Remedial NATURA IMPACT STATEMENT

FOR

HISTORIC EXTRACTION AND INFILLING WORKS

AT

MAPLESTOWN

CO, CARLOW

November 2021

ON BEHALF OF

MARK PHELAN

Prepared by
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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1 Introduction

Background Enviroguide Consulting was commissioned by Mr. Mark Phelan to carry out an Appropriate Assessment Screening Report in relation to the Historic (unauthorised) extraction and infilling at a sand and gravel quarry, in Maplestown, Co. Carlow. The purpose of this report is to provide information to the Competent Authority to enable it to undertake Appropriate Assessment in respect of the Development.

1.1.1 Historic extraction and Infill (since 2012)

The historic development took place after July 2012 when unauthorised extraction and infill activities occurred at the site upon the expiry of the granted planning permission period which was from 2007 until 2012. (It should be noted that the operator of the quarry was unaware of this expiry and was of the understanding that there was a 10-year permission in place and therefore all of the environmental controls that were in place for the permitted duration remained in place for the unauthorised duration).

This report will retrospectively assess the potential impact of unauthorised extraction and infill activities on European sites which may have taken place during this period.

1.2 Legislative Context

Member States are required to designate Special Areas of Conservation (SACs) and Special Protected Areas (SPAs) under the EU Habitats and Birds Directives, respectively. SACs and SPAs are collectively known as Natura 2000 Sites or European Sites. An 'Appropriate Assessment' (AA) is a required assessment to determine the likelihood of significant effects, based on best scientific knowledge, of any plans or projects on European Sites.

The Habitats Directive (92/43/EEC) seeks to conserve natural habitats and wild fauna and flora by the designation of SACs and the Birds Directive (79/409/EEC) seeks to protect birds of special importance by the designation of SPAs. It is the responsibility of each member state to designate SPAs and SACs, both of which will form part of Natura 2000, a network of protected sites throughout the European Community.

An Appropriate Assessment is required under Article 6 of the Habitats Directive where a project or plan may give rise to significant effects upon a European Site, and paragraphs 3 and 4 state that:

6(3) Any plan or project not directly connected with or necessary to the management of the site ***but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site****, in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.*

6(4) If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons

of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.

The current assessment was conducted within this legislative framework and also, the published DEHLG (2009) guidelines "Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DEHLG, 2009, Revised February 2010)". As outlined in these, it is the responsibility of the proponent of the project to provide a comprehensive and objective NIS, which can then be used by the competent authority in order to conduct the Appropriate Assessment (DEHLG, 2009).

1.3 Stages of AA

The AA process is a four-stage process, with issues and tests at each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

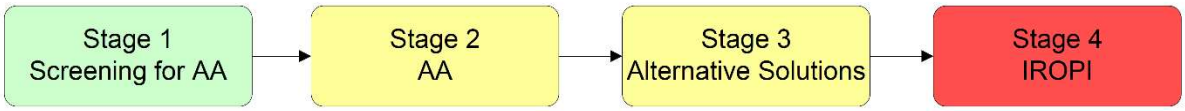

FIGURE 1. THE FOUR STAGES OF THE APPROPRIATE ASSESSMENT PROCESS (DEHLG, 2010).

The four stages of an AA can be summarised as follows:

- Stage 1: *Screening*. The first stage of the AA process is to determine the likelihood of significant impacts of this proposal.
- **Stage 2: *Natura Impact Statement (NIS)*.** The second stage of the AA process assesses the impact of the proposal (either alone or in combination with other projects or plans) on the integrity of the European site, with respect to the conservation objectives of the site and its ecological structure and function. A Natura Impact Statement containing a professional, scientific examination of the proposal is required and includes any mitigation measure to avoid, reduce or offset negative impacts.
- Stage 3: *Assessment of alternative solutions*. If the outcome of Stage 2 is negative, i.e., adverse impacts to the sites cannot be scientifically ruled out, despite mitigation, the plan or project should proceed to Stage 3 or be abandoned. This stage examines alternative solutions to the proposal.
- Stage 4: *Assessment where no alternative solutions exist and where adverse impacts remain.* The final stage is the main derogation process examining whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project to adversely affect a European site, where no less damaging solution exists.

The Habitats Directive promotes a hierarchy of avoidance, mitigation, and compensatory measures. First the project should aim to avoid any negative impacts on European sites by

identifying possible impacts early in the planning stage and designing the project in order to avoid such impacts. Second, mitigation measures should be applied, if necessary, during the AA process to the point where no adverse impacts on the site(s) remain. If the project is still likely to result in adverse effects, and no further practicable mitigation is possible, a refusal for planning permission may be recommended. In this case, the project will generally only be considered where no alternative solutions are identified and the project is required for imperative reasons of overriding public interest (IROPI test), or, in the case of priority habitats, considerations of health or safety, or beneficial consequences of primary importance for the environment or to other imperative reasons of overriding public interest. Then compensation measures are required for any remaining adverse effects.

2 Quality Assurance and Competence

Synergy Environmental Ltd., T/A Enviroguide Consulting, is a wholly Irish Owned multi-disciplinary consultancy specialising in the areas of Environment, Waste Management and Planning. All consultants have scientific or technical qualifications and have a wealth of experience working within the Environmental Consultancy sectors, having undergone extensive training and continued professional development.

Enviroguide Consulting as a company remains fully briefed in European and Irish environmental policy and legislation. Enviroguide's staff members are highly qualified in their field. Professional memberships include the Chartered Institution of Wastes Management (CIWM), the Irish Environmental Law Association and Chartered Institute of Ecology and Environmental Management (CIEEM).

