	To restore the favourable conservation condition of this species in River Barrow and River Nore SAC	Potential Impact Pathway The River Nore is classified as a salmonid river under the European Communities (Quality of Salmonid Waters) Regulations, 1988. Atlantic Salmon have the potential to migrate up and downstream of the mixing zone where the treated water from the quarry mixes with the receiving water of the River Nore. Whilst it is unlikely this section of river is used for spawning it may provide some habitat for fry and juveniles.	Yes Further assessment required on the individual attributes and targets for Atlantic Salmon
1355 Otter (<i>Lutra lutra</i>)	To restore the favourable conservation condition of this species in River Barrow and River Nore SAC	Potential Impact Pathway Otter is found throughout River Nore and whilst there is negligible direct risk of impacts arising from the mixing zone where the treated water from the quarry mixes with the receiving water of the River Nore, it may be indirectly impacted where its food sources may be more sensitive to changes in water quality.	Yes Further assessment required on the individual attributes and targets for Otter
6985 Killarney Fern (<i>Vandenboschia speciosa</i>)	To maintain the favourable conservation condition of this species in River Barrow and River Nore SAC	No Impact Pathway Killarney Fern is a terrestrial species with no risk of impacts arising from the discharge of treated water from the quarry to the River Nore.	No No potential adverse effects in light of conservation objective or on the integrity of River Barrow and River Nore SAC

5.4. River Nore SPA

5.4.1. Site Description

The River Nore SPA is a long linear site that includes: the River Nore from the bridge at Townparks, north-west of Borris in Ossory, to Coolnamuck in Co. Kilkenny; the Delour River from its junction with the River Nore to Derrynaseera bridge, west of Castletown, in Co Laois; the Erkina River from its junction with the River Nore at Durrow Mills to Boston Bridge in Co. Laois; a 1.5 km stretch of the River Goul upstream of its junction with the Erkina River; the Kings River from its junction with the River Nore to a bridge at Mill Island Co. Kilkenny. The site includes the river channel and marginal vegetation.

River Nore qualifies under Article 4 of the EC Directive on the Conservation of Wild Birds (2009/147/EC) (Birds Directive) as a SPA because it regularly supports populations of European importance.

5.4.2. Qualifying Interest and Conservation Objectives

The special conservation interests and conservation objectives⁵ for River Nore SPA and whether there is any complete source-pathway-receptor chain, by which adverse effects may occur, are detailed in Table 3 and highlighted where there is a complete source-pathway-receptor link, changes in water quality through the continued discharge of treated water from the quarry to the River Nore via the Dunbell Little stream, has been identified to be carried forward for further assessment (Table 8).

⁵ NPWS (2023). *Conservation Objectives: River Nore SPA 004042*. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

Table 3: Special Conservation Interests and Conservation Objectives for River Nore SPA with Identified Impact Pathways

Qualifying Feature	Conservation Objective	Impact Pathway	Potential for Adverse Effects Requiring Further Assessment
A229 Kingfisher (<i>Alcedo atthis</i>)	To maintain the favourable conservation condition of this species in River Nore SPA	Potential Impact Pathway Kingfisher has the potential to be found throughout River Nore and whilst there is negligible direct risk of impacts arising from the mixing zone where the treated water from the quarry mixes with the receiving water of the River Nore, it may be indirectly impacted where its food sources may be more sensitive to changes in water quality.	Yes Further assessment required on the individual attributes and targets for Kingfisher

5.5. Assessment of Potential Effects and Mitigation

5.5.1. Changes in Water Quality and Increased Sedimentation

The existing authorised discharge from the quarry is regulated under **Discharge Licence Reference No. ENV/W/78**, which controls both the permitted discharge volumes and the quality of treated water discharged to the Dunbell Little stream. The licensed discharge forms part of the existing environmental baseline and is managed through the established water management system at the quarry, comprising the quarry sump, pumps, settlement lagoons, hydrocarbon interceptor, flow monitoring and routine water quality monitoring.

The relevant licence conditions include limits on mean and maximum daily discharge volume, specified ELVs for key water quality parameters, and requirements for ongoing monitoring, maintenance and annual environmental reporting. These conditioned limits and parameters include:

- **Condition 3.2:**

The licence holder shall ensure that:

- The mean daily discharge over the course of a year shall not exceed 22,000m³/day, and
- The maximum daily discharge shall not exceed 70,000m³/day.

A continuous flow monitoring facility shall be installed on the discharge (downstream of the settlement lagoon) with six months of the date of this licence.

- **Condition 3.4:**

The licence holder shall ensure that the complete treatment system (including the stilling pond, settlement lagoon and interceptor) is regularly serviced, desludged and maintained by a competent person / management company. The licence holder shall maintain records of the contractual arrangements regarding the servicing and maintenance of the system.

- **Condition 3.7:**

Good quarry management practices should be adhered to including the storage of all fuels in bunded tanks and the use of drip trays during refuelling of plant.

