

Noreen McLoughlin, MSc

Environmental Consultant

Whitehill
Edgeworthstown
Co. Longford
☎ (087) 4127248 / (043) 6672775
✉ noreen.mcloughlin@gmail.com

RECEIVED: 25/07/2025

NATURA IMPACT STATEMENT OF A PROPOSED RESIDENTIAL DEVELOPMENT AT SION HOUSE, SION ROAD, CO. KILKENNY



*Oakmane Ltd
c/o P.B.A. Architects
Stoneyford
Co. Kilkenny
R95 W2AV*

July 2025

TABLE OF CONTENTS

1	INTRODUCTION	3
1.1	Requirement for an Appropriate Assessment	3
1.2	The Aim of the Report	3
1.3	Regulatory Context	4
2	METHODOLOGY	8
2.1	Appropriate Assessment	8
2.2	Statement of Competency	10
2.3	Desk Studies & Consultation	10
2.4	Assessment Methodology	10
3	DESCRIPTION OF THE PROPOSED PROJECT	12
3.1	Planning Description	12
3.2	Site Location and Surrounding Environment	18
3.3	Water Features and Quality	22
4	STAGE 1 – APPROPRIATE ASSESSMENT SCREENING	24
4.1	Natura 2000 Sites Identified	24
4.2	Identification of Potential Impacts	27
4.3	AA Screening Conclusions	27
5	STAGE II – NATURA IMPACT ASSESSMENT	28
5.1	Introduction	28
5.2	Natura 2000 Sites Identified	28
5.3	SSCOs of the Qualifying Interests	40
5.4	Identification of Potential Impacts/ Effects	45
6	MITIGATION MEASURES	49
7	APPROPRIATE ASSESSMENT CONCLUSION	55
	APPENDIX I - REFERENCES AND FURTHER READING	57
	APPENDIX II – BIODIVERSITY REPORT (ROGER GOODWILLIE)	59

RECEIVED: 25/07/2025

1 INTRODUCTION

1.1 REQUIREMENT FOR AN APPROPRIATE ASSESSMENT

In May 2025, Whitehill Environmental was appointed by Mr Ned Nolan to provide the necessary information to allow the competent authority (in this case Kilkenny County Council) to conduct an Article 6 (3) Appropriate Assessment for a proposed residential development at a site at Sion Road, Kilkenny. This information is being submitted as a Natura Impact Statement (NIS). This NIS was undertaken on the basis that potential negative impacts and effects may arise in Natura 2000 sites arising from the proposed development.

The purpose of the NIS is to determine the appropriateness of the proposed project, in the context of the conservation status of the site or sites. In Ireland, an Appropriate Assessment takes the form of a Natura Impact Statement (NIS), which is a statement of the likely impacts of the plan or project on a Natura 2000 site. The NIS comprises a comprehensive ecological impact assessment of the plan or project and it examines the direct and indirect impacts that the plan or project might have on its own or in combination with other plans or projects on one or more Natura 2000 sites in view of the sites' conservation objectives.

An NIS for an earlier proposed development on this site was prepared in 2021. This development was permitted by Kilkenny County Council (Planning File Reference 21/300). This NIS considers a new and revised application on this site by a different applicant.

1.2 THE AIM OF THE REPORT

This Natura Impact Statement (NIS) has been prepared in accordance with the current guidance (DoEHLG, 2009, Revised February 2010), and it provides an assessment of the potential impacts of the development at Sion Road, Kilkenny on sites designated under the Natura 2000 network.

An NIS should provide the information required in order to establish whether or not a proposed development is likely to have a significant impact on certain Natura sites in the context of their conservation objectives and specifically on the habitats and species for which the Natura 2000 conservation sites have been designated. In the case of this development at Sion Road, the Natura 2000 sites is the River Nore and River Barrow SAC.

Accordingly, a comprehensive assessment of the ecological impacts of this application was carried out in May 2025 by Noreen McLoughlin, MSc, MCIEEM of Whitehill Environmental. This assessment allowed areas of potential ecological value and potential ecological

constraints associated with this proposed development to be identified and it also enabled potential ecological impacts associated with the proposed development to be assessed and mitigated for.

1.3 REGULATORY CONTEXT

RELEVANT LEGISLATION

The Birds Directive (Council Directive 2009/147/EC) recognises that certain species of birds should be subject to special conservation measures concerning their habitats. The Directive requires that Member States take measures to classify the most suitable areas as Special Protection Areas (SPAs) for the conservation of bird species listed in Annex 1 of the Directive. SPAs are selected for bird species (listed in Annex I of the Birds Directive), that are regularly occurring populations of migratory bird species and the SPA areas are of international importance for these migratory birds.

The EU Habitats Directive (92/43/EEC) requires that Member States designate and ensure that particular protection is given to sites (Special Areas of Conservation) which are made up of or support particular habitats and species listed in annexes to this Directive.

Articles 6(3) and 6(4) of this Directive also call for the undertaking of an Appropriate Assessment for plans and projects not directly connected with or necessary to the management of, but which are likely to have a significant effect on any European designated sites (i.e. SACs and SPAs).

The Water Framework Directive (WFD) (2000/60/EC), which came into force in December 2000, establishes a framework for community action in the field of water policy. The WFD was transposed into Irish law by the European Communities (Water Policy) Regulations 2003 (S.I. 722 of 2003). The WFD rationalises and updates existing legislation and provides for water management on the basis of River Basin Districts (RBDs). RBDs are essentially administrative areas for coordinated water management and are comprised of multiple river basins (or catchments), with cross-border basins (i.e. those covering the territory of more than one Member State) assigned to an international RBD. The aim of the WFD is to ensure that waters achieve at least good status by 2027 and that status does not deteriorate in any waters.

Appropriate Assessment and the Habitats Directive

Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora – the 'Habitats Directive' - provides legal protection for habitats and species of European

importance. Article 2 of the Directive requires the maintenance or restoration of habitats and species of European Community interest, at a favourable conservation status. Articles 3 - 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as *Natura 2000*. Natura 2000 sites are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC).

Articles 6(3) and 6(4) of the Habitats Directive sets out the decision-making tests for plans or projects affecting Natura 2000 sites. Article 6(3) establishes the requirement for Appropriate Assessment:

"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."

Article 6(4) deals with the steps that should be taken when it is determined, as a result of appropriate assessment, that a plan/project will adversely affect a European site. Issues dealing with alternative solutions, imperative reasons of overriding public interest and compensatory measures need to be addressed in this case.

Article 6(4) states:

"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 States 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 Appropriate Assessment Process

The aim of Appropriate Assessment is to assess the implications of a proposal in respect of a designated site’s conservation objectives.

The ‘Appropriate Assessment’ itself is an assessment which must be carried out by the competent authority which confirms whether the plan or project in combination with other plans and projects will have an adverse impact on the integrity of a European site.

Screening for Appropriate Assessment shall be carried out by the competent authority as set out in Section 177U(1) and (2) of the Planning and Development Act 2000 (as amended) as follows:

‘(1) A screening for appropriate assessment of a draft Land use plan or application for consent for proposed development shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that Land use plan or proposed development, individually or in combination with another plan or project is likely to have a significant effect on the European site.

(2) A competent authority shall carry out a screening for appropriate assessment under subsection (1) before—

(a) a Land use plan is made including, where appropriate, before a decision on appeal in relation to a draft strategic development zone is made, or

(b) consent for a proposed development is given.’

The competent authority shall determine that an Appropriate Assessment is not required if it can be excluded, that the proposed development, individually or in combination with other plans or project will have a significant effect on a European site.

Where the competent authority cannot exclude the potential for a significant effect on a European site, an Appropriate Assessment shall be deemed required.

Where an Appropriate Assessment is required, the conclusions of the Appropriate Assessment Report (Natura Impact Statement (NIS)) should enable the competent authority to ascertain whether the plan or proposed development would adversely affect the integrity

of the European site. If adverse impacts on the integrity of a European site cannot be avoided, then mitigation measures should be applied during the appropriate assessment process to the point where no adverse impacts on the site remain. Under the terms of the Habitats Directive consent can only be granted for a project if, as a result of the appropriate assessment either (a) it is concluded that the integrity of any European sites will not be adversely affected, or (b) after mitigation, where adverse impacts cannot be excluded, there is shown to be an absence of alternative solutions, and there exists imperative reasons of overriding public interest for the project should go ahead.

Section 177(V) of the Planning and Development Act 2000 (as amended) outlines that the competent authority shall carry out the Appropriate Assessment, taking into account the Natura Impact Statement (amongst any other additional or supplemental information). A determination shall then be made by the competent authority in line with the requirements of Article 6(3) of the Habitats Directive as to whether the plan or proposed development would adversely affect the integrity of a European site, prior to consent being given.

2 METHODOLOGY

2.1 APPROPRIATE ASSESSMENT

This Appropriate Assessment (NIS) has been prepared with reference to the following:

- European Commission (2018). Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.
- European Commission (2021). 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 (2006). Nature and Biodiversity Cases: Ruling of the European Court of Justice.
- European Commission (2007). Clarification of the Concepts of: Alternative Solution, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence, Opinion of the Commission.
- Department of Environment, Heritage and Local Government (2009). Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities.
- The AA has also been undertaken in consideration of the European Union (CJEU) judgment on Case C323/17 (People over Wind, Peter Sweetman v Coillte Teoranta), which concluded that "it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects [mitigation] of the plan or project on that site.". Other caselaw relevant to Screening are Waddenzee (C127/02), Holohan and Others v An Bord Pleanála (C461/17) and Court of Appeal case C1/2009/0041/QBACF Citation No [2009] EWCA Civ. 1061.
- Most recent and pertinent case law pertaining to AA screening comes from *Eco Advocacy v. An Bord Pleanála* Case C-721/21. This case recently determined that "standard design measures" can be included at design stage if they are an inherent part of the plan, namely a measure: *'incorporated into that plan or project as standard features, inherent in such a plan or project, irrespective of any effect on the site'*.

The EC Guidance sets out a number of principles as to how to approach decision making during the process. The primary one is 'the precautionary principle' which requires that the conservation objectives of Natura 2000 should prevail where there is uncertainty.

When considering the precautionary principle, the emphasis for assessment should be on objectively demonstrating with supporting evidence that:

- There will be no significant effects on a Natura 2000 site;
- There will be no adverse effects on the integrity of a Natura 2000 site;

- There is an absence of alternatives to the project or plan that is likely to have an adverse effect to the integrity of a Natura 2000 site; and
- There are compensation measures that maintain or enhance the overall coherence of Natura 2000.

This translates into a four stage process to assess the impacts, on a designated site or species, of a policy or proposal.