All surveying and reporting have been carried out by qualified and experienced ecologists and environmental consultants. Enviroguide Ecologist Bryan Thompson undertook the desk study pertaining to this report.

Bryan Thompson has a B.Sc. in Environmental Biology (Hons) and a PhD in Marine Ecology from University College Dublin, and a wealth of experience in desktop research, literature scoping-review, and report writing, as well as practical field experience (Habitat surveys, intertidal surveys, bird surveys, fresh water macro-invertebrates etc.). Bryan has experience in compiling Biodiversity Chapters of EIARs, AA screening and NIS reports, and in the overall assessment of potential impacts to ecological receptors from a range of developments. Conclusion of Stage 1 Screening Assessment.

The Appropriate Assessment Screening Report containing information for the purposes of Stage 1 Screening for AA is presented in a separate document with this application, the conclusions of which are presented below:

An Appropriate Assessment/Retrospective Appropriate Assessment Screening report has been carried out in relation to the Historic/ Proposed Development and accompanies this application. The conclusions of said screenings are included below:

The Historic extraction and infilling at Maplestown, Rathvilly, Co. Carlow has been assessed taking into account:

- *the nature, size and location of the works and possible impacts arising from the works.*
- *the qualifying interests and conservation objectives of the European Sites*

- *the potential for in-combination effects arising from other plans and projects.*

In conclusion, upon the examination, analysis and evaluation of the relevant information and applying the precautionary principle, it is concluded by the authors of this report that, on the basis of objective information; the possibility may be excluded that the Historic Development will have a significant effect on any of the European Sites listed below:

- *Holdenstown Bog SAC (001757)*
- *Slaney River Valley SAC (000781)*
- *Wicklow Mountains SAC (002122)*

However, upon examination of the relevant information including in particular the nature of the Historic Development and the likelihood of significant effects on European Sites, the possibility may not be excluded that the Historic Development will have a likely significant effect on any of the European Sites listed below:

- *River Barrow and River Nore SAC (002162)*

Therefore, the above European site is assessed further as part of this NIS.

3 Description of the Project

3.1 Description of the Historic/Proposed Development

3.1.1 Historic Extraction and Infill (Since 2012)

The historic development took place since July 24th, 2012, when unauthorised extraction and infill activities occurred at the site outside the duration of the granted planning permission period. The unauthorised development did not go outside of the footprint that was environmentally assessed in the EIS submitted by the original applicant in 2005 (Essgee Consulting 2004).

The permitted development did not require the construction of permanent buildings. Instead, construction at the site was limited to the imported infrastructure such as washing/rinsing plant, a dry screener, one bunded fuel storage tank, a wheel wash, portacabin, chemical toilet, portable generator and water supply. The construction phase also involved the excavation of 3 no. settlement lagoons, stockpiling area, truck and plant parking area and site access.

It should be noted that all of the above was installed on site during the valid permitted timelines. The operational phase of the historic (unauthorised) development occurred on an area of land approximately 4.177 ha and involved the extraction of approximately 192,240 tonnes of sand and gravel from the site. A total 41,700 m^3 of overburden were removed and set aside for re-use in the restoration of the area.

Upon completion of the extraction the area of 4.177 ha was restored to previous ground level using overburden removed from this are during quarrying and stockpiles of overburden that had been retained on site from the permitted development.

The traffic servicing the Site daily during the unauthorised extraction period was similar to that previously assessed for the permitted operation of the quarry with a maximum of 16 trucks leaving the Site loaded with materials, and

The facility operation hours (including sand/gravel extraction and operation of plant and machinery) will be as follows:

08.00 - 17.00 Monday to Friday

08.00 - 14.00 Saturday

No Sunday or Bank Holiday work will took place.

3.2 Surrounding Environment

3.2.1 Historic Extraction and Infill Site (since 2012)

Using aerial imagery from 2006 it was identified that the site of the historic development (pre-extraction) was predominantly composed of agricultural grassland with several hedgerows and treelines abounding the site. The Broadstown stream also abounded the sites southern boundary.

3.2.2 Hydrology and Hydrogeology

The Site is located within the River Barrow Water Framework Directive (WFD) Catchment, the Lerr sub-catchment (Lerr_SC_010), the Graney (Lerr) River Sub-basin (Graney (Lerr_010)) and the Barrow Hydrometric Area (EPA, 2021). The Broadstown stream (EPA code: 14B54) is located on the southern site boundary and is mapped by the EPA as flowing in a westerly direction for approx. 0.6 km before joining the Graney (Lerr) River (EPA code: 14G07), which flows in a south westerly direction for approx. 8.9 km before entering the River Barrow and River Nore SAC. There are currently no EPA monitoring stations along the Broadstown stream. However the Graney (Lerr) (IE_SE_14G070310) and Lerr (IE_SE_17L010155) waterbodies which receive the Broadstown stream are listed as *"At Risk"* and have a Water Framework Directive (WFD) status of *"Poor" and "Good"* and respectively based on the nearest monitoring data to the proposed development (EPA,2021).

The Site of the development is situated on the New Ross groundwater body, which has a WFD status of *Good* and is *Not At Risk* of not meeting its WFD objectives. The groundwater vulnerability to contamination via human activities is classed as *High*. The Site is on a moderately productive aquifer, namely Ll, *bedrock which is moderately productive only in Local Zones*. The groundwater rock units underlying the aquifer are classified as *Pale, fine to coarse-grained granite*. (GSI, 2021). The subsoil beneath the Site is classified as *Limestone sands and gravels (Carboniferous)* (EPA,2021).