- **Condition 4.1:**

The characteristics of the effluent as discharged shall not exceed the following ELVs:

Parameter	ELV	Units
pH	6-9	
Suspended Solids	10	mg/l
BOD	2	mg/l
COD	10	mg/l
Nitrate	10	mg/l – N
Total Ammonia	0.17	mg/l - N
Molybdate-Reactive Phosphate (MRP)	0.07	mg/l - P
Total Hydrocarbons	0.68	mg/l

- **Condition 5.5:**

The licence holder shall submit an Annual Environmental Report from a suitably qualified person which shall be due within 21 days after the end of each calendar year. The report shall contain the following information in relation to the previous calendar year:

- All monitoring results relating to the previous calendar year including the information; required under conditions 5.1, 5.2, & 5.3.
- An assessment of the results, particularly noting any trends. Such analysis of trends should take account of any previous reports submitted in relation to the discharge.

- c) Confirmation (or otherwise) that the conditions attached to the licence have been complied with.

Table 4 provides a summary of the volume of treated water discharged from the limestone quarry at Kilree and shows it has complied with Condition 3.2 of the Discharge Licence and has capacity within this existing licence to take into account the proposed extension of the existing quarry.

Table 4: Volume of Treated Water Discharged from the Limestone Quarry at Kilree

Year	Maximum Daily Discharge (m ³ /day)	Minimum Daily Discharge (m ³ /day)	Average Discharge (m ³ /day)	Licence Compliant
2018	67,338	3,793	19,826	Yes
2019	63,204	5,739	17,105	Yes
2020	61,308	6,393	17,361	Yes
2021	63,271	5,078	17,227	Yes
2022	65,556	5,250	17,287	Yes
2023	62,174	6,770	17,353	Yes
2024	62,078	2,608	16,776	Yes
2025	58,077	12,930	20,580	Yes

Table 5 presents a summary of water quality sampling of the treated water discharged from the limestone quarry. The results indicate that the quarry complies with the specific ELVs of the discharge licence and in accordance with the Surface Water Regulations 2009 (as amended). Although isolated exceedances have occurred, these are infrequent, do not alter the overall compliance trend, and are not considered representative of the overall quality of the treated discharge.

The exceedances recorded for total ammonia are not considered to be linked to the use of ammonium nitrate explosives on site, as residual nitrogen compounds sampled within the quarry remain below relevant threshold values, i.e. the European Communities Environmental Objectives (Groundwater) Regulations 2010.

Table 5: Water Quality Results of the Treated Water Discharged from the Limestone Quarry at Kilree

Parameter		Discharge Licence ELV	2019	2020	2021	2022	2023	2024	2025
pH	Max	6 - 9	8.1	8	8.2	8.1	8.1	8.2	7.68
	Min		7.4	7.8	7.7	7.6	7.6	7.6	6.72
	Average		7.8	7.9	7.9	7.8	7.8	7.8	7.3
Suspended Solids	Max	10 mg/l	2	5	5	12	9	21	<10
	Min		<2	2	2	<4	<4	<4	<5
	Average		<4	3.7	<4	<4	<4	5.0	<5
BOD	Max	2 mg/l	1.7	<1	1.8	1.6	1.4	2	0.8
	Min		<1	<1	1	<1	<2	<1	<1
	Average		<1	<1	<1	<1	<1	<1	<1
COD	Max	10 mg/l	<10.0	<10	12	<10	<10	14.0	<15
	Min		<10.0	<10	10	<10	<10	<10	<15
	Average		<10.0	<10	<10	<10	<10	<10	<15
Nitrate	Max	10 mg/l N	11.8	10.35	9.71	10.3	9.7	8.1	9.3
	Min		7.1	6.94	6.79	6.81	7.06	2.1	4.5
	Average		9.5	8.8	8.5	8.6	8.1	6.3	7.2
	Max		0.036	0.08	0.31	0.29	0.2	0.56	0.086

Parameter		Discharge Licence ELV	2019	2020	2021	2022	2023	2024	2025
Total Ammonia	Min	0.17 mg/l N	<0.02	<0.02	0.02	0.02	<0.02	<0.02	<0.5
	Average		0.02	0.03	0.06	0.07	0.03	0.10	0.07
MRP	Max	0.07 mg/l P	0.012	0.09	0.07	0.03	0.02	0.22	0.20
	Min		<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
	Average		<0.01	0.02	<0.01	<0.01	<0.01	<0.03	<0.01
Total Hydrocarbons	Max	0.68 mg/l	0.155	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Min		<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Average		<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Notes: 1. < denotes where the results have less than the Limited of Detection (LoD) by the relevant laboratory. 2. In 2025, the accredited laboratory's detection Limit for COD was <15 mg/l however, a reported result of <15 mg/l COD is deemed to be legally equivalent to 7.5 mg/l COD and therefore compliant with the 10 mg/l COD ELV.									

Water quality sampling undertaken in April, May and June 2025 at locations upstream and downstream of the quarry discharge point to the River Nore results are broadly comparable across the monitored parameters and did not identify any measurable deterioration in water quality attributable to the quarry discharge (Table 6).