The EC Guidance states that "each stage determines whether a further stage in the process is required". Consequently, the Council may not need to proceed through all four stages in undertaking the Appropriate Assessment.

The four-stage process is:

Stage 1: Screening – The process which identifies the likely impacts upon a Natura 2000 site of a project or plan, either alone or in combination with other projects or plans, and considers whether or not these impacts are likely to be significant;

Stage 2: Appropriate Assessment – The consideration of the impact on the integrity of the Natura 2000 site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts;

Stage 3: Assessment of Alternative Solutions – The process which examines alternative ways of achieving objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site;

Stage 4: Assessment where no alternative solutions exist and where adverse impacts remain – An assessment of the compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed. In complying with the obligations set out in Articles 6(3) and following the guidelines described above, this screening statement has been structured as a stage by stage approach as follows:

- Description of the proposed project;
- Identification of the Natura 2000 sites close to the proposed development;
- Identification and description of any individual and cumulative impacts on the Natura 2000 sites likely to result from the project;

- Assessment of the significance of the impacts identified above on site integrity. Exclusion of sites where it can be objectively concluded that there will be no significant effects;
- Description of proven mitigation measures.

2.2 STATEMENT OF COMPETENCY

This NIS was carried out by Noreen McLoughlin, BA, MSc, MCIEEM. Noreen has an honours degree in Zoology and an MSc in Freshwater Ecology from Trinity College, Dublin and she has been a full member of the Chartered Institute of Ecology and Environmental Management for over nineteen years. Noreen has over 21 years' experience as a professional ecologist in Ireland.

2.3 DESK STUDIES & CONSULTATION

Information on the site and the area of the proposed development was studied prior to the completion of this statement. The following data sources were accessed in order to complete a thorough examination of potential impacts:

- National Parks and Wildlife Service - Aerial photographs and maps of designated sites, information on habitats and species within these sites and information on protected plant or animal species, conservation objectives, site synopses and standard data forms for relevant designated sites.
- Environmental Protection Agency (EPA)- Information pertaining to water quality, geology and licensed facilities within the area;
- Myplan.ie – Mapped based information;
- National Biodiversity Data Centre (NBDC) – Information pertaining to protected plant and animal species within the study area;
- Bing maps & Google Street View – High quality aerials and street images;
- PBA Architects, Bowe Consulting Engineers – Information regarding the proposed development including site plans, specifications etc;
- Kilkenny County Council – Information on planning history in the area.

2.4 ASSESSMENT METHODOLOGY

The proposed development was assessed to identify its potential ecological impacts and from this, the Zone of Influence (Zoi) of the proposed development was defined. Based on the potential impacts and their Zoi, the Natura 2000 sites potentially at risk from direct, indirect or in-combination impacts were identified. The assessment considered all potential impact sources and pathways connecting the proposed development to Natura 2000 sites,

in view of the conservation objectives supporting the favourable conservation condition of the site's Qualifying Interests (QIs) or Special Conservation Interests (SCIs).

The conservation objectives relating to each Natura 2000 site and its QIs/SCIs are cited generally for SACs as "to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or Annex II species for which the SAC has been selected", and for SPAs "to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA".

As defined in the Habitat's Directive, the favourable conservation status of a habitat is achieved when:

- Its natural range and area it covers within that range is stable or increasing;
- 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.

The favourable conservation status of a species is achieved when:

- The 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;
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future;
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Where site-specific conservation objectives (SSCOs) have been prepared for a European site, these include a series of specific attributes and targets against which effects on conservation condition, or integrity, can be measured. Where potential significant effects are identified, then these SSCO should be considered in detail.

3 DESCRIPTION OF THE PROPOSED PROJECT

3.1 PLANNING DESCRIPTION

Oakmane Ltd are applying to Kilkenny County Council for planning permission for a proposed residential development of 39 dwellings at a site situated at the former Sion Hermitage lands, Sion Road, Kilkenny, Co. Kilkenny. The development will consist of the following:

- 4 No. Type A two bedroom single storey semi detached dwellings
- 4 No. Type B three bedroom single storey detached dwellings
- 12 No. Type C/C1 three bedroom single storey detached dwellings,
- 2 No. Type D/D1 two bedroom single storey detached dwellings
- 2 No. Type E two bedroom single storey semi detached dwellings
- 6 No. Type F/F1 four bedroom single storey detached dwellings
- 6 No. Type G/G1 five bedroom two storey detached dwellings
- 2 No. Type H/H1 four bedroom two storey detached dwellings

Plus, alterations, extension and renovation of existing building No. 2 to a four bedroom detached dwelling, demolition of existing buildings 1 + 4 plus partial demolition and conversion of existing building No. 3 to a residents communal building. (Total area of demolition equals 1,766.90)

Permission is sought for alterations to existing site entrance, plus the provision of a new site entrance to Sion Road, alterations to roadside boundary, including blocking of an existing residential site entrance and provision of new footpath to Sion Road, provision of public open space; landscaping and boundary treatments and new planting; water and utility services and connections; lighting; plus all enabling and ancillary development and works above and below ground level, the former Sion Hermitage lands, Sion Road, Kilkenny

An extract from the planning drawings can be seen in Figure 1.

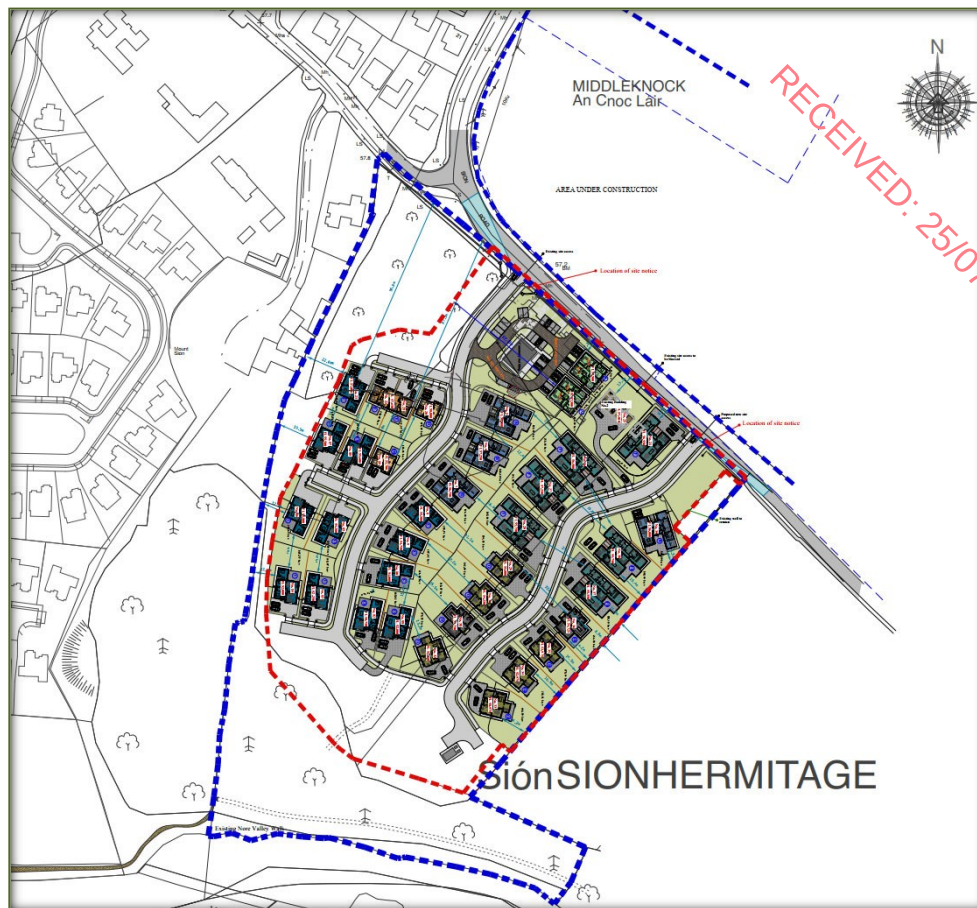


Figure 1a– Site Plan (as Prepared by PBA Architects)

Foul Water Treatment

Information on the proposed treatment of foul waste has been provided in the report prepared by Bowe Consulting Engineers.

The site is served with a connection to the existing large diameter combined sewer located on Sion Road. It is proposed that the new development of houses is serviced by a new network of buried pipes, with a single point of discharge to the combined sewer pipe located on Sion Road. The foul water drainage system for the proposed development will be separate to the surface water drainage system. The new foul drainage system for the development will connect under gravity to proposed foul pumping station and be pumped to a vented discharge chamber next to Sion Road. The proposed gravity sewer connection to the existing combined sewer on Sion Road will be subject to connection agreement with Úisce Eireann. In 2021, Úisce Eireann had confirmed connection feasibility for a similar development.

Surface Water Treatment

Information on the management of surface water from the site has been presented in the accompanying report prepared by Bowe Consulting Engineers. There is no existing surface water drainage system within the site or available to the site within the adjoining section of Sion Road.

The on-site infiltration testing indicates very good rates of infiltration and the proposed surface water strategy for the development will be to discharge 100% of surface water run-off to the ground at source, via on-site soakaways.

Proposed Storm Network Design

The surface water drainage system for the proposed development will be separate to the foul and emergency water drainage systems. The surface water collected from the access road, footpaths and roof will discharge under gravity flow to the ground water via on-site stormwater soakaways and permeable paving. All surface water drainage will be constructed in accordance with the Kilkenny County Development Plan 2021-2027, Chapter 10, "Infrastructure and Environment".

The proposed surface water network will discharge into proposed soakaways (or infiltration trenches) that are located in open communal spaces within the development. The proposed surface water strategy for the development is to discharge 100% of surface water run-off into the ground at source using soakaways.

Rainwater from roofs and private car parks of the housing properties will flow directly into individual garden soakaways. Rainwater falling on all footpaths and the access road is directed to the surface water network.

The surface water network has been split into four catchment areas with each carrying water to a designated soakaway. The soakaways have been sized to cater for 1 in 100-year rainfall event with an allowance of 20% for climate change and the increased rainfall intensities that could occur.

All surface water run-off arising from the proposed development, will be disposed of within the confines of the site, by infiltration naturally into the ground. Thus, ensuring that the proposed surface water drainage strategy is self-sufficient and sustainable due to surface water being able to discharge back into the ground at the source, replicating conditions prior to the development.

Compliance with the Principles of Sustainable Drainage Systems

The development of this site will result in increased paved and impermeable areas that could create pressure on the receiving environment. To avoid this, the proposed development is designed in accordance with the principals of sustainable Drainage Systems (SuDS) to ensure the environment is protected from any pollution from roads and buildings.