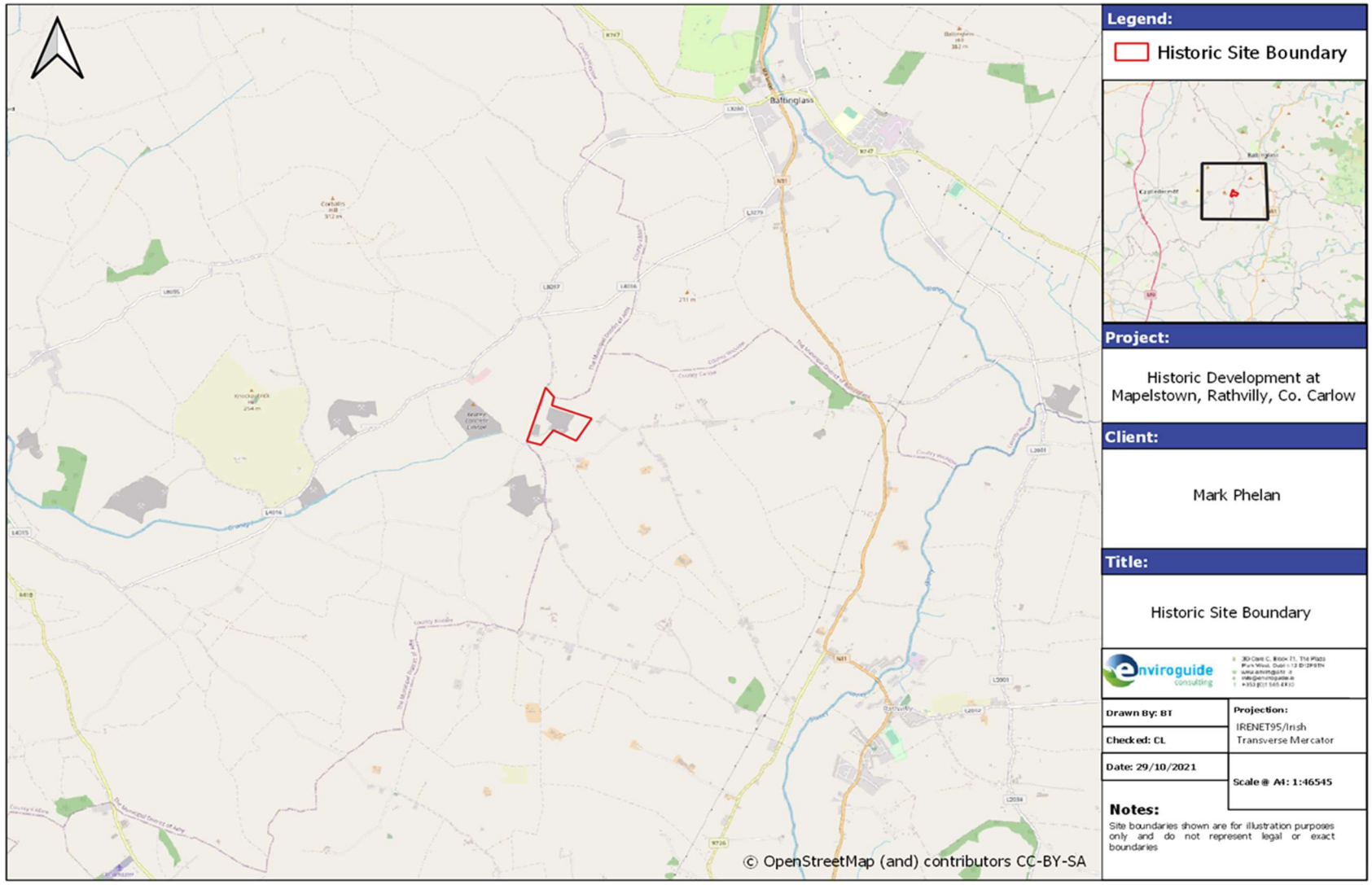

FIGURE 2. HISTORIC SITE BOUNDARY

FIGURE 3. SITE LOCATION MAP

FIGURE 4. AREA REQUIRING SUBSTITUTE CONSENT

4 Methodology

4.1 Desk Study

A desktop study was carried out to collate and review available information, datasets and documentation sources relevant for the completion of the Natura Impact Statement. The desk-top study, completed in October 2021, relied on the following sources:

- Information on the network of Natura 2000 sites, relevant boundaries, qualifying interests and conservation objectives, obtained from the National Parks and Wildlife Service (NPWS) at *www.npws.ie*
- Information on the status of EU protected habitats and species in Ireland, obtained from the NPWS Article 17 reports (NPWS, 2013g & 2013h).
- Text summaries of the relevant Natura 2000 sites taken from the respective Standard Data Forms and Site Synopses for each site, available at *www.npws.ie*
- Information on species records and distributions, obtained from the National Biodiversity Data Centre (NBDC) at *www.maps.biodiversityireland.ie.*
- Information on waterbodies, catchment areas and hydrological connections obtained from the Environmental Protection Agency (EPA) at www.*gis.epa.ie*
- Information on bedrock, groundwater, aquifers and their statuses, obtained from Geological Survey Ireland (GSI) at *www.gsi.ie*
- Satellite imagery and mapping obtained from various sources and dates including Google, Digital Globe, Bing and Ordnance Survey Ireland.
- Information on the existence of permitted developments, or developments awaiting decision, in the vicinity of the proposed development from Carlow County Council available at: https://arcgis.com/home/item.html?id=393aff56
- Information on the extent, nature and location of the Proposed Development, provided by the applicant and their design team.
- Information on the proposed works to be followed as part of the Historic/Proposed Development, taken from the Final Project description provided by the Applicant along within an EIAR conducted for the Historic works in 2006 (EssGee Consultants, 2006).