Table 6: Water Quality Sampling Results for River Nore Up and Downstream of Quarry Discharge

Parameter	Units	April 2025		May 2025		June 2025	
		U/S River Nore	D/S River Nore	U/S River Nore	D/S River Nore	U/S River Nore	D/S River Nore
Total Ammonia (as N)	mg/L	<0.05	<0.05	0.054	0.057	<0.05	<0.05
Ionised Ammonium (as NH ₄)	mg/L	<0.064	<0.064	0.069	0.073	<0.064	<0.064
B.O.D.	mg/L	0.8	0.60	Lab Error		0.8	0.6
Chloride (as Cl ⁻)	mg/L	28	28	30	29	29	29
C.O.D.	mg/L	<15	<15	<15	<15	<15	<15
Total Hardness (as Ca CO ₃)	mg/L	317	313	287	294	262	281
Nitrate (as NO ₃)	mg/L	18	18	15	17	15	15
Nitrate as NO ₃ -N (calculated)	mg/L	4	4	3	4	3	3
Nitrite (as NO ₂)	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
OrthoPhosphate (as P)	mg/L	<0.01	<0.01	0.012	0.011	0.025	0.021
pH - Field	pH Units	7.44	7.48	7.05	7.45	7.46	7.40
Sulphate (as SO ₄ ²⁻)	mg/L	20	20	19	19	19	19
Total Suspended Solids	mg/L	<5	<5	<5	<5	<10	<10
Total Petroleum	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Parameter	Units	April 2025		May 2025		June 2025	
		U/S River Nore	D/S River Nore	U/S River Nore	D/S River Nore	U/S River Nore	D/S River Nore
Hydrocarbons (>C ₆ -C ₄₀)							
Mineral Oils (>C ₁₀ -C ₄₀)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aluminium (Total as Al)	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Calcium (Total as Ca)	mg/L	109	113	107	102	93	95
Chromium (Total as Cr)	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper (Total as Cu)	mg/L	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Iron (Total as Fe)	mg/L	0.068	0.067	0.20	0.053	0.085	0.091
Magnesium (Total as Mg)	mg/L	13	14	12	11.5	11	11
Manganese (Total as Mn)	mg/L	0.013	0.012	0.020	0.016	0.023	0.023
Lead (Total as Pb)	mg/L	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Nickel (Total as Ni)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Potassium (Total as K)	mg/L	<5	<5	5.3	5.0	5.1	5.0
Sodium (Total as Na)	mg/L	14	14	17	16	14	15
Zinc (Total as Zn)	mg/L	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Arsenic (Total as As)	mg/L	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
Total Organic Carbon	mg/L	4.8	4.7	3.3	3.5	7.4	7.9
Conductivity (25°C) - Field	µS/cm	670	661	668	666	610	628

Based on current baseline environmental conditions of the surface waters of the River Nore the existing quarry operations have not resulted in any deterioration in water quality or in the WFD status of this waterbody or in the groundwater body status and the interaction between ground and surface waters in the River Nore.

The proposed continuation of use and lateral extension of the quarry at Kilree will not require any changes to the current authorised Discharge Licence Reference No. ENV/W/78 either for the volume of treated water to be discharge or in respect to the ELVs. Therefore baseline conditions in the River Nore are not predicted to alter as a result of the continuation of the discharge of water from the continuation of use and lateral extension quarry at Kilree.

The stripping of vegetation, soils and overburden within the proposed extension area has the potential to result in the mobilisation of suspended solids through surface water run-off. However, through the existing embedded standard environmental controls, operational practices and settlement via the existing water management system in place at the quarry there is no pathway for any increase in the levels of suspended solids being discharged to the River Nore.

The restoration of the site also has the potential to result in the mobilisation of suspended solids through surface water run-off. However, these are not anticipated to be at levels any greater than the levels of suspended solids generated from quarrying operations and would not have any adverse effects on the quality of water discharged from the quarry under the existing discharge licence.

Once restored the quarry void will be allowed to fill naturally with groundwater. No adverse effects are predicted on the quality of the groundwater from the restoration of the quarry or in the River Nore as a result of any interaction between ground and surface waters in the River Nore.

5.5.2. Mitigation

No specific mitigation measures are considered necessary however, standard environmental controls and operational practices already in place at the quarry will continue to be implemented. These controls include:

- minimising the silt mobilisation:
 - all waters arising at the site shall continue to be attenuated in floor sumps and treated in the established settlement lagoons prior to discharge, under licence, to the River Nore;
 - stripping of vegetation, soils and subsoils shall only take place during appropriate weather conditions and when the soils are in optimum condition (moist but friable);
 - soils shall not be moved when they are too dry, or during unusually windy conditions;
 - working contours shall be such that there are no direct pathways for suspended solids to leave the site via uncontrolled runoff;
 - the slope on any berms shall be minimised to reduce degradation of subsoil structure, erosion and mobilisation of sediments, and generation of dust;
 - sprinklers and road sweepers shall be used to suppress dust;
 - silt fences shall be utilised where there is a high risk of uncontrollable sediment mobilisation.