The design of the surface water drainage system was carried out in accordance with the recommendations of the Greater Dublin Strategic Drainage Study (GDSDS). The GDSDS address the issue of sustainability by requiring designs to comply with a set of drainage criteria which aim to minimise the impact of urbanisation by replicating the run-off characteristics of the greenfield site.

The criteria provided in the GDSDS outlines a consistent approach to addressing the increase in both rate and volume of run-off, as well as ensuring the environment is protected from any pollution from roads and buildings. These drainage design criteria are as follows;

- Criterion 1 – River Water Quality Protection
- Criterion 2 – River Regime Protection
- Criterion 3 – Flood Risk Assessment
- Criterion 4 – River Flood Protection

The requirements of SuDS are typically addressed by provision of the following;

- Interception Storage
- Treatment Storage (not required if interception storage is provided)
- Attenuation Storage
- Long term storage (not required if growth factors are not applied to QBar when designing attenuation storage)

In the case of the subject site all surface water discharge will be via infiltration at the soakaways which also have capacity built-in to provide the required attenuation storage during storm events. As such, by removing the need to discharge surface water offsite, full interception storage is provided and there will be no requirement for treatment storage or long-term storage.

Landscaping

A landscaping proposal for the site has been prepared by Mahon Landscape Designs. The design objectives for this plan are to:

- Create aesthetically pleasing gardens and public open spaces, which are attractive to use, while being functional and sustainable.
- Create a landscape which protects and enhances existing habitats, adds new habitats, and adds to biodiversity.
- Retain in so far as possible existing habitats and species, including retaining the existing mature hedgerows to the south and east boundaries of the site and as many of the mature trees as is possible. Protecting the existing mature boundary hedgerows; an ecological corridor for wildlife and bird movement and dispersal of plant species is an objective of the landscape proposal for this scheme. Treeline Consultants tree survey and management report are informing the strategy to achieve this aim.
- Provide for new tree and hedgerow planting, which is predominantly of native species planting.
- Develop a landscape which includes nature-based solutions for sustainable development through inclusion of elements such as sustainable drainage solutions.
- Provide opportunity for passive and active relaxation, recreation and engagement with nature for all ages of residents in the open space areas.

The existing parkland landscape style together with the architectural design of the houses provided inspiration for the development of the landscape for this scheme. A combination of

formal landscape elements of managed hedges, specimen trees and lawn grass areas, together with informal naturalised landscape elements, such as mixed species tree planting and mixed species hedgerows, as well as the site infrastructure is the design composition for this proposed landscape. In the development of the landscape plan, native plant species will be planted in keeping with national biodiversity objectives and the Local County Development Plan objectives. Ornamental species with higher value to pollinators as per The National Pollinators Plan are proposed to be planted.

The proposed landscape plan is presented in Figure 1b.

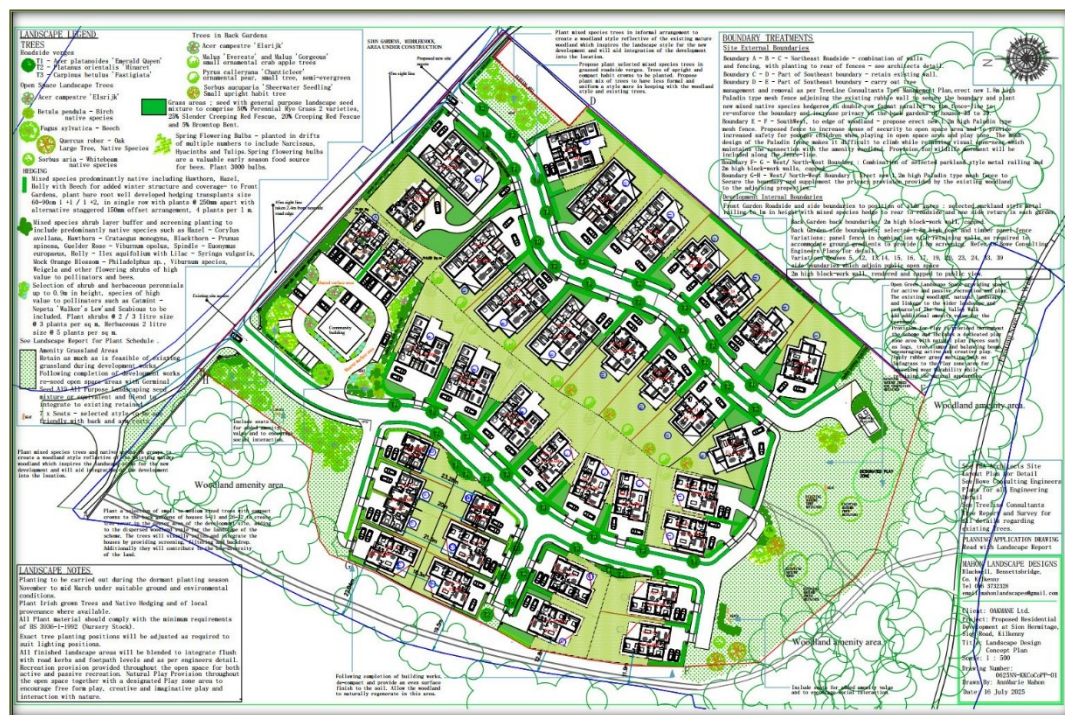


Figure 1b – Extract from Planning Drawings (prepared by Mahon Landscape Designs)

3.2 SITE LOCATION AND SURROUNDING ENVIRONMENT

The site in question is located within the townland of Sion Hermitage, on the outskirts of Kilkenny City, approximately 1.8km south-east of the city centre. Access to the site will be via a proposed entrance that is just off Sion Road, which is a local, third class road. The proposed site was previously used by the Dioceses of Ossory. It is the location of the former Peace in Christ Retreat Centre and it consists of a former Bishop's residence, along with a chapel and Diocesan offices and meeting rooms.

The predominant land-use to the immediate north, west and east of the site consists of the extended urban fabric of Kilkenny (commercial, residential, amenity and industrial areas). To the south and further east of the Kilkenny, agriculture is the main land use and improved agricultural grassland is the dominant habitat. The site is bounded to the south by the woodland habitats that extend north from the River Nore.

Site location maps are shown in Figures 2 and 3, whilst an aerial photograph of the site and its surrounding habitats is shown in Figure 4.

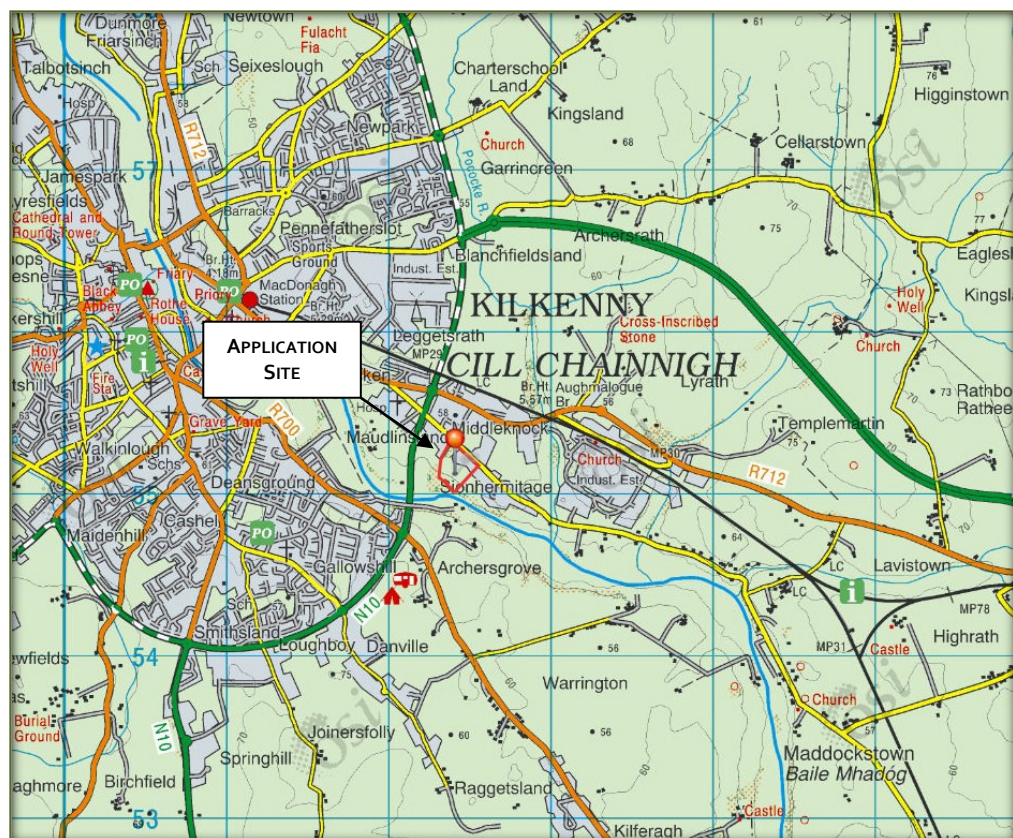


Figure 2 – Site Location Map (Site is Pinned)

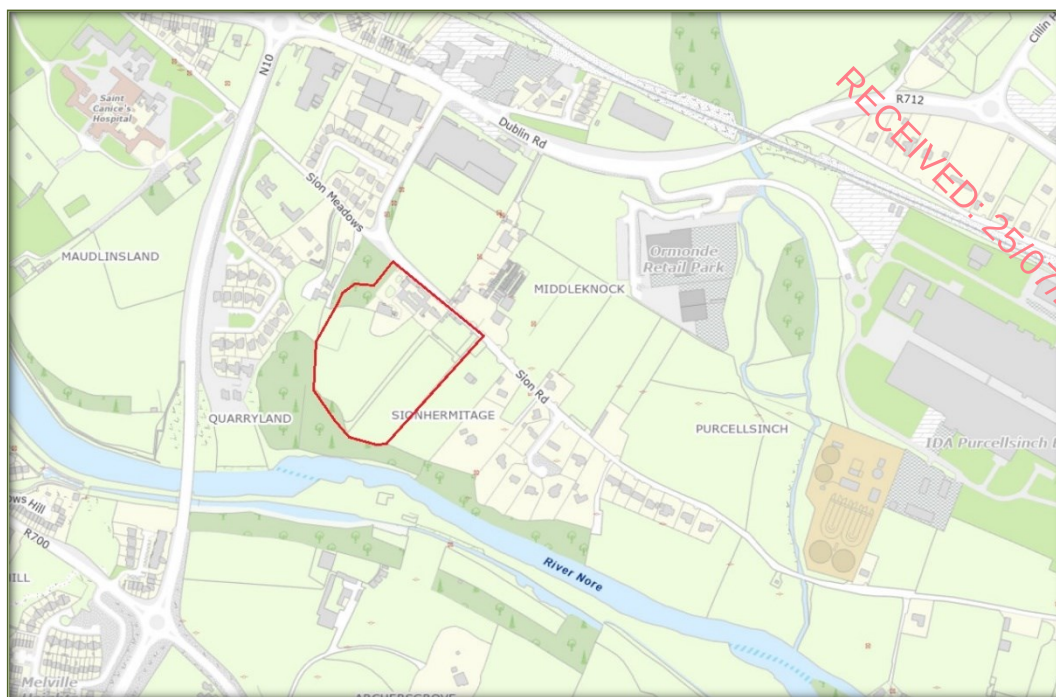


Figure 3 – Site Location Map (Site Outlined in Red)

FLORA AND FAUNA WITHIN THE STUDY AREA

FLORA

The habitats within the application site were previously assessed as part of a Biodiversity Report for the site which was prepared by ecologist, Mr Roger Goodwillie.