The following guidance documents were consulted and followed in the completion of this Natura Impact Statement:

- *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities* (Department of Environment, Heritage and Local Government, 2010).
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities.* Circular NPW 1/10 & PSSP 2/10.
- *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* (European Commission, 2001).

- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC* (European Commission, 2018).
- *OPR Practice Note PN01 - Appropriate Assessment Screening for Development Management'* (OPR, 2021).

A comprehensive list of all the specific documents and information sources consulted in the completion of this report is provided in Section 9, References.

4.2 Limitations

No limitations were encountered in the preparation of this remedial Natura Impact Statement.

5 Summary of Relevant European sites

A summary of the River Barrow and River Nore SAC, the European site relevant to this assessment is given below; taken from the '*Quality and Importance'* section of the Natura 2000 Standard Data Form for the site.

5.1 River Barrow and River Nore SAC [002162]

"The site supports many Annexed habitats including the priority habitats of alluvial woodland and petrifying springs. Quality of habitat is generally good. The site also supports a number of Annex II animal species - Salmo salar, Margaritifera margaritifera, M.m. durrovensis, Alosa fallax fallax, Austropotamobius pallipes, Petromyzon marinus, Lutra lutra, Lampetra fluviatilis *and* L. planeri*. Annex I Bird species include* Anser albifrons flavirostris, Falco peregrinus, Cygnus cygnus, Cygnus columbianus bewickii, Limosa lapponica, Pluvialis apricaria *and* Alcedo atthis*. A range of rare plants and invertebrates are found in the woods along these rivers and rare plants are also associated with the saltmarsh".*

5.2 Qualifying Interests and Conservation Objectives

The "favourable conservation status" of a habitat or species is defined by Articles 1(e) and 1(i) of the Habitats Directive as follows:

"The conservation status of a natural habitat is the sum of the influences acting on it and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species. The conservation status of a natural habitat will be taken as favourable 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.*

The conservation status of a species is the sum of the influences acting on the species that may affect the long-term distribution and abundance of its populations. The conservation status will be taken as 'favourable' 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 habitats, 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 populations on a long-term basis."*

Site-specific conservation objectives aim to define favourable conservation condition for a particular habitat or species at that site. The maintenance of habitats and species within European sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level (NPWS, 2011).

For the purposes of this report, specific conservation attributes and targets for maintaining the favourable conservation condition of the SCIs for which River Barrow and River Nore SAC has been selected based on site-specific conservation objectives for these species.

The qualifying interests and conservation objectives for the relevant European site are detailed in Table 1 below.

Table 1. Qualifying interests and conservation objectives for relevant European site.

Site Name	Qualifying Interests	Conservation Objectives		
		Attribute	Measure	Target
River Barrow and River Nore SAC [002162]	*Vertigo moulinsiana* (Desmoulin's Whorl Snail) [1016]	Distribution	Number	No decline
	Austropotamobius pallipes (White-clawed Crayfish) [1092]	Distribution	Occurrence	No reduction from baseline
	Petromyzon marinus (Sea Lamprey) [1095]	Distribution: extent of anadromy	% of river accessible	Greater than 75% of main stem length of rivers accessible from estuary
	Lampetra planeri (Brook Lamprey) [1096]	Distribution: extent of anadromy	% of river accessible	Access to all watercourses down to first order streams

	Lampetra fluviatilis (River Lamprey) [1099]	Distribution: extent of anadromy	% of river accessible	Greater than 75% of main stem and major tributaries down to second order accessible from estuary
	Alosa fallax fallax (Twaite Shad) [1103]	Distribution: extent of anadromy	% of river accessible	Greater than 75% of main stem length of rivers accessible from estuary
	Salmo salar (Salmon) [1106]	Distribution: extent of anadromy	% of river accessible	100% of river channels down to second order accessible from estuary
	Estuaries [1130]	Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes.
	Mudflats and sandflats not covered by seawater at low tide [1140]	Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes.
	Salicornia and other annuals colonising mud and sand [1310]	Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For the one sub-site mapped: Ringville - 0.03ha
	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]	Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Dunbrody Abbey - 1.25ha, Killowen - 2.59ha, Rochestown - 17.50ha, Ringville - 6.70ha.
	Lutra lutra (Otter) [1355]	Distribution	Percentage positive survey sites	No significant decline

	Mediterranean salt meadows (*Juncetalia maritimi*) [1410]	Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Dunbrody Abbey - 0.08ha, Rochestown - 0.04ha, Ringville - 6.70ha
	Trichomanes speciosum (Killarney Fern) [1421]	Distribution	Location	No decline. Three locations known, with three colonies of gametophyte and one sporophyte colony
	Margaritifera durrovensis (Nore Pearl Mussel) [1990]	Distribution	Kilometres	Maintain at 15.5km.
	Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]	Habitat distribution	Occurrence	No decline, subject to natural processes
	European dry heaths [4030]	Habitat distribution	Occurrence	No decline from current habitat distribution, subject to natural processes
	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]	Habitat distribution	Occurrence	No decline subject to natural processes
	Petrifying springs with tufa formation (*Cratoneurion*) [7220]	Habitat area	Square metres	Area stable or increasing, subject to natural processes
	Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]	Habitat area	Hectares	Area stable or increasing, subject to natural processes, at least 85.08ha for sub-sites surveyed

	Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0]	Habitat area	Hectares	Area stable or increasing, subject to natural processes, at least 181.54ha for sites surveyed
	Reefs [1170]	Not available	Not available	Not available

6 Assessment of Potential Impacts on European sites

This section of the rNIS assesses the potential impact pathways linking the Historic Development to the European sites deemed to fall within its Zone of Influence (ZOI). The assessment below described the potential impact pathways, the QIs at risk of these potential impacts in view of the sites' conservation objectives (including their specific attributes and targets) and the QIs/SCIs conservation condition.