These embedded measures ensure that the proposed development will continue to operate within the existing licensed discharge regime and will not give rise to adverse effects on the integrity of the River Barrow and River Nore SAC or the River Nore SPA.

All other existing environmental controls in place at the quarry will remain in place.

5.6. Assessment of Effects on Relevant Qualifying Interests / Special Conservation Interests

The relevant qualifying interests / special conservation interests of River Barrow and River Nore SAC and River Nore SPA where a potential pathway for effects as a result of changes in water quality and increased sedimentation via a potential ground and surface water hydraulic connectivity between the development site and River Nore and carried forward for further assessment against individual attributes and targets include:

- River Barrow and River Nore SAC:
 - 3260 Water courses of plain to montane levels with the *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation;
 - 6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine level;
 - 1029 Freshwater Pearl Mussel (*Margaritifera margaritifera*);
 - 1092 White-clawed Crayfish (*Austropotamobius pallipes*);
 - 1095 Sea Lamprey (*Petromyzon marinus*);
 - 1096 Brook Lamprey (*Lampetra planeri*);
 - 1099 River Lamprey (*Lampetra fluviatilis*);
 - 1106 Atlantic Salmon (*Salmo salar*);
 - 1355 Otter (*Lutra lutra*);
- River Nore SPA
 - A229 Kingfisher (*Alcedo atthis*).

Tables 7 and 8 presents an assessment of effects on the relevant qualifying interests / special conservation interests against the individual conservation objectives attributes and targets of River Barrow and River Nore SAC and River Nore SPA respectively.

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Table 7: Assessment of Effects on Relevant Qualifying Interests of River Barrow and River Nore SAC

Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
3260 Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation				
Conservation Objective: To maintain the favourable conservation condition of this habitat in River Barrow and River Nore SAC				
Habitat area (occurrence) with no decline, subject to natural processes.	Yes	No baseline changes in the hydrological regime or status of water quality predicted to occur in the River Nore where the occurrence of the 3260 habitat would be affected.	No mitigation measures required	No
Habitat area (km) with area stable or increasing, subject to natural processes.	Yes	No baseline changes in the hydrological regime or status of water quality predicted to occur in the River Nore where there would be a decline in the extent of the 3260 habitat.	No mitigation measures required	No
Hydrological regime: river flow (m/s) to maintain appropriate hydrological regimes.	Yes	No baseline changes are predicted to occur in the flow regime of the River Nore and no effects on the 3260 habitat.	No mitigation measures required	No
Hydrological regime: groundwater discharge (m/s) where the groundwater flow to the habitat should be permanent and sufficient to maintain tufa formation.	Yes	No significant changes are predicted to occur to groundwater discharge where the formation of tufa will be affected.	No mitigation measures required	No
Substratum composition: particle size range (mm) where the substratum should be dominated by large particles free from fine sediments.	Yes	No baseline changes predicted to occur on the substratum in the River Nore at the quarry discharge point and downstream of this location.	No mitigation measures required other than standard environmental controls and operational practices already in place at the quarry	No
Water chemistry: minerals (mg/l) where the groundwater and surface water should have sufficient concentrations of minerals to allow deposition and persistence of tufa deposits.	Yes	No baseline changes predicted to occur on the ground and surface water quality in the River Nore at the quarry discharge point and downstream of this location that would prevent the deposition and persistence of tufa deposits.	No mitigation measures required	No
Water quality: suspended solids (mg/l) where the concentration of suspended solids in the water column should be sufficiently low to prevent excessive deposition of fine sediments.	Yes	No baseline changes in the levels of suspended solids or in the deposition of fine sediments are predicted to occur in the River Nore at the quarry discharge point and downstream of this location.	No mitigation measures required other than standard environmental controls and operational practices already in place at the quarry	No

Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
Water quality: nutrients (mg/l) whether the concentration of nutrients in the water column should be sufficiently low to changes in species composition or habitat condition.	Yes	No baseline changes predicted to occur on level of nutrients in the River Nore at the quarry discharge point and downstream of this location.	No mitigation measures required other than standard environmental controls and operational practices already in place at the quarry	No
Vegetation composition: typical species (occurrence) where typical species of the relevant habitat sub-type should be present and in good condition.	Yes	No changes predicted to occur to the vegetation composition of any 3260 habitat where this may present at and downstream of the quarry.	No mitigation measures required	No
Floodplain connectivity (area) where the area of active floodplain at and upstream of the habitat should be maintained.	Yes	No changes predicted to occur to the connectivity of the floodplain at and downstream of the quarry.	No mitigation measures required	No
6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine level				
Conservation Objective: To maintain the favourable conservation condition of this habitat in River Barrow and River Nore SAC				
Habitat area (m ²) with area stable or increasing, subject to natural processes.	Yes	No baseline changes in the hydrological regime or status of water quality predicted to occur in the River Nore where there would be a decline in the extent of the 6430 habitat.	No mitigation measures required	No
Habitat distribution (occurrence) with no decline of recorded location.	Yes	No baseline changes in the hydrological regime or status of water quality predicted to occur in the River Nore where the occurrence of the 6430 habitat would be affected.	No mitigation measures required	No
Hydrological regime: height of water table; water flow (m; m/s) to maintain appropriate hydrological regimes.	Yes	No baseline changes are predicted to occur in the flow regime of the River Nore and no effects on the 6430 habitat.	No mitigation measures required	No
Water quality (water chemistry measures) to maintain oligotrophic calcareous conditions.	Yes	No baseline changes in the status of water quality predicted to occur in the River Nore at the quarry discharge point and downstream of this location.	No mitigation measures required other than standard environmental controls and operational practices already in place at the quarry	No
Vegetation composition: typical species (occurrence) to maintain typical species.	Yes	No changes predicted to occur to the vegetation composition of any 6430 habitat where this may present at and downstream of the quarry.	No mitigation measures required	No

Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
1029 – Freshwater Pearl Mussel				
Conservation Objective: To restore the favourable conservation condition of this species in River Barrow and River Nore SAC				
Distribution: Ballymurphy (km) to restore distribution at 3.91km.	No			
Distribution: Mountain (km) to restore distribution at 9.45km.	No			
Distribution: Nore (km) to restore distribution at 21.13km.	No			
Population size: Ballymurphy (number of adult mussels) to restore Ballymurphy population to at least 1,000 adult mussels.	No			
Population size: Mountain (number of adult mussels) to restore Mountain population to at least 4,000 adult mussels.	No			
Population size: Nore (number of adult mussels) to restore Nore population to at least 5,000 adult mussels.	No			
Population structure: recruitment (% per size class) to restore to at least 20% of population no more than 65mm in length; and at least 5% of population no more than 30mm in length.	No			
Population structure: adult mortality, Ballymurphy (%) with no more than 5% decline from previous number of live adults counted; dead shells less than 1% of the adult population and scattered in distribution.	No			

Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
Population structure: adult mortality, Mountain (%) with no more than 5% decline from previous number of live adults counted; dead shells less than 1% of the adult population and scattered in distribution.	No			
Population structure: adult mortality, Nore (%) with no more than 5% decline from previous number of live adults counted; dead shells less than 1% of the adult population and scattered in distribution.	No			
Suitable habitat: extent (km) to restore suitable habitat in more than 3.91km in the Ballymurphy, 5.3km in the Mountain and 16.72 in the Nore system and any additional stretches necessary for salmonid spawning.	No			
Suitable habitat: condition (km) to restore condition of suitable habitat.	No			
Water quality: macroinvertebrates and phytobenthos (diatoms) (Ecological Quality Ratio (EQR)) to restore water quality - macroinvertebrates: EQR greater than 0.90 (Q4-5 or Q5); phytobenthos: EQR greater than 0.93.	No			
Substratum quality: filamentous algae (macroalgae); macrophytes (rooted higher plants) (%) to restore substratum quality - filamentous algae: absent or trace (less than 5%); macrophytes: absent or trace (less than 5%).	No			

Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
Substratum quality: sediment (occurrence) to restore substratum quality - stable cobble and gravel substrate with very little fine material; no artificially elevated levels of fine sediment.	No			
Substratum quality: oxygen availability (Redox potential) to restore to no more than 20% decline from water column to 5cm depth in substrate.	No			
Hydrological regime: flow variability (m/s) to restore appropriate hydrological regimes.	No			
Host fish (number) to maintain sufficient juvenile salmonids to host glochidial larvae.	Yes	No changes in the chemical status of water in River Nore and no potential disruption to olfactory cues that could affect the ability of Atlantic Salmon to migrate through River Nore to any upstream spawning grounds where the Freshwater Pearl Mussel population are located.	No further mitigation measures	No
Fringing habitat area and condition (ha) to maintain the area and condition of fringing habitats necessary to support the population.	No			
1092 White-clawed Crayfish				
Conservation Objective: To maintain the favourable conservation condition of this species in River Barrow and River Nore SAC				
Distribution: rivers (occurrence) with no reduction from baseline.	Yes	No baseline changes in the hydrological regime or status of water quality predicted to occur in the River Nore where the distribution of White-clawed Crayfish would be affected at and downstream of the quarry.	No further mitigation measures	No
Population structure: recruitment (occurrence of juveniles and females with eggs) with juveniles and/or females with	Yes	No baseline changes in the hydrological regime or status of water quality predicted to occur in the River Nore where there would be any effects on the population structure of White-clawed Crayfish at and downstream of the quarry.	No further mitigation measures	No

Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
eggs in all occupied tributaries and occupied parts of River Nore.				
Negative indicator species (occurrence) with no alien crayfish species.	No			
Disease (occurrence) with no instances of disease.	No			
Water quality (EPA Q value) with at least Q3-4 at all sites sampled by EPA.	Yes	No baseline changes in the hydrological regime or status of water quality predicted to occur in the River Nore and where the quarry would be responsible for not achieving Good WFD status.	No mitigation measures required	No
Habitat quality: heterogeneity (occurrence of positive habitat features) with no decline in heterogeneity or habitat quality.	Yes	No baseline changes predicted to occur to the heterogeneity of habitat in River Nore for White-clawed Crayfish.	No mitigation measures required	No
1095 Sea Lamprey				
Conservation Objective: To restore the favourable conservation condition of this species in River Barrow and River Nore SAC				
Distribution: extent of anadromy (% of river accessible) with greater than 75% of main stem length of rivers accessible from estuary.	No			
Population structure of juveniles (number of age/size groups) with at least three age/size groups present.	Yes	No baseline changes in environmental conditions of the River Nore predicted to occur that would affect spawning, egg development and juvenile development of Sea Lamprey.	No mitigation measures required	No
Juvenile density in fine sediment (juveniles/m ²) with mean catchment juvenile density at least 1/m ² .	Yes			
Extent and distribution of spawning habitat (m ² and occurrence) with no decline in extent and distribution of spawning beds.	Yes			

Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
Availability of juvenile habitat (number of positive sites in 3 rd order channels (and greater), downstream of spawning areas) with more than 50% of sample sites positive.	No			
1096 Brook Lamprey				
Conservation Objective: To restore the favourable conservation condition of this species in River Barrow and River Nore SAC				
Distribution (% of river accessible) with access to all watercourses down to first order streams.	No			
Population structure of juveniles (number of age/size groups) with at least three age/size groups of brook/river lamprey present.	Yes	No baseline changes in environmental conditions of the River Nore predicted to occur that would affect spawning, egg development and juvenile development of Brook Lamprey.	No mitigation measures required	No
Juvenile density in fine sediment (ammocoetes/m ²) with mean catchment ammocoetes density of brook/river lamprey at least 2/m ² .	Yes			
Extent and distribution of spawning habitat (m ² and occurrence) with no decline in extent and distribution of spawning beds.	Yes			
Availability of juvenile habitat (number of positive sites in 2 nd order channels (and greater), downstream of spawning areas) with more than 50% of sample sites positive.	No			
1099 River Lamprey				
Conservation Objective: To restore the favourable conservation condition of this species in River Barrow and River Nore SAC				
Distribution: extent of anadromy (% of river accessible) with greater than 75% of	No			

Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
main stem length of rivers accessible from estuary.				
Population structure of juveniles (number of age/size groups) with at least three age/size groups present.	Yes	No baseline changes in environmental conditions of the River Nore predicted to occur that would affect spawning, egg development and juvenile development of Sea Lamprey.	No mitigation measures required	No
Juvenile density in fine sediment (juveniles/m ²) with mean catchment juvenile density at least 2/m ² .				
Extent and distribution of spawning habitat (m ² and occurrence) with no decline in extent and distribution of spawning beds.				
Availability of juvenile habitat (number of positive sites in 2 nd order channels (and greater), downstream of spawning areas) with more than 50% of sample sites positive.	No			
1106 Atlantic Salmon				
Conservation Objective: To maintain the favourable conservation condition of this species in River Barrow and River Nore SAC				
Distribution: extent of anadromy (% of river accessible) with 100% of river channels down to second order accessible from estuary.	No			
Adult spawning fish (number) with conservation limited for each system consistently exceeded.	No			
Salmon fry abundance (number of fry/5 minutes electrofishing) to maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry/5 minutes sampling.	No			

Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
Out migrating smolt abundance (number) with no significant decline.	No			
Number and distribution of redds (number and occurrence) with no decline in number and distribution of spawning redds due to anthropogenic causes.	No			
Water quality (EPA Q value) with at least Q4 at all sites sampled by EPA.	Yes	No baseline changes in the hydrological regime or status of water quality predicted to occur in the River Nore and where the quarry would be responsible for not achieving Good WFD status.	No mitigation measures required	No
1355 Otter				
Conservation Objective: To maintain the favourable conservation condition of this species in River Barrow and River Nore SAC				
Distribution (% positive survey sites) with no significant decline.	No			
Extent of terrestrial habitat (ha) with no significant decline. Area mapped and calculated as 122.8ha above high water mark (HWM); 1136.0ha along river banks / around ponds..	No			
Extent of marine habitat (ha) with no significant decline. Area mapped and calculated as 857.7ha.	No			
Extent of freshwater (river) habitat (km) with no significant decline. Length mapped and calculated as 616.6km.	No			
Extent of freshwater (lake) habitat (ha) with no significant decline. Area mapped and calculated as 2.6ha.	No			
Crouching sites and holts (number) with no significant decline.	No			

Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
Fish biomass available (kg) with no significant decline.	Yes	No baseline changes in environmental conditions of River Nore predicted to occur where there would be a reduction in fish biomass available to Otter	No mitigation measures required	No

Table 8: Assessment of Effects on Relevant Special Conservation Interests of River Nore SPA

Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
A229 Kingfisher				
Conservation Objective: To maintain the favourable conservation condition of this species in River Nore SPA				
Population size (number of breeding territories/pairs) with no significant decline.	No			
Productivity rate (number of fledged young per confirmed breeding pair) with sufficient productivity to maintain the population trend as stable or increasing.	Yes	No baseline changes in environmental conditions of the River Nore predicted to occur where the distribution and availability of food sources for Kingfisher would alter and could affected the ability of this species to successfully rear young.	No mitigation measures required	No
Spatial distribution of territories (numbers and distribution of occupied territories across site) with no significant loss of distribution in the long term, other than that occurring due to natural patterns of variation.	No			
Extent and quality of nesting banks and other suitable nesting features (ha; condition assessment) with sufficient area of high quality nesting habitat to support the population target.	No			

Conservation Objectives Attributes (Measure) Target	Pathway (Yes / No)	Potential Effects	Mitigation Measures	Residual Adverse Effects (Yes / No)
Forage spatial distribution, extent, abundance and availability (location, ha , and forage biomass) with sufficient number of locations, area of suitable forage habitat and available forage biomass to support the population target.	Yes	No baseline changes in environmental conditions of River Nore predicted to occur where there would be a reduction in fish biomass available to Kingfisher	No mitigation measures required	No
Water quality (water quality indicators) where Both biotic (i.e. Q-value) and abiotic indices reflect overall good-high quality status.	Yes	No baseline changes in the hydrological regime or status of water quality predicted to occur in the River Nore and where the quarry would be responsible for not achieving Good WFD status.	No mitigation measures required	No
Barriers to connectivity (number, location, shape and ha) with no significant increase.	No			
Disturbance to breeding sites (intensity, frequency, timing and duration) where disturbance occurs at levels that do not significantly impact upon breeding Kingfisher.	No			

5.7. Residual Adverse Effects

Based on the best available scientific information, the proposed continuation of use and lateral extension of the quarry at Kilree is not predicted to adversely affect the integrity of River Barrow and River Nore SAC and/or River Nore SPA, in light of the conservation objectives for these Natura 2000 sites, as a stand-alone project.

5.8. Potential for In-combination Effects

5.8.1. Plans

For the purposes of this assessment, consideration was given to those plans where foreseeable impacts on water quality of River Nore and where this may adversely affect River Barrow and River Nore SAC and/or River Nore SPA were likely and included:

- regional, county and Local development plans delivering planned spatial growth i.e. Kilkenny County Development Plan 2021-2027 and Regional Spatial and Economic Strategy 2020-2032 for the Southern Region; and
- proposed major development schemes i.e. transport plans.

Whilst a number of plans have been identified with the potential to affect the European site, they are only policy documents that typically provide strategic guidance on actions and measures in order to achieve strategic outcomes. Where such actions and measures are turned into specific projects then these are likely to be subject to separate assessments and may require further appropriate assessment under Article 6(3) of the Habitats Directive. Potential impacts and mitigation will be identified in any subsequent assessments of detailed proposal before these developments can proceed. It is reasonable to assume schemes will only go ahead where it has been demonstrated that they will not have adverse effects upon any Natura 2000 sites either alone or in combination.

5.8.2. Projects

Other projects considered in establishing potential cumulative effects were deemed those in close proximity to the proposed development with the potential to cause changes in water quality in River Nore and downgradient of the proposed continuation of use and lateral extension of the quarry at Kilree where:

- proposals for which consent has been applied but which are awaiting determination;
- projects which have been granted consent but which have not yet been started or which have been started but are not yet completed (i.e. under construction);
- proposals which have been refused permission but which are subject to appeal and the appeal is undetermined; and
- constructed developments whose full environmental effects are not yet felt and therefore cannot be accounted for in the baseline.

Where projects were not subject to any appropriate assessment screening, NIS or environmental/ecological impact assessment these were excluded as these were expected to have no effects at all on River Barrow and River Nore SAC and/or River Nore SPA.

A search of Kilkenny County Council's and An Bord Pleanála's online planning search facilities indicates that there are no other projects within the vicinity of the proposed continuation of use and lateral extension of the quarry at Kilree that are likely to have any in-combination effects on the River Barrow and River Nore SAC and River Nore SPA.