The site consists of the buildings and garden around the former Sion House and the fields to the south and southwest which slope somewhat to the south but lie above the valley side of the Nore river. There is also a woodland spinney at the northern corner of the site beside the Sion Road. The fields have not been reseeded or managed recently and would be classified as dry meadows and grassy verges (GS2 in Fossitt 2000). They are not currently mown and consist of a mixture of grasses, especially meadow foxtail *Alopecurus pratensis*, cocksfoot *Dactylis glomerata*, Yorkshire fog *Holcus lanatus*, red fescue *Festuca rubra*, ryegrass *Lolium perenne* and sweet vernal grass *Anthoxanthum odoratum*. Broadleaved plants are few but include the meadow buttercup *Ranunculus acris*, dandelion *Taraxacum* agg and the docks *Rumex obtusifolius* and *R. crispus*. Lady's smock *Cardamine pratensis* is present in small numbers and, in the SE section which is more overgrown, it is joined by cow parsley *Anthriscus sylvestris*, bush vetch *Vicia sepium* and germander speedwell *Veronica chamaedrys*.

The fields are bordered by tree lines (WL2); on the west there is a belt of mature beech *Fagus sylvatica* and oak *Quercus robur* above the wall of an old quarry (off-site) and to the east, a

line of conifers (Lawson's cypress *Chamaecyparis lawsoniana*). The fields are also divided NE-SW by a line of poplars along a pathway.

The woodland stand at the entrance to the site was planted around a few old beech trees 50-60 years ago. It is based on sycamore *Acer pseudoplatanus*, Lawson's cypress and horse chestnut *Aesculus hippocastanum* with occasional Norway maple *Acer platanoides*, larch *Larix europaea*, elm *Ulmus* sp as well as laurel *Prunus laurocerasus*, 3 holly *Ilex aquifolium*, elder *Sambucus nigra* and a little goat willow *Salix caprea*. The trees are densely grown so are tall without many side branches. Seedlings of sycamore, beech and maple occur. Ivy *Hedera helix* is dominant on the ground and there is no moss and little diversity of woodland plants.

The buildings on site were a diocesan centre and consist of a number of separate structures linked by yards and passageways, generally overgrown with ruderal plant species such as beaked hawkweed *Carex vesicaria* and prickly lettuce *Lactuca serriola*. They lead eastwards into the former orchard of the house which is now rough grassland with apple trees and the remnants of other planting.

The garden is lined by a belt of hedging and scrub on the SW side, made up of privet, cherry *Prunus avium*, hawthorn *Crataegus monogyna* and bramble *Rubus fruticosus*. There is also a clone of false-acacia *Robinia pseudoacacia* constituted by a central old tree and its surrounding suckers. The adjoining parts of the site outside the development area are the valley side, modified by quarrying on the west, and the riverside woodland and footpath. Douglas fir *Pseudotsuga menziesii* has been planted on most of this area with sycamore and ash *Fraxinus excelsior* in the former quarry. Elm *Ulmus* sp. is consistently present as small trees/bushes and there are some riverside limes *Tilia europaea*.

The River Nore and its woodland habitats like outside the boundary of the application site but within the landholding of the applicant. The riverside community is more natural with willows *Salix cinerea*, *S. triandra*, *S. viminalis* and *S. x fragilis* mixed with spindle *Euonymus europaeus*, field rose *Rosa arvensis* and blackthorn *Prunus spinosa*. The ground flora includes nettle *Urtica dioica*, wood speedwell *Veronica montana*, wood sanicle *Sanicula europaea*, yellow pimpernel *Lysimachia nemorum* and field horsetail *Equisetum arvense*. A bank at the edge of the river is built around two lime trees and supports a stand of Dutch rush *Equisetum hyemale* for 40m, along with some dogwood *Cornus sanguinea*, wood sedge *Carex sylvatica* and small bracken *Pteridium aquilinum*.

FAUNA

There was no evidence of badgers on site and very little of rabbits (only in SE corner). Of terrestrial species the fox and hedgehog would be expected and there are occasional pine martens in the river valley though no definite records closer than 2km. Otters are more frequent though their territory size on the river is large. No suitable breeding places occur on this site. Partial bat surveys were carried out in 2015, 2019 and 2021 with a Batbox 3 detector which reduces the frequency of echo-location calls to audible sounds. In both years there were pipistrelles in and around the woodland at the northern end of the site. Three or four animals were seen while there was still daylight and there is probably a small local population making use of this area for feeding. There were also Leisler's bats at the southern end of this woodland and along the line of beech trees towards the river. In 2019 and 2021 the buildings were sound-checked for departing bats but none was heard.



Figure 4 – Aerial Photo of the Site and its Surrounding Habitats

3.3 WATER FEATURES AND QUALITY

Surface Waters

The application site is within the Nore Hydrometric Area (15) and Catchment (15) and the Nore Sub-Catchment (100) and Sub-Basin (170). The main channel of the River Nore is circa 34m south of the site.

The EPA have defined the ecological status of the River Nore at points upstream and downstream of Kilkenny as good. The biological quality rating for the river at the EPA Station RS15N011800 (c3km upstream of application site) was noted to be Q3-4 in 2022. i.e., moderate ecological status. A Q3-4 was also noted from Ossory Bridge (150m upstream of application site) and the bridge north-east of Warrington, c1.5km downstream of the application site. Under the requirements of the Water Framework Directive all waterbodies must achieve good status within the current cycle of the Directive (2027).

An extract from the EPA maps showing WFD status is presented in Figure 5. A summary of most recent Biological Q-ratings from the watercourses at points close to the site is provided in Table 1.

Station ID	Station Name - Location	2022 Result
RS15N011800	1 km u/s Green's Br, Kilkenny – c3km u/s	3-4
RS15N011950	Fennessy's Mill (Ossory Br) – c150m u/s	3-4
RS15N012000	NE of Warrington – c1.5km d/s	3-4

Table 1 – Biological Q Values for Local Watercourses (Source, EPA)

Ground Water

The application site is within the Clifden Groundwater Body. The overall Water Framework Directive status of this groundwater body is noted as good, and this groundwater body is currently noted as being *Not at Risk* (of deterioration).

The area underlying the proposed site itself is noted to vary from high to extreme groundwater vulnerability (bedrock at surface in parts) (source Geological Survey of Ireland, Groundwater Vulnerability Maps).

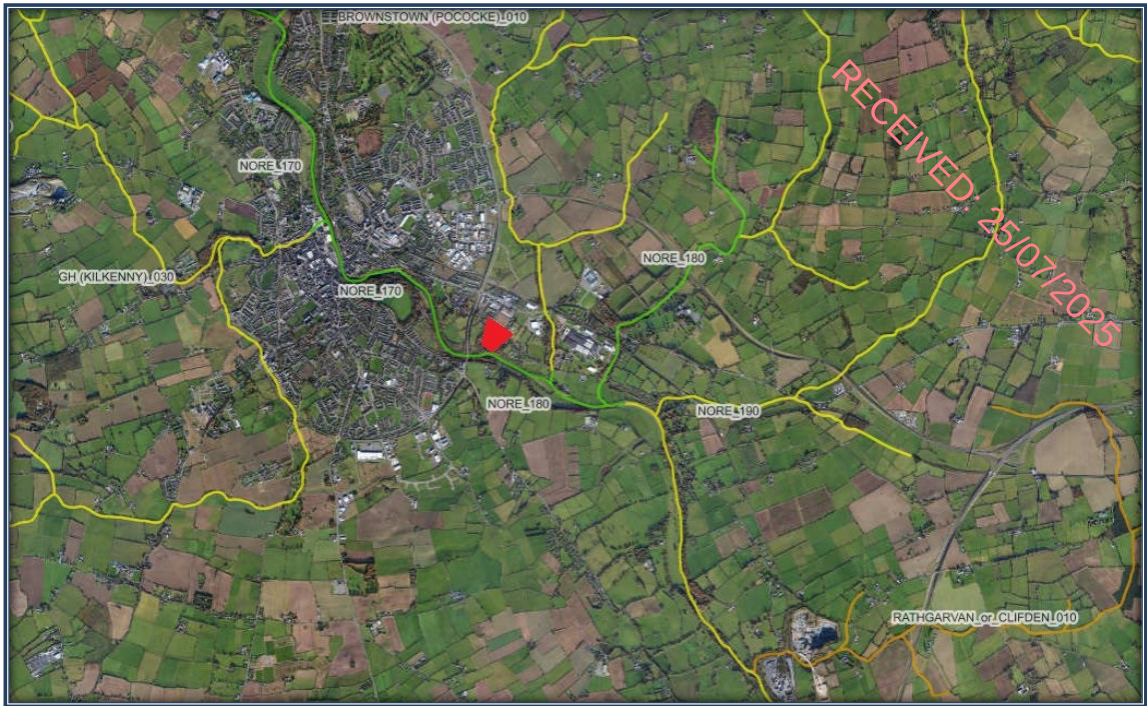


Figure 5 – The Proposed Application Site (Red Square) and Local WFD Status [Green – Good Status; Yellow – Moderate Status]

4 STAGE 1 – APPROPRIATE ASSESSMENT SCREENING

4.1 NATURA 2000 SITES IDENTIFIED

In accordance with the guidelines, a list of Natura 2000 sites within 15km of the proposed development have been identified and described according to their site synopses, qualifying interests and conservation objectives. In addition, any other sites further than this, but potentially within its zone of interest were also considered. The zone of impact may be determined by an assessment of the connectivity between the application site and the designated areas by virtue of hydrological connectivity, atmospheric emissions, flight paths, ecological corridors etc.