6.1 Linkages to Annex I Habitats/Species

6.1.1 River Barrow and River Nore SAC

Table 2 below describes the potential impact pathways linking the Historic Development to the QI/SCIs of River Barrow and River Nore SAC.

Table 2. Potential Impacts on QI/SCI's listed for River Barrow and River Nore SAC as a result of the Historic Development.

Qualifying Interest	Historic Extraction and Infill
Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016]	**None-** As this species preferred habitat is tall sedge grasses and reeds within the riparian zone of waterways and wetlands there was no risk of any negative impact on the distribution of this species from sediments mobilised in waterways
Austropotamobius pallipes (White-clawed Crayfish) [1092]	**Yes-** Surface/ground waters containing sediment, silt or other pollutants had the capacity to reach the SAC through the potential hydrological connection and cause a reduction in water quality/habitat availability at the Site in the absence of suitable mitigation measures, potentially adversely affecting the distribution of this SCI.
Petromyzon marinus (Sea Lamprey) [1095]	**Yes-** Surface/ground waters containing sediment, silt or other pollutants had the capacity to reach the SAC through the potential hydrological connection and cause a reduction in water quality/habitat availability at the Site in the absence of suitable mitigation measures, potentially adversely affecting the distribution of this SCI.
Lampetra planeri (Brook Lamprey) [1096]	**Yes-** Surface/ground waters containing sediment, silt or other pollutants had the capacity to reach the SAC through the potential hydrological connection and cause a reduction in water quality/habitat availability at the Site in the absence of suitable mitigation measures, potentially adversely affecting the distribution of this SCI.
Lampetra fluviatilis (River Lamprey) [1099]	**Yes-** Surface/ground waters containing sediment, silt or other pollutants had the capacity to reach the SAC through the potential hydrological connection and cause a reduction in water quality/habitat availability at the Site in the absence of suitable mitigation measures, potentially adversely affecting the distribution of this SCI.
Alosa fallax fallax (Twaite Shad) [1103]	**Yes-** Surface/ground waters containing sediment, silt or other pollutants had the capacity to reach the SAC through the potential hydrological connection and cause a reduction in water quality/habitat availability at the Site in the absence of suitable mitigation measures, potentially adversely affecting the distribution of this SCI.

Salmo salar (Salmon) [1106]	**Yes-** Surface/ground waters containing sediment, silt or other pollutants had the capacity to reach the SAC through the potential hydrological connection and cause a reduction in water quality/habitat availability at the Site in the absence of suitable mitigation measures, potentially adversely affecting the distribution of this SCI.
Estuaries [1130]	**None-** There would have been no reduction in habitat area as a result of sediment silt or other pollutant input from the Historic development.
Mudflats and sandflats not covered by seawater at low tide [1140]	**None-** There would have been no reduction in habitat area as a result of sediment silt or other pollutant input from the Historic development.
Salicornia and other annuals colonising mud and sand [1310]	**None-** This habitat occurs approx. 85 km downstream of the Historic Site. Given this intervening distance there will be a considerable dilution of sediment within the watercourse and did not result in impacts to this habitat
Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]	**None-** This habitat occurs approx. 82 km downstream of the Historic Site. Given this intervening distance there will be a considerable dilution of sediment within the watercourse and did not result in impacts to this habitat
Lutra lutra (Otter) [1355]	**Yes-** Surface/ground waters containing sediment, silt or other pollutants had the capacity to reach the SAC through the potential hydrological connection and cause a reduction in water quality/habitat availability at the Site in the absence of suitable mitigation measures, potentially adversely affecting the distribution of this SCI.
Mediterranean salt meadows (*Juncetalia maritimi*) [1410]	**None-** This habitat occurs approx. 82 km downstream of the Historic Site. Given this intervening distance there would have been considerable dilution of sediment, silt and other pollutants within the watercourse and would not have resulted in impacts to this habitat
Trichomanes speciosum (Killarney Fern) [1421]	**None-** As this is a non-aquatic species there was no risk of any effect from sediments, silt or other pollutants mobilised in waterways
Margaritifera durrovensis (Nore Pearl Mussel) [1990]	**Yes-** Surface/ground waters containing sediment, silt or other pollutants had the capacity to reach the SAC through the potential hydrological connection and cause a reduction in water quality/habitat availability at the Site in the absence of suitable mitigation measures, potentially adversely affecting the distribution of this SCI.
Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]	**None-** No negative effects on habitat distribution are considered to have occurred for this habitat type

European dry heaths [4030]	**None-** Habitat and does not occur within the river channel. No negative effects anticipated.
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]	**None:** This habitat typically occurs on ungrazed upland cliffs ledges and extents along open ground to the water's edge. As such there would have been no negative effects of mobilised sediment on the distribution of this habitat
Petrifying springs with tufa formation (*Cratoneurion*) [7220]	**None-** This habitat is approx. 10 km downstream of the Historic Site and does not occur within the river channel. No negative effects would have occurred.
Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]	**None-** As this is a non-aquatic habitat there was no risk of any reduction in habitat area from sediments mobilised in waterways
Reefs [1170]	This habitat occurs approx. 84 km downstream of the Historic Site at the mouth of the water estuary. Given this intervening distance between the Historic site and this habitat along with the elevated levels of sediment this habitat experiences during tidal cycles, there would have been no negative effects on this habitat.

6.2 Potential Impacts

As there was no construction phase the following paragraphs will outline potential impacts associated with the operational phase of the Historic Development.