6. CONCLUSIONS

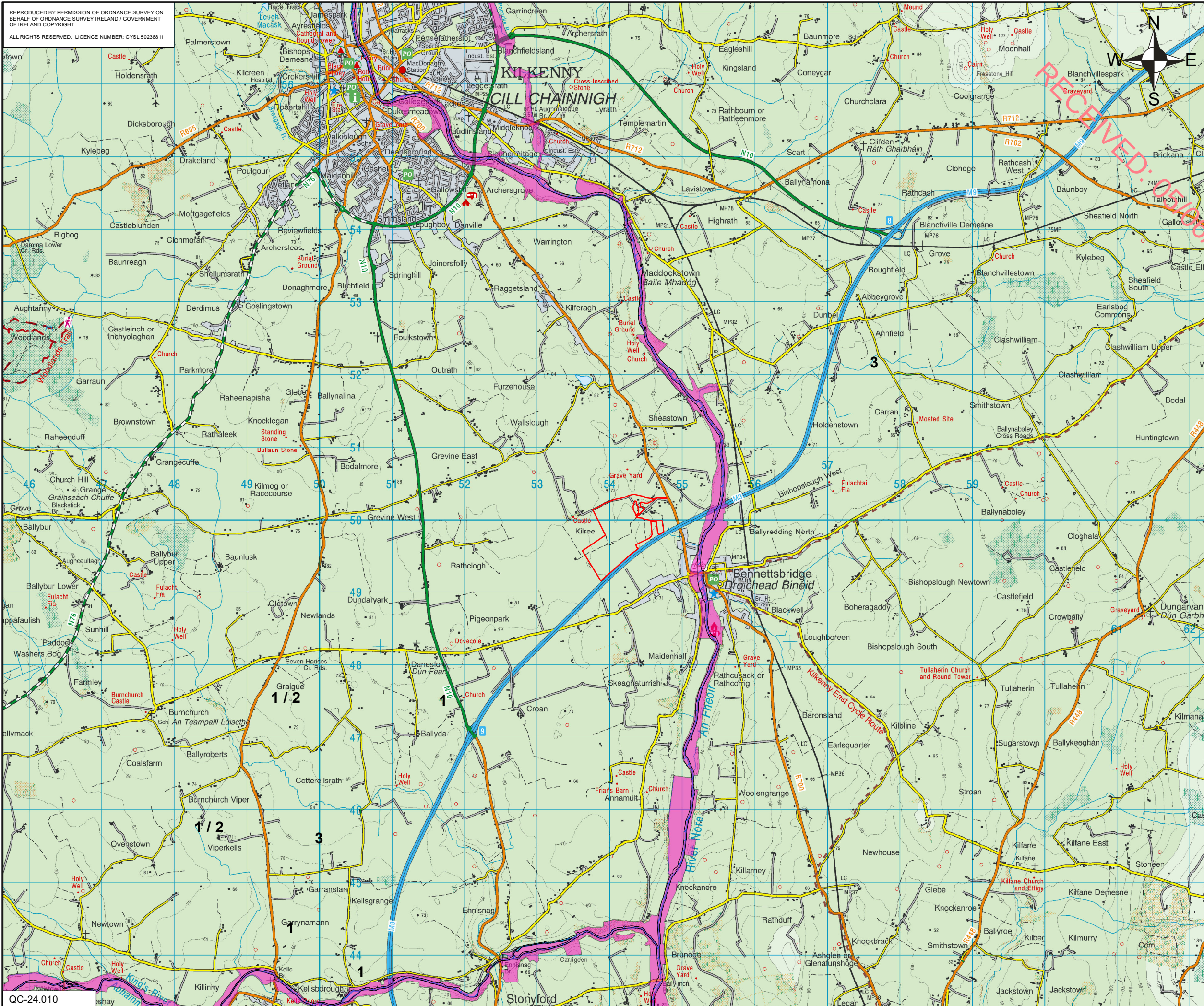
This NIS has assessed the implications of the continuation of use and lateral extension of the quarry at Kilree, Bennettsbridge, Co. Kilkenny. The assessment has considered:

- the potential impact sources from changes in water quality and increased sedimentation from authorised licensed discharge of treated water and the potential groundwater and surface water hydraulic connectivity between the quarry and the River Nore;
- the pathways that may affect the qualifying interests and special conservation interests of River Barrow and River Nore SAC and River Nore SPA respectively; and
- whether the proposed development, based on best available scientific information and incorporation of appropriate mitigation measures, would adversely affect the integrity of River Barrow and River Nore SAC and/or River Nore SPA, in light of the conservation objectives for these Natura 2000 sites.

It has been objectively concluded, beyond reasonable scientific doubt, that the proposed continuation of use and lateral extension of the quarry at Kilree, individually or in combination with other plans or projects, will not adversely affect the integrity of River Barrow and River Nore SAC and/or River Nore SPA, in light of the conservation objectives for these Natura 2000 sites.

FIGURES

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NOTES

LEGEND

-  APPLICATION SITE
 RIVER BARROW AND RIVER NORE SAC
 RIVER NORE SPA



CONTINUATION OF USE AND EXTENSION
OF AN EXISTING QUARRY AT KILREE
BENNETTSBRIDGE, CO. KILKENNY

NATURA IMPACT STATEMENT

LOCATION OF PROPOSED DEVELOPMENT SITE

FIGURE 1

Scale 1:50,000 @ A3

Date MAY 2026

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NOTES

LEGEND

- APPLICATION SITE
- EXISTING QUARRY SITE
- PROPOSED EXTENSION AREA
- DUNBELL LITTLE STREAM
- DISCHARGE (LICENCE REF: EMF/W/78)
- RIVER NORE SPA
- RIVER BARROW AND RIVER NORE SAC



CONTINUATION OF USE AND EXTENSION
OF AN EXISTING QUARRY AT KILREE
BENNETTSBRIDGE, CO. KILKENNY

NATURA IMPACT STATEMENT
PROPOSED DEVELOPMENT

FIGURE 2

Scale 1:10,000 @ A3 Date MAY 2026