For significant effects to arise, there must be a potential impact facilitated by having a *source*, i.e., the proposed development and activities arising out of its construction or operation, a *receptor*, i.e., the European site and its qualifying interests and a subsequent *pathway* or *connectivity* between the source and receptor, e.g., a water course. The likelihood for significant effects on the European site will largely depend on the characteristics of the source (e.g., nature and scale of the construction works), the characteristics of the existing pathway and the characteristics of the receptor, e.g., the sensitivities of the Qualifying Interests (habitats or species) to changes in water quality. .

There are three Natura 2000 designated sites within 15km of the application site. These designated areas and their closest points to the application site are summarised in Table 2 and maps showing their locations relative to the application site are shown in Figures 6 and 7. A full description of all these sites can be read on the website of the National Parks and Wildlife Service (npws.ie).

Site Name & Code	Distance	Qualifying Interests	Screened In / Screened Out
River Barrow and Nore SAC 002162	The Site is Partially Overlapping / Adjacent to this SAC.	• <i>Vertigo moulinsiana</i> • Freshwater pearl mussel (<i>Margaritifera margaritifera</i>) • White-clawed crayfish (<i>Austropotamobius pallipes</i>) • Sea lamprey (<i>Petromyzon marinus</i>) • Brook lamprey (<i>Lampetra planeri</i>) • River lamprey (<i>Lampetra fluviatilis</i>) • Twait shad (<i>Alosa fallax fallax</i>) • Salmon (<i>Salmo salar</i>)	Screened In – Having regards to the large size and scale of the proposed residential development, combined with the proximity and potential connectivity of the application site to this SAC, then significant effects upon this SAC and its QIs cannot be ruled out in the absence of mitigation.

		• Estuaries • Mudflats and sandflats not covered by seawater at low tide • Salicornia and other annuals colonizing mud and sand • Spartina swards • Atlantic salt meadows • Otter (<i>Lutra lutra</i>) • Mediterranean salt meadows • Killarney fern (<i>Trichomanes speciosum</i>) • Pearl mussel (<i>Margaritifera durrovensis</i>) • Water courses of plain to montane levels with the Ranunculus fluitans and Callitriche-Batrachium vegetation • European dry heaths • Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels • Petrifying springs with tufa formation (Cratoneurion) • Old sessile oak woods with Ilex and Blechnum in British Isles • Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i>	RECEIVED: 25/07/2025
River Nore SPA 004233	28m south	• Kingfisher <i>Alcedo atthis</i>	Screened In – Having regards to the large size and scale of the proposed residential development, combined with the proximity and potential connectivity of the application site to this SPA, then significant effects upon this SPA and its QIs cannot be ruled out in the absence of mitigation.
Thomastown Quarry SAC 002252	13.2km south	• Petrifying springs with tufa formation (Cratoneurion)*	Screened Out – Having regards to the separation distances involved and the lack of hydrological connectivity between the proposed site and this SAC, it can be determined that this SAC is not within the Zone of Influence of the application site and impacts upon this site are unlikely.

Table 1 – Natura 2000 Sites Within 15km of the Proposed Site

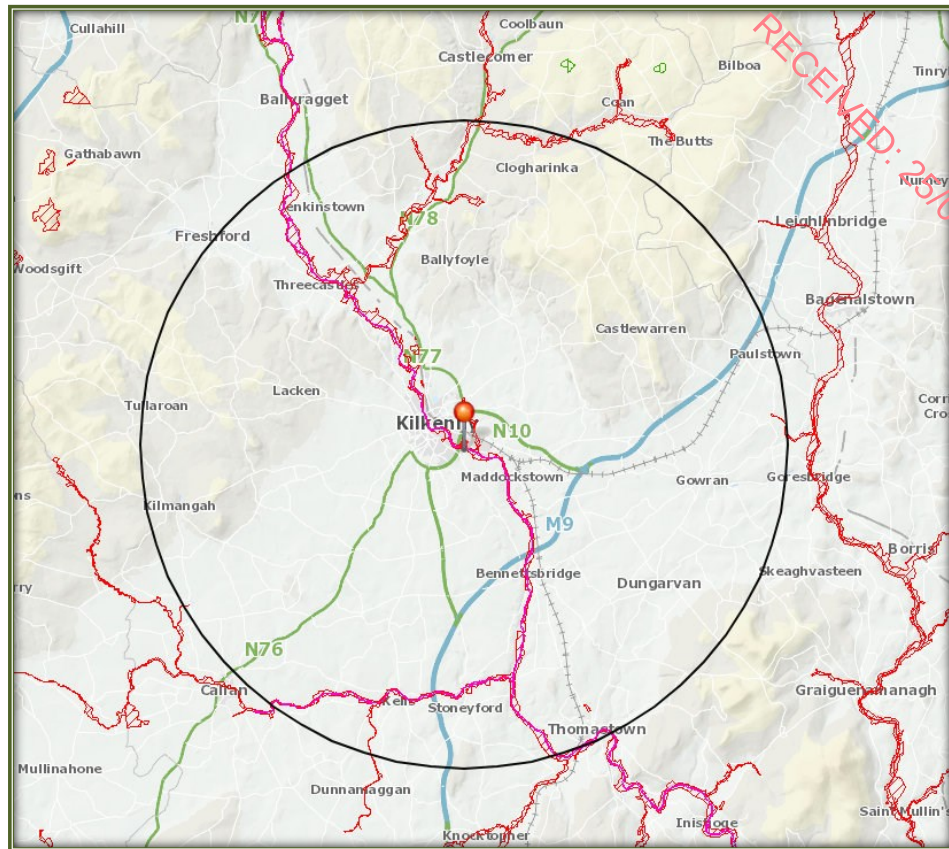


Figure 5 – The Application Site (Outlined in Red) in relation to the Natura 2000 Sites within 15km. SACs – Red Hatching; SPA – Pink Hatching.



Figure 6 – The Application Site (Outlined in Yellow) in relation to the River Barrow and Nore SAC (Red Hatched Areas) and the SPA (Pink Hatched Areas).

4.2 IDENTIFICATION OF POTENTIAL IMPACTS

The proposed development at Sion Road will occur adjacent to the Nore River, which is a designated SAC and SPA. The development site is within the Zone of Influence of this SAC / SPA, therefore potential impacts upon these sites, their qualifying species and habitats arising from the construction and operation of this proposed development cannot be ruled out.

Only those features of the development that have the potential to affect the integrity and conservation objectives of the identified Natura sites and protected species have been considered. A number of factors were examined at this stage and dismissed or carried forward for Appropriate Assessment as relevant. The following areas were examined in relation to potential impacts from the proposed development on the Natura 2000 sites identified:

1. Deterioration of ground or surface water quality in designated areas arising from pollution from surface water run-off during site preparation and construction;
2. Deterioration in ground or surface water quality in designated areas arising from pollution during the operation of the proposed development;
3. Habitat loss and fragmentation in terrestrial areas of this SAC arising from poor construction practices and waste management;
4. Anthropogenic effects arising from increased human activity in the areas of the SAC during operation of the site as a residence.
5. Risk to Annex I or Annex II species associated with the site;
6. Cumulative impacts with other proposed/existing developments.

4.3 AA SCREENING CONCLUSIONS

The proposed development is not directly connected with or necessary to the nature conservation management of the designated site. Therefore, following consideration of the location of the River Barrow and Nore SAC and SPA in relation to the proposed development at Sion Road, and the potential impacts that may occur, this project must proceed to the next stage of Appropriate Assessment, namely the Natura Impact Assessment.

5 STAGE II – NATURA IMPACT ASSESSMENT

5.1 INTRODUCTION

The main objective of this stage (Stage 2, Natura Impact Statement) in the Appropriate Assessment process is to determine whether the proposed development at Sion Road (either alone or in combination with other plans, programmes and projects) will result in significant adverse impacts to the integrity of the River Barrow and Nore SAC and the River Nore SPA with respect to these site's structures, species, functions, conservation objectives and targets. This stage also outlines the mitigation measures that should be taken in order to avoid any negative impacts of this application, should it receive consent.

In this section, the Natura 2000 site identified in the previous section will be described in greater detail in terms of their site characteristics and conservation objectives (with reference to NPWS site synopsis for both sites).

5.2 NATURA 2000 SITES IDENTIFIED

RIVER BARROW AND RIVER NORE (SAC SITE CODE 0002162)

This site consists of most of the freshwater stretches of the Barrow/Nore River catchments. The Barrow is tidal as far upriver as Graiguenamanagh, whilst the Nore is tidal as far upriver as Inishtioige. The site also includes the extreme lower reaches of the River Suir and the entire estuarine component of Waterford Harbour extending to Creadan Head. The larger of the many tributaries include the Lerr, Fushoge, Mountain, Aughavaud, Owenass, Boherbaun and Stradbally Rivers of the Barrow and the Delour, Dinin, Erkina, Owveg, Munster, Arrigle and King's Rivers on the Nore. Both rivers rise in the Old Red Sandstone of the Slieve Bloom Mountains. They traverse limestone bedrock for a good proportion of their routes, though the middle reaches of the Barrow and many of the eastern tributaries run through Leinster Granite. 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 and intertidal sand and mud flats. Areas of improved grassland, arable land and coniferous plantations are included in the site for water quality reasons.

The site supports many Annexed habitats including the priority habitats of alluvial woodland and petrifying springs. The 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.

The main habitat types within this SAC include:

- Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (20%)
- Salt marshes, Salt pastures, Salt steppes (1%)
- Shingle, Sea cliffs, Islets (1%)
- Inland water bodies (10%)
- Bogs, Marshes, Water fringed vegetation, Fens (10%)
- Heath, Scrub, Maquis and Garrigue, Phygrana (5%)
- Humid grassland, Mesophile grassland (17%)
- Improved grassland (15%)
- Other arable land (1%)
- Broad-leaved deciduous woodland (5%)
- Coniferous woodland (3%)
- Mixed woodland (5%)
- Inland rocks, Screes, Sands, Permanent Snow and ice (1%)
- Other land (1%)
- Coastal sand dunes, Sand beaches, Machair (1%)
- Extensive cereal cultures (4%)

The habitats within the SAC close to the application site include the Dinan River itself and its riparian grassland, woodland and treeline habitats.

The Conservation Objective (Generic) of the River Barrow and River Nore SAC is:

To maintain / restore the favourable conservation status of the qualifying interests of this SAC.