6.2.1 Historic Extraction and Infill (post 2012)

6.2.1.1 Surface and groundwater discharges of sediments or pollutants.

The Broadstown stream was located on the southern site boundary of the Historic development and flows westward into the Graney (Lerr) and Lerr waterbodies which ultimately flow into the River Barrow and River Nore SAC ca. 6.1km to the West. A potential impact on the QI/SCI's of the of The River Barrow and River Nore SAC was identified as a result of possible discharges of surface waters containing sediment or silt, into the Broadstown stream during the Historic extraction and infill works 150m to the North of the Broadstown stream. Similarly, given that both the Historic Site and Broadstown stream are located on an area of high groundwater vulnerability, there was potential for operational phase activities to lead to contamination of groundwater waterbodies which may have reached the River Barrow and River Nore SAC via the Broadstown stream. A potential reduction in water quality as a result of a worst-case sediment run-off or pollution event could have adversely effected the conservation attributes of *Distribution, Habitat Distribution* and *Habitat Area* by reducing the availability, and thus usage of, certain areas of the SAC by the above species, potentially leading to negative impacts on the conservation objectives targets for the SCI in the above SAC. Appropriate mitigation measures implemented as part of the original EIS (EssGee Consultants, 2006) to address the potential risks posed by Historic works on the QI/SCIs of

the River Barrow and River Nore SAC. These measures are described in section 6.3 of this report and reduced these potential risks to negligible, thus maintaining the integrity of this European Site.

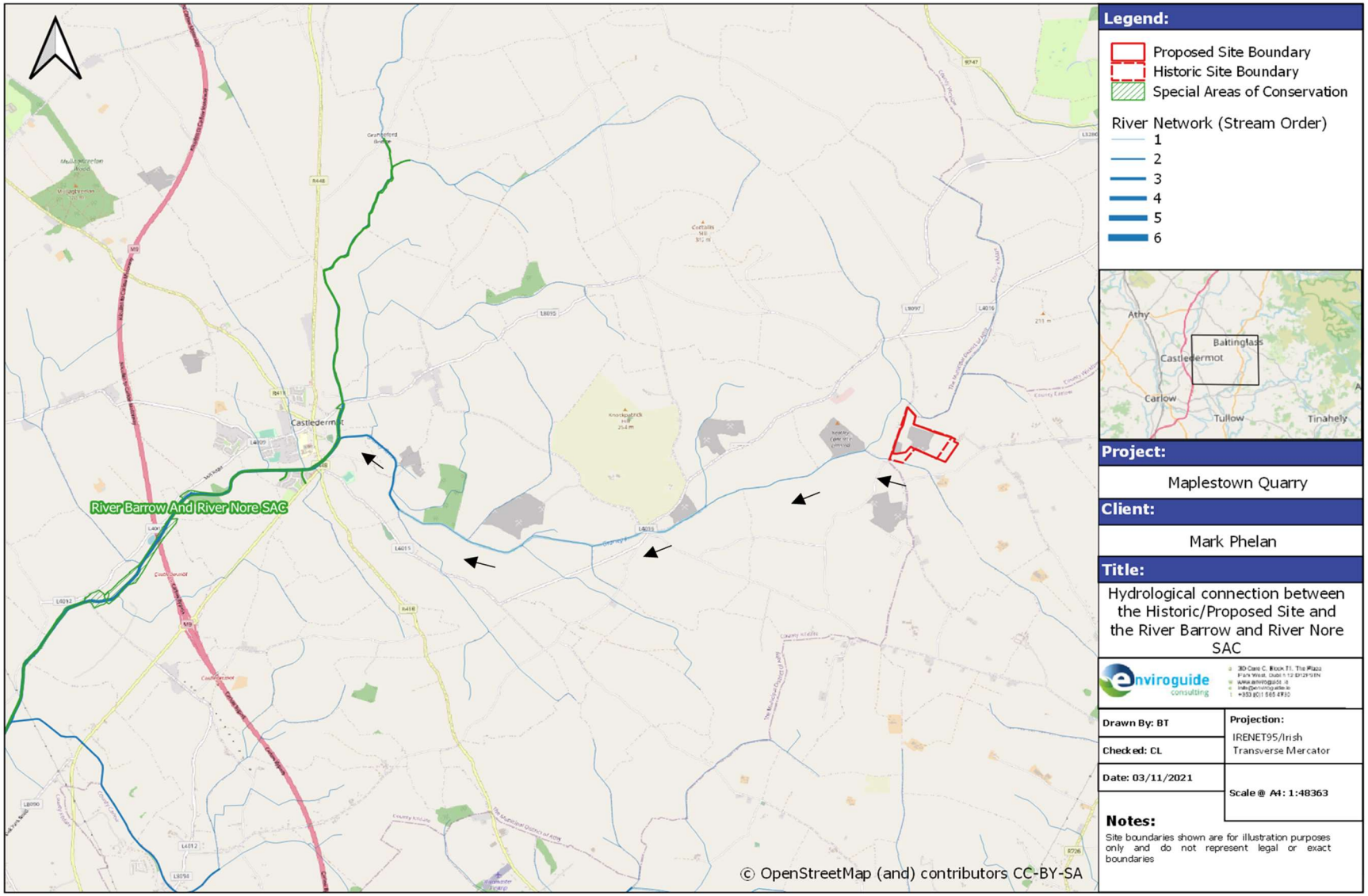

FIGURE 5. HYDROLOGICAL CONNECTION BETWEEN THE SITE AND THE RIVER BARROW AND RIVER NORE SAC. ARROWS INDICATE FLOW DIRECTION.

6.3 Mitigation Measures

The following sections describe the mitigation measures which were implemented at the time of the Historic unauthorised development. Note these mitigation measures were implemented for the permitted development and remained in place for the duration of the unauthorised development.