In 2011, the NPWS published Site Specific Conservation Objectives (SSCOs) for this SAC. These conservation objectives were also supported by a number of other documents relating to the woodland and coastal habitats of this large SAC. These SSCO aim to define the favourable conservation condition for the particular habitats or species at that site. They outline certain attributes (e.g., distribution, population structure, water quality) for different species and habitats with targets, which define favourable condition for a habitat or species at a particular site. The maintenance of habitats and species within the Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at national level. For the River Barrow and Nore SAC, these site specific conservation objectives can be downloaded on the NPWS

website. Any potential threats to the attributes and targets as defined in these site specific conservation objectives were assessed and where necessary, mitigated for.

For each Qualifying Interest of the SAC, the SSCO is either to *maintain or restore* the favourable conservation condition of that interest, by defining a list of attributes and targets which are indicative of the conservation status of that interest. For habitats, the main attributes include habitat area; habitat and community distribution; vegetation structure/composition and physical structure. The main target is to ensure that the habitats are stable or increasing in area and that the other attributes are maintained or restored. For the Annex II species of the SAC, the main attributes are population trend and distribution, whilst the targets aim to ensure that the long term population trends of the species are stable or increasing and that there is no significant decrease in the numbers or range of areas used by the species, other than that occurring from natural patterns of variation.

RIVER NORE (SPA SITE CODE 004233)

The site is a Special Protection Area (SPA) under the E.U. Birds Directive of special conservation interest for the following species: Kingfisher. A survey in 2010 recorded 22 pairs of Kingfisher (based on 16 probable and 6 possible territories) within the SPA. Other species which occur within the site include Mute Swan (35), Mallard (267), Cormorant (14), Grey Heron (45), Moorhen (14), Snipe (17) and Sand Martin (1,029) – all figures are peak counts recorded during the 2010 survey. The River Nore SPA is of high ornithological importance as it supports a nationally important population of Kingfisher, a species that is listed on Annex I of the E.U. Birds Directive

SSCOs for this site have recently been prepared by National Parks and Wildlife Service.

DESIGNATED HABITATS WITHIN THE APPLICATION SITE

During a previous visit to the application site in 2019, it was determined that the designated habitats within the application site include the River Nore itself and its aquatic and riparian edge habitats, along with the mixed woodland habitats of the woodland on its northern banks. This woodland is dominated by species such as ash and willow and it occurs on a steep incline from the level of field towards the river. The floor of the woodland is well drained and firm underfoot and it was not considered to be in the alluvial woodland category. There are many paths and ruts in the woodland, many are caused by trail / mountain bikes.

Photos of the habitats within and adjacent to the application site are shown in Figures 7.



RECEIVED: 25/07/2025

Figure 7a – Woodland Habitats with the Site and SAC



Figure 7b – Looking from the Field into the Woodland / SAC



RECEIVED: 25/07/2025

Figure 7c – From the Woodland Edge Looking North Towards the Existing Buildings



Figure 7d – Looking South Over the Field Towards the SAC

Non-Relevant Qualifying Interests of the SAC / SPA (Screened Out)

The River Barrow and River Nore SAC covers an extensive area of the south-east of Ireland. It passes through eight counties, therefore there are certain features within this SAC that will not be potentially impacted upon from this proposed development, either due to the distance involved or because they are features that are not sensitive to changes in water quality. These features can be screened out for further assessment in the AA process and the reason for their exclusion are listed in Table 3.

Designated Features	Reason for Exclusion
Desmoulin's Whirl Snail (<i>Vertigo moulinsiana</i>)	This species is found in wetlands (Swamps, marches and fens) on the verges or rivers, lakes, canals and ponds. The main threat to this species is drainage. The proposed development will not lead to the draining of any wetlands, therefore no impacts upon this species are predicted. In addition, there are no records for this species within the 10km square of this application site. Records from this SAC for this species occur at Borris, Co. Kilkenny along the River Barrow and Kilnaseer, Co. Laois (37km upstream of the site). Both these locations are outside of the Zone of Influence of this development and no significant effects are anticipated.
Freshwater pearl mussel (<i>Margaritifera margaritifera</i>)	The habitat of <i>Margaritifera margaritifera</i> is acid/neutral waters which flow over non-calcareous rocks (Moorkins, 1999). While it remains listed as a feature of the River Barrow and River Nore SAC, this is being reviewed as suitable conditions for this species don't occur within the lime rich Barrow / Nore catchments (NPWS, 2008, 2011). Potential significant effects upon this species within this SAC will not arise.
Killarney Fern (<i>Trichomanes speciosum</i>)	This is a terrestrial species that occurs in the southern reaches of the Barrow/Nore system. This species does not occur within the Zone of Influence of the application site and no significant effects upon this species are likely.
Twaite shad (<i>Alosa fallax fallax</i>)	This species is found in the River Barrow downstream of St. Mullins, in the south of Co. Kilkenny. Within this SAC, the populations of Twaite shad occur in the Barrow and are therefore outside of the Zone of Influence of this proposed development. No significant effects upon this species are likely to arise.
Sea lamprey (<i>Petromyzon marinus</i>)	This species occurs in the lower reaches of the Barrow and Nore systems, in Co. Kilkenny. It does not occur within the Zone of Influence of the application site and no significant effects upon this species are likely.
Atlantic salt meadows	No significant effects upon this marine habitat are predicted given the downstream distances involved, which is over 69km.
Estuaries	No significant effects upon this marine habitat are predicted given the downstream distances involved, which is over 69km.
European dry heaths	Any change in water quality will not impact upon this habitat. This habitat is not within the Zone of Influence of the

	application site as it occurs on the steep, free draining river valley sides of the Barrow and its tributaries in the foothills of the Blackstairs Mountains. No significant effects upon this habitat area likely.
Mediterranean salt meadows	No significant effects upon this marine habitat are predicted given the downstream distances involved, which is over 69km.
Mudflats and sandflats not covered by seawater at low tide	No significant effects upon this marine habitat are predicted given the significant effects distances involved, which is over 69km.
Old sessile oak woods with Ilex and Blechnum in British Isles	Old sessile oak woodland is defined in the Habitats Directive interpretation manual as " <i>acidophilous Quercus patraea woods, with low branched trees with many ferns, mosses, lichens and evergreen bushes</i> ". This habitat is not water dependent and potential changes in water quality will not impact this habitat. In addition, the Site Specific Conservation Objectives (SSCOs) for this SAC have not identified this habitat close to or within the Zone of Influence of the application site (Map 6). Significant effects upon this habitat will not arise.
Petrifying springs with tufa formation (Cratoneurion)	Petrifying springs occur where lime-rich water emerges from below ground and deposits calcium carbonate or 'tufa' on the ground surface. Tufa appears as a whitish, crunchy coating on plants and on the ground surface. It may become consolidated into a porous rock, often forming a cascade down a hillside. The SSCO for this site have mapped the distribution of this habitat within the SAC (Map 6). There is only one known location for this QI within the SAC, at Dysert which is 23km downstream of Kilkenny. As this QI does not occur within the Zone of Influence of the application site, significant effects upon this feature can be ruled out.
Salicornia and other annuals colonizing mud and sand	No significant effects upon this marine habitat are predicted given the downstream distances involved, which is over 69km.
Spartina swards	No significant effects upon this marine habitat are predicted given the downstream distances involved, which is over 69km.

**Table 2 – The Qualifying Interests of the River Barrow and Nore SAC
(Screened out)**

RECEIVED: 25/07/2025

RELEVANT QUALIFYING INTERESTS OF THE SAC

Table 3 describes the qualifying interests of the River Barrow and Nore SAC and the River Nore SPA that have the potential to be impacted upon from the proposed development. In assessing these features, the latest Article 17 reports published by the NPWS (2019) were referred to.

Qualifying Interest	Reason for Inclusion	Potential Impacts/Effects	Overall Conservation Objective and Article 17 Report Summary
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	The distribution of this habitat type within the Barrow/Nore SAC is unknown. It is considered to occur in association with some riverside woodlands, unmanaged edges of slow moving rivers, river islands and in narrow bands along the floodplain of slow-flowing stretches of river. Nutrient levels may be naturally high. The community is dominated by tall hydrophilous herbs, for example <i>Angelica sylvestris</i> , <i>Filipendula ulmaria</i> , <i>Iris pseudacorus</i> , <i>Lysimachia vulgaris</i> , <i>Lythrum salicaria</i> and <i>Valeriana officinalis</i> . This habitat requires winter inundation, which results in the deposition of nutrient-rich silt laden waters. This habitat is sensitive to changes in the hydrological regime of its associated river. It is also sensitive to grazing, pollution and invasive species. Although not observed during the walkover of the site, the River Nore within the Zone of Influence of the application site is likely to support this habitat in certain areas and potential impacts upon it cannot be ruled out. Therefore, mitigation will be included as part of this NIS to protect the integrity of this habitat and its conservation objectives within this SAC.	Possible significant effects on this habitat due to: • Disturbance of the ecosystem within this habitat due to silt / hydrocarbon run-off from the site. • Loss or decrease in the quality or area of this habitat due to pollution or a decrease in water quality arising from run-off from the construction and operation of the proposed development. Run-off may contain cement, hydrocarbons and silt which could all lead to negative impacts upon this qualifying feature. • Loss or fragmentation of habitats due to inappropriate disposal of soil or construction waste.	Conservation Objective: To <i>maintain</i> the favourable conservation condition of this habitat. Article 17 Summary Future Prospects – Bad Overall Status - Bad
Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	This habitat is also commonly known as floating river vegetation. Its definition is wide and <i>Ranunculus</i> , <i>Callitriche</i> , <i>Potamogeton</i> and <i>Myriophyllum</i> species are often present. Pressures on this habitat include diffuse and point source pollution, eutrophication, modification of hydrological flow, overgrazing and alien species. River connectivity with the floodplain is essential for the functioning of this habitat. Suitable	Possible significant effects on this habitat due to: • Loss or decrease in the quality or area of this habitat due to pollution or a decrease in water quality arising from run-off from the construction and	Conservation Objective: To <i>maintain</i> the favourable conservation condition of this habitat.

	conditions for this habitat along the river within the Zone of Influence (downstream) of the application site are likely, therefore impacts upon this habitat from the proposed development are possible and in keeping precautionary principle, mitigation measures will be required.	operation of the proposed development. Run-off may contain cement, hydrocarbons and silt which could all lead to negative impacts upon this qualifying feature.	Article 17 Summary Future Prospects – Inadequate Overall Status - Inadequate
Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i>	The field survey indicated that this habitat does not occur within or adjacent to the application site. However, the SSCOs have identified this habitat on the southern banks of the River Nore to the east of the application site (~117m south-east). The main threats to the integrity of this habitat include problematic and invasive species (native and non-native), tree removal and felling and plant pathogens. Alluvial forests are groundwater influenced ecosystems and they are sensitive to enrichment of groundwater. Potential significant effects upon this QI arising from pollution to groundwater during construction and operation cannot be ruled out.	Possible significant effects on this habitat due to: • Loss or decrease in the quality or area of this habitat due to pollution to groundwater during construction and / or operation.	Conservation Objective: To restore the favourable conservation condition of this habitat. Article 17 Summary Future Prospects – Bad Overall Status - Bad
Brook lamprey (<i>Lampetra planeri</i>)	Although there are no official records for this lamprey species within the Zone of Influence of the proposed development, it is possible that it may occur. The NPWS Article 17 report for this species defines the range and distribution of this species as within the 10km grid spare of this proposed development (S55). Lamprey require clean gravels for spawning, whilst the juveniles require fine sediments for burrowing. Free upstream migration to complete their life cycle is also important. Artificial barriers can block lampreys' upstream migration, thereby limiting species to lower stretches and restricting access to spawning areas. Although the threat to lampreys from this proposed development is slight, it is possible therefore mitigation measures to protect this genus will be included.	Possible significant effects on this species due to: • An increase in the siltation load or changes to the siltation patterns of the river due to inadequate siltation control strategies from proposed development. • Eutrophication – both adult and ammocoete life stages of the lamprey are vulnerable to the effects of pollution.	Conservation Objective: To restore the favourable conservation condition of these species. Article 17 Summary (<i>L. planeri</i>) Future Prospects – Favourable Overall Status - Favourable
River lamprey (<i>Lampetra fluviatilis</i>)	The NPWS Article 17 report for this species does not define the range and distribution of this species as within the 10km grid spare of this proposed development (S55). Nonetheless, it will be screened in as should it occur within the Zone of Influence of the application site, impacts upon it are possible.	Possible significant effects on this species due to: • An increase in the siltation load or changes to the siltation patterns of the river due to inadequate siltation control strategies from proposed	Conservation Objective: To restore the favourable conservation condition of these species. Article 17 Summary (<i>L.</i>

		development. Eutrophication – both adult and ammocoete life stages of the lamprey are vulnerable to the effects of pollution.	<i>fluviatilis</i>) Future Prospects – Unknown Overall Status – Unknown
Salmon (<i>Salmo salar</i>)	The NPWS Article 17 Reports map the range and distribution of the salmon within the Zone of Influence of the application site (S55). In addition, the SSCOs for this species define the target of the distribution of this species as 100% of the river channels within this SAC. Therefore, the River Nore at this location must be considered as potential habitat for this species. The requirements of salmon depend on their life stage but clean, unpolluted water is a requirement throughout the life cycle (at least a Q4). Water quality in the Nore in this area is currently below the target defined for the maintenance of this species and this is unsatisfactory. Water quality must not be allowed deteriorate in the River Nore to below what can sustain this species. Therefore, mitigation to prevent deterioration of water quality locally will be required to protect this species.	Possible significant effects on this species due to: - A decrease in water quality in the Nore and its tributaries due to contaminated run off or pollution from the site. - An increase in the siltation levels of the River Nore and its tributaries due to run off from the site during construction and operation.	Conservation Objective: To restore the favourable conservation condition of these species. Article 17 Summary Future Prospects – Inadequate Overall Status - Inadequate
Otter (<i>Lutra lutra</i>)	The otter occurs throughout the Barrow and Nore system. The presence of this species is positively correlated with good water quality and deterioration of same will lead to impacts upon this species. Otters have two basic requirements – aquatic prey and safe refuges where they can rest. In freshwater areas, the diet of the otter comprises of a variety of fish from sticklebacks to salmon and eels, whilst crayfish and frogs can also be important. Impacts that reduce the availability or quality of, or cause disturbance to, their terrestrial or aquatic habitats are likely to affect otters. The main threats to otters in Ireland are thought to be: (1) habitat destruction, including river drainage and the clearance of bank-side vegetation; (2) pollution, particularly organic pollution resulting in fish kills, and (3) accidental deaths. Recent records for this species exist from the River Nore at points upstream and downstream of the application site. In Ireland, the territory of female otters in mesotrophic rivers is approximately 7.5 +/- 1.5km in length (Ó Néill, L., 2008), whilst the territories of males otters in	Possible significant effects on this species due to: - A decrease in water quality in the River Nore due to contaminated run off or pollution from the site – this may impact upon the diet of the otter. - Disturbance to habitats within the territory of the otter due to inappropriate disposal of waste or increases in human activity. - Disturbance to the otter due to increased human activity and additional lighting that may be associated with the operation of the proposed development.	Conservation Objective: To restore the favourable conservation condition of these species. Future Prospects – Favourable Overall Status - Favourable

RECEIVED: 25/07/2025

	mesotrophic and oligotrophic rivers is approximately 13.2 +/- 5.3km in length, with a high degree of variability as territorial males respond quickly to social perturbation. Therefore, as otters exhibit a wide territory range overall, it is highly likely that application site and its surrounding lands fall into the territory of the otter. Mitigation measures will be required to prevent pollution of the River Nore and its tributaries and therefore any subsequent impacts and effects upon the otter.		
White-clawed Crayfish (<i>Austropotamobius pallipes</i>)	Records exist for the crayfish from the Brownstown River, which is a small stream that has its confluence with the River Nore is approximately 600m downstream of the application site. Crayfish need at least a Q3-4 in the rivers they occupy. (Demers & Reynolds, 2002). It is generally considered to be an ecosystem keystone or heritage species rather than a bio-indicator, because of its traditional importance and its large size, longevity and position in the ecosystem (Matthews & Reynolds, 1992). Crayfish need high habitat heterogeneity. Larger crayfish must have stones to hide under, or an earthen bank in which to burrow. Hatchlings shelter in vegetation, gravel and among fine tree - roots. Smaller crayfish are typically found among weed and debris in shallow water. Larger juveniles in particular may also be found among cobbles and detritus such as leaf litter. These conditions must be available on the whole length of occupied habitat (NPWS, 2011). The greatest threat to this species is introduced non-native crayfish and disease, such as has been seen recently with the loss of crayfish populations due to the crayfish plague. Crayfish are also sensitive to pollution and therefore as they are likely to occur in this section of the River Nore, mitigation measures will be recommended for the protection of this species.	Possible significant effects on this species due to: • A decrease in water quality in the river due to contaminated run off or pollution from the site. • An increase in the siltation levels of the Nore River locally due to run off from the site during construction and operation.	Conservation Objective: To <i>maintain</i> the favourable conservation condition of these species. Article 17 Summary Future Prospects – Bad Overall Status - Bad
Kingfisher <i>Alcedo atthis</i>	Kingfisher are the sole qualifying interest of the River Nore SPA. Records exist for this bird at points upstream and downstream of the application site (National Biodiversity Data Centre) and as determined by the Kingfisher Survey (Cummins et al., 2010). The kingfisher would be expected to regularly occur in the area as there are abundant overhanging trees providing suitable perches for birds to hunt from. Kingfishers are very vulnerable to changes in water quality, as a depletion of fish stocks would mean the loss of their main food source. Other	Possible significant effects on this species may occur due to: • Eutrophication arising from run-off from the site during the site preparation and operation. • Disturbance or loss of bankside perching habitats. • An increase in human activity on the	Short-term Population Trend Decreasing (National Summary 2008 – 2012).

	threats include human disturbance and bank disturbance. As the proposed development will have potential impacts upon this species, mitigation measures will be required.	site at all stages of construction and operation may deter kingfishers from the site.	
--	--	---	--

Table 3 – Qualifying Interests of the River Barrow and Nore SAC and the Nore SPA that are Relevant to this Proposed Application (Screened In)

5.3 SSCOs OF THE QUALIFYING INTERESTS

The additional attributes and targets which define the SSCOs of the qualifying interests of the River Barrow and Nore SAC and River Nore SPA which were screened into this AA are outlined below in Tables 4 – 11.

Hydrophilous Tall Herb Fringe Communities (6430)

The SSCO for this habitat is to *maintain* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Habitat distribution	Occurrence	No decline, subject to natural processes.
Habitat area	Hectares	Area stable or increasing, subject to natural processes
Hydrological regime: Flooding depth/height of water table	Metres	Maintain appropriate hydrological regimes.
Vegetation structure: sward height	Cm	30-70% of sward between 40 and 150cm
Vegetation composition: broadleaf herb: grass ratio	Percentage	Broadleaf herb component of vegetation between 40% and 90%
Vegetation composition: typical species	Number	At least 5 positive indicator species present
Vegetation composition: negative indicator species	Occurrence	Negative indicator species, particularly non-native invasive species, absent or under control. NB Indian balsam (<i>Impatiens glandulifera</i>), monkeyflower (<i>Mimulus guttatus</i>), Japanese knotweed (<i>Fallopia japonica</i>) and giant hogweed (<i>Heracleum mantegazzianum</i>).

Table 4 – SSCOs for Hydrophilous Tall Herb Fringe Communities

Water Courses of Plain to Montaine Levels (3260)

The SSCO for this habitat is to *maintain* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Habitat distribution	Occurrence	No decline, subject to natural processes
Habitat area	Km	Area stable or increasing, subject to natural processes
Hydrological regime: river flow	m/s	Maintain appropriate hydrological regimes
Hydrological regime: groundwater discharge	m/s	The groundwater flow to the habitat should be permanent and sufficient to maintain tufa formation
Substratum composition: particle size range	Mm	The substratum should be dominated by large particles and free from fine sediments
Water chemistry: minerals	Mg/l	The groundwater and surface water should have sufficient concentrations of minerals to allow deposition and persistence of tufa deposits
Water quality: suspended sediments	Mg/l	The concentration of suspended solids in the water column should be sufficiently low to prevent excessive deposition of fine sediments.
Water quality: nutrients	mg / l	The concentration of nutrients in the water column should be sufficiently low to prevent changes in species composition or habitat condition.
Vegetation composition: typical species	Occurrence	Typical species of the relevant habitat sub-type should be present and in good condition

Floodplain connectivity	Area	The area of active floodplain at and upstream of the habitat should be maintained.
-------------------------	------	--

Table 5 – Water Courses of Plain to Montaine Levels

Alluvial Forests with *Alnus glutinosa* and *Fraxinus excelsior* g1EO

The SSCO for this habitat is to *restore* its favourable conservation condition which is generally defined by the following list of attributes and targets:

Attribute	Measure	Target
Habitat area	Ha	Area stable increasing, subject to natural processes, at least 181.54ha for sites surveyed.
Habitat distribution	Occurrence	No decline
Woodland Size	Ha	Area stable or increasing. Where topographically possible, "large" woods at least 25ha in size and "small" woods at least 3ha in size
Woodland Structure: cover and height	Percentage and Metres	Diverse structure with a relatively closed canopy containing mature trees; subcanopy layer with semi-mature trees and shrubs' and well-developed herb layer
Woodland Structure: Community Diversity and Extent	Ha	Maintain diversity and extent of community types
Woodland Structure: Natural Regeneration	Seedling: sapling:pole ratio	Seedlings, saplings and pole age-classes occur in adequate proportions to ensure survival of woodland canopy
Hydrological Regime: Flooding Depth/Height of Water Table	Metres	Appropriate hydrological regime necessary for maintenance of alluvial vegetation
Woodland Structure: Dead Wood	M ³ per ha; number per ha	At least 30m ³ /ha of fallen timber greater than 10cm diameter; 30 snags/ha; both categories should include stems greater than 40cm diameter (greater than 20cm diameter in the case of alder)
Woodland Structure: Veteran Trees	Number per hectare	No decline
Woodland Structure: Indicators of Local Distinctiveness	Occurrence	No decline
Vegetation Composition: Native Tree Cover	Percentage	No decline. Native tree cover not less than 95%
Vegetation Composition: Typical Species	Occurrence	A variety of typical native species present, depending on woodland type, including ash, alder, willows and locally, oak.
Vegetation Composition: Negative Indicator Species	Occurrence	Negative indicator species, particularly non-native invasive species, absent or under control.