6.3.1 Historic Mitigation measures

The original EIS for the Permitted Development detailed the following mitigation measures for the purpose of protecting the Broadstown stream via surface water or groundwater contamination:

- All surface water runoff was discharged into the pit or permeated into the ground. No surface water runoff was directed towards the nearby stream.
- Topsoil (overburden) that was stored on site was stored in mounds on a low-lying area away from the stream, in order to prevent solids entering the stream during periods of high rainfall.
- The on-site machinery was re-fuelled by use of a fuel bowser. A spill tray was placed beneath the fuelling point and an emergency response spill kit was stored on site in the event of an accidental spill. Any used absorbent materials were stored in a sealed container within the waste compound and collected by a licensed contractor along with completed C1 consignment note certificate.
- The on-site diesel storage tank was stored in a designated area, was bunded to a volume of 110% of the capacity of the tank/container within the bunded area. Filling and draw-off points were located entirely within the bunded area(s). Drainage from the bunded area(s) was diverted for collection and safe disposal.
- Wastewater from the wheel wash was recycled, there was no discharge or emissions.
- Wastewater from the washing/rinsing plant was directed to the lagoons
- The lagoons were designed to ensure that the sediment from the washing/rinsing plant wastewater would settle in these lagoons, and the cleaned water was fed, by gravity, back to the sump to be reused.

<u>General Protection Measures</u>

All works carried out as part of the Development complied with all Statutory Legislation including the Local Government (Water Pollution) acts, 1977 and 1990 and the contractor has cooperated fully with the Environment Section of Carlow County Council in this regard.

The following standard operational measures were used to protect surface waters during the operational phase of the permitted and unauthorised development:

- Run-off from the working site or any areas of exposed soil were channelled and intercepted at regular intervals for discharge to the lagoons.
- Any oil and lubricant changes and maintenance generally took place offsite;
- All open water bodies adjacent to areas of proposed works was to be protected by berms or fencing including settlement ponds;

- Temporary soil (overburden) storage areas were be located at least 50m away from any surface water features/drainage ditches etc.; and were protected by a berm to prevent suspended solids entering surface water from these materials.
- All containment and treatment facilities were regularly inspected and maintained.
- If required, refuelling of plant during the Operational Phase was only carried out at designated refuelling station locations on site. Each station was fully equipped for spill response.
- Only emergency breakdown maintenance was to be carried out on site. Drip trays and spill kits were to be available on site to ensure that any spills from vehicles are contained and removed off site;
- All personnel working on site were trained in pollution incident control response.
- Portaloos and/or containerised toilets and welfare units were to provide facilities for site personnel. All associated waste was removed from site by a licenced waste disposal contractor;
- There was no instream works

6.3.2 Direct Watercourse Protection

The operational phase activities occurred within the vicinity of the Broadstown streams which connects to the River Barrow and River Nore SAC.

Although a 80-150m land buffer exists between the unauthorised extraction and infill area and the Broadstown Stream, there was still a risk of sediment run-off from the site due to the volume of volumes of material involved, particularly during periods of heavy rainfall. To minimise this risk, best practise Construction measures for works within, or in the vicinity of watercourses were followed as per '*Control of water pollution from linear construction projects - CIRIA C648'* (CIRIA, 2006).

- To ensure the protection of the Broadstown stream during extraction and infill works a berm was to be installed along the Southern boundary of extraction and infill area prior to the commencement works. A **5m** buffer minimum, was maintained between the berm and the edge of the extract and infill areas.
- The berms were monitored to ensure that they remained functional throughout operational phase of the permitted and unauthorised development. Where necessary, maintenance was carried out on the berms to ensure that they remained effective. This will be particularly important after heavy rainfall events. The frequency of monitoring was dependant on the stage of works, and local environmental conditions.
- As a further precautionary measure, overburden that was to be stored on site was stored in mounds on a low-lying area away from the stream, so as to prevent solids entering the stream during periods of high rainfall

It is deemed that given all the mitigation and general measures described above were implemented in full, there was no potential for significant adverse effects to the River Barrow and River Nore SAC or any other European Sites, as a result of the permitted or unauthorised development. This is supported by the fact that there has been no impact on any Natura 2000 Sites as a result of the permitted or unauthorised development.

6.4 Residual Impacts

6.4.1 Historic Extraction and Infill (since 2012)

In the absence of suitable mitigation, the Historic Development had the potential to cause adverse effects on the River Barrow and River Nore SAC through surface water contamination, leading to a reduction in water quality at this European site. This reduction in water quality had the potential to negatively affect the conservation objectives of several SCI for which these sites are designated for, through a potential reduction in range and usage of the SAC by these species.

A set of mitigation measures was implemented in the permitted and historic development to address the risks posed by the operational phase of the development to the receiving groundwater and surface water network, and subsequently the River Barrow and River Nore SAC. Once these measures were employed in full it was envisaged that any residual impacts associated with the Historic Development would not adversely affect the integrity of the River Barrow and River Nore SAC.

7 In-combination Effects

7.1.1 Relevant Policies and Plans

The following policies and plans were reviewed and considered for possible in-combination effects with the Historic Development.

- County Carlow Development Plan (2009- 2014)
- Carlow County Development plan (2015-2021)

The Carlow County Development 2009-2014 recognises the importance of quarry industry to the local and national economy as valuable sources of raw material for industry in general and the construction industry in particular and as an important source of employment. However, the plan also recognising the potential environmental impacts of quarrying activities recommends that appropriate environmental guidelines be implanted in quarrying activities.

“Quarry Planning Guidelines, as published by the Department of the Environment Heritage and Local Government in April 2004, the ICF Environmental Code of October 2005, and the Guidelines for Environmental Management in the Extractive Sector as published by the Environmental Protection Agency in May 2006 are key documents for standards required of extractive developments”.

The Carlow County Development Plan 2015 – 2021, lists policy E.D. Policy 13 outlining the councils commitment to facilitate the further development of the quarrying industry by permitting the continuation and extension of existing quarries where it does not adversely impact on the environment “It is the policy of Carlow County Council to: Provide for quarry and extractive development where it can be demonstrated that the development would not result in a reduction of the visual amenity of designated scenic area, to residential amenities or give rise to potential damage to areas of scientific, geological, botanical, zoological and other natural significance including all designated European Sites”

Section 3.5.7 of the Carlow County Development plan (2015-2021) relating to Aggregate Resources, Mining and Extractive Industry also states:

"Carlow County Council recognises the importance of sand and gravel extractions in the economic life of the county and its importance as a valuable source of employment in parts of the county. However, it is also recognized that exploitation of deposits or mining (open cast or underground) can have significant environmental impacts on the amenities of surrounding areas. The Planning Authority will have regard to the provisions of the DoEHLG's "Quarries and Ancillary Activities; Guidelines for Planning Authorities" in the assessment and determination of development proposals."

7.1.2 Historic and Existing Planning Permissions

A search of planning applications located within the vicinity (500m) of the Historic/Proposed Site was conducted using online planning resources such as the National Planning Application Database (NPAD) (MyPlan.ie) and Carlow County Council Planning Application Maps. Any planning applications listed as granted or decision pending during the period from 2012 to present were assessed for their potential to act in-combination with the Historic Development and cause likely significant effects on the relevant European Sites. Longer-term developments granted outside of this time period were also considered where applicable:

Planning Application Reference: 16204

This site is located 460m to the south of the site boundary of the Historic Development. Permission was sought to install a septic tank with percolation area and all associated site works on lands located in Maplestown, Rathvilly, Co. Carlow. **Decision Date: 13/08/2015. Application Status: Granted.**

Planning Application Reference: 21148

This site is located in the farmyard in the north eastern corner of the current site boundary of the Proposed Development. Permission is sought to construct a new grain / straw & machinery store, concrete aprons with all associated works on lands located in Maplestown, Rathvilly, Co. Carlow. **Decision Date: 11/06/2021. Application Status: Finalised**

Planning Application Reference: 2147

This site is located 500m to the north eastern of the Proposed Development. Permission is sought for development of a milking parlour and collecting yard, cattle handling area, dairy, machine room, farm office, storeroom, meal bin, slatted tanks, extension to existing cattle shed, concrete yards and ancillary works. **Date Received: 17/02/2021. Application Status: Finalised.**

Planning Application Reference: 2043

This site is located 450m to the south of the Proposed Development. Permission is sought to construct new agricultural buildings including a new indoor horse riding arena, riding school stables, private breeding yard stables and walker, toilet facilities with waste water treatment unit and percolation area, private well, widening of existing site entrance & all associated site works . **Date Received: 13/02/2020. Application Status: Finalised.**

7.1.3 Conclusion of In-combination assessment

The Historic extraction and infilling works were not found to be at variance with the polices of the county development plans. All other existing or proposed developments within the locality of the Site were small scale individual projects which are residentially based. There are 5 other smaller quarries located approx. within a 1km radius of these sites, however there is no direct

link between the Site and the other quarries. These quarries would be subject to the same assessment as the Maplestown site.

There are no other known activities or proposed activities at or within close proximity to the Site that would be likely to result in any significant cumulative impacts on the ecology of the local area either in the past or at this current time. It is therefore considered that no significant cumulative ecological impacts to European Sites have occurred or will occur.

The core strategy, policies and objectives of the above County Development Plans have been developed to anticipate and avoid the need for developments that would be likely to significantly affect the integrity of any European site. Furthermore, such developments are required to conform to the relevant regulatory provisions for the prevention of pollution, nuisance or other environmental effects likely to significantly affect the integrity of European sites.

Therefore, given that the mitigation measures recommended in the previous EIS report were implemented to address the single potential impact pathway identified linking the Site to the River Barrow and River Nore SAC, the Historic Development itself would not **or** will not result in any adverse residual effects to the integrity of these European sites. Therefore, there is no potential for the permitted or unauthorised development to act in-combination with any of the above listed projects and adversely impact the above SAC.

In conclusion, upon examination of the above listed plans and projects within the general vicinity of the Historic Development, the finding of no residual impacts arising from the Historic Development once suitable mitigation were adopted, it is concluded that there is **no possibility** for any significant in-combination effects to European sites involving the Historic/Proposed Development.

8 Conclusion

This remedial Natura Impact Statement details the findings of the Stage 2 Appropriate Assessment conducted to further examine the potential direct and indirect impacts of the Historic Development planning application at Maplestown, Co. Carlow on the following European site:

- River Barrow and River Nore SAC (002162)

The Appropriate Assessment investigated the potential direct and indirect impacts of the proposed works, both during its operation, on the integrity and qualifying interests of the above European site, alone and in combination with other plans and projects, taking into account the site's structure, function and conservation objectives.

Where potentially significant adverse impacts were identified, a range of mitigation and avoidance measures have been identified as having been implemented to negate them. Therefore, as a result of the complete, precise and definitive findings of this Appropriate Assessment; it has been concluded beyond any reasonable scientific doubt, that given the mitigation measures were implemented correctly and in full, the Historic Development at Maplestown, Co. Carlow has not resulted **or** will not result in any significant adverse effects on the above European site.

9 References

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