Table 6 – SSCOs for Alluvial Forests with *Alnus glutinosa* and *Fraxinus excelsior*

River Lamprey (1099)

The SSCO for this habitat is to *restore* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Distribution: extent of anadromy	% of river accessible	Greater than 75% of main stem and major tributaries down to second order accessible from estuary
Population: structure of juveniles	Number of age / size groups	At least three age / size groups of river / brook lamprey present
Juvenile density in fine sediment	Juveniles / m ²	Mean catchment juvenile density of brook / river lamprey at least 2/m ²

Extent and distribution of spawning habitat	M ² and occurrence	No decline in extent and distribution of spawning beds
Availability of juvenile habitat	Number of positive sites in 2ns order channels (and greater), downstream of spawning areas	More than 50% of sample sites positive

Table 7 – SSCOs for River Lamprey

Brook Lamprey (1096)

The SSCO for this habitat is to *restore* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Distribution	% of river accessible	Access to all watercourses down to first order streams
Population: structure of juveniles	Number of age / size groups	At least three age / size groups of brook lamprey present
Juvenile density in fine sediment	Juveniles / m ²	Mean catchment juvenile density of brook lamprey at least 2/m ²
Extent and distribution of spawning habitat	M ² and occurrence	No decline in extent and distribution of spawning beds
Availability of juvenile habitat	Number of positive sites in 2ns order channels (and greater), downstream of spawning areas	More than 50% of sample sites positive

Table 8 – SSCOs for Brook Lamprey

Salmon (1106)

The SSCO for this habitat is to *restore* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Distribution: extent of anadromy	% of river accessible	100% of river channels down to second order accessible from estuary
Adult spawning fish	Number	Conservation Limit (CL) for each system consistently exceeded
Salmon fry abundance	No of fry / 5 mins electrofishing	Maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry / 5 minute sampling
Out-migrating smolt abundance	Number	No significant decline
Number and distribution of reeds	Number and Occurrence	No decline in number and distribution of spawning redds due to anthropogenic causes
Water quality	EPA Q Value	At least Q ₄ at all sites sampled by the EPA.

Table 9 – SSCOs for Salmon

Otter (1355)

The SSCO for this species is to *restore* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Distribution	% positive survey sites	No Significant Decline
Extent of Terrestrial Habitats	Hectares	No significant decline. Area mapped and calculated as 122.8ha above high water mark (HWM); 1136ha along riverbanks / around ponds
Extent of Marine Habitats	Hectares	No significant decline. Area mapped and calculated as 857.7ha
Extent of Freshwater (River) Habitat	Km	No significant decline. Length mapped and calculated as 616.6km
Extent of Freshwater (Lake) Habitats	Hectares	No significant decline. Area mapped and calculated as 2.6ha
Couching Sites and Holts	Number	No significant decline
Fish Biomass Available	Kg	No significant decline

Table 10 – SSCOs for Otter**White-clawed crayfish (1092)**

The SSCO for this habitat is to *maintain* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Distribution	Occurrence	No reduction from baseline
Population structure: recruitment	Percentage occurrence of juveniles and females with eggs	Juveniles and / or females with eggs in at least 50% of positive samples
Negative indicator species	Occurrence	No alien crayfish species
Disease	Occurrence	No instances of disease
Water quality	EPA Q value	At least Q3-4 at all sites sampled by the EPA
Habitat quality: heterogeneity	Occurrence of positive habitat features	No decline in habitat heterogeneity or habitat quality

Table 11 – SSCOs for Crayfish

Kingfisher *Alcedo atthis* (A229)Site Specific Conservation Objectives

The NPWS have recently produced SSCOs of this SPA¹ (July 2024). These SSCOs of this SPA is to maintain the favourable conservation condition of the Kingfisher in the SPA and this favourable conservation condition is defined by the following attributes:

- Population size
- Population rate
- Spatial distribution of territories
- Extent and quality of nesting banks and other suitable nesting features
- Forage spatial distribution, extent, abundance and availability
- Water quality
- Barriers to connectivity
- Disturbance to breeding sites

¹ NPWS (2024) *Conservation Objectives: River Nore SPA 004233. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.*

5.4 IDENTIFICATION OF POTENTIAL IMPACTS/ EFFECTS

INTRODUCTION

The identification of potential impacts and the assessment of their significance typically requires the identification of the type and magnitude of the impacts. For example, will the impacts be short term or long term, direct, indirect or cumulative and will they occur during construction or operation. This section will establish whether the impacts of the proposed development at Sion Road that were identified in the previous section, are likely to occur and whether or not they are significant. These potential impacts will be examined with respect to the conservation objectives of the Natura 2000 site identified.

In the screening section of this report, the following possible future impacts on the River Barrow and Nore SAC and the River Nore SPA were listed. These concerns are again listed below and they will be dealt with in more detail in this section.

1. Deterioration of ground and surface water quality in designated areas arising from pollution from surface water run-off during site preparation, demolition of existing structures and construction;
2. Deterioration in ground or surface water quality in designated areas arising from pollution during the operation of the proposed development;
3. Deterioration in water quality in designated sites arising from potential flood events on the site.
4. Risk to Annex I or Annex II species associated with the site;
5. Cumulative impacts with other proposed/existing developments.

CONSTRUCTIONAL IMPACTS

Deterioration in Water Quality in the SAC /SPA During Construction

The construction of the new buildings and the associated structures will involve the excavation of soil and the pouring of concrete for foundations and other hard surfaces. These works will occur on a site that overlaps with the SAC / SPA boundary and works will take place in a field that is adjacent to a woodland that slopes down to the River Nore. Groundwater vulnerability within the site is also noted to be high – extreme.

In the absence of mitigation and in the case of a large-scale pollution event of sufficient magnitude arising during construction, considered on its own or in combination with other activities, then there is the possibility that water quality in local surface or ground waters

and subsequently on the QIs of the River Barrow and Nore SAC / River Nore SPA may be negatively impacted upon.

During the initial stages of the construction phase, extensive earthworks will be carried out to facilitate the construction of the foundations for the buildings, parking areas and access road, the installation of services/drainage infrastructure, etc. The resulting stockpiles of the displaced soils and sediments, in the absence of suitable mitigation, will be susceptible to erosion during this period. This could create a potential pathway for silt and sediment to migrate off-site.

Groundwater is also potentially at risk from the construction phase of the proposed development. The removal and disturbance of the soil required in order to achieve the required levels on the site is anticipated during the construction phase which carries the potential to increase the vulnerability of a groundwater body to incidences of contamination at surface level. Groundwater vulnerability within the site is generally noted as high in the site (with some areas noted as extreme / bedrock at surface) and so this might increase to extreme with any excavation works that might be required.

In addition, during construction there is also the possibility of a spillage of contaminants such as fuels, oils, chemicals and cement material, posing a potential risk to surface and groundwater quality. Fuels, oils and chemicals have a number of hazardous properties, and the constituents of concrete are alkaline and corrosive. Each one of these substances could have a significant deleterious effect on water quality and aquatic life in the River Nore.

Therefore, as there is a potential risk of direct and indirect impacts arising from the site preparation and construction of the proposed application, appropriate mitigation will be required to maintain water quality in the River Nore so as to protect the QIs of the SAC / SPA that have been screened in.

Habitat Loss and Fragmentation

Construction works will occur in a field that is adjacent to the woodland habitats that are included as part of the SAC, although they do not conform to any of the habitats listed as a qualifying interest of the SAC. If care is not taken during construction of the site, there is a risk to habitat loss and fragmentation due to:

- In-appropriate disposal or storage of top soil, sub-soil or other excavated material within the woodland;
- In-appropriate storage of machinery, fuel barrels or other equipment within the woodland;

- Damage to trees of conservation value due to root compaction arising from heavy site works that might be undertaken within the root protection zones of these trees.
- Habitat fragmentation in the woodland due to run-off of silt or cement laden waters from construction activities;

OPERATIONAL IMPACTS

Deterioration in Water Quality in the SAC Post Construction / Operation

Negative impacts upon water quality in the River Nore arising from the operation of this proposed development have also been considered. The most likely source of pollution during the operation of the development is oil or silt contaminated surface water run-off from the site into the River Nore. Although the woodland will act as buffer, the impact remains a possibility and mitigation measures to prevent surface water run-off from contaminating the river should be undertaken.

Risks to Annex I and Annex II Species

The otter, salmon, lamprey sp., crayfish and kingfisher are all qualifying interests of the SAC / SPA here and they all occur within the Zone of Influence of the application site. Direct and indirect impacts upon these species arising from the construction and operation of this development are possible. These impacts could arise from pollution, habitat loss, habitat fragmentation and disturbance. The increase in human activity on the site during construction and operation could negatively impact upon the behaviour of the otter and kingfisher, whilst inappropriate lighting could also impact upon these species.

CUMULATIVE IMPACTS

Cumulative impacts or effects are changes in the environment that result from numerous human-induced, small-scale alterations. Cumulative impacts can be thought of as occurring through two main pathways: first; through persistent additions or losses of the same materials or resource, and second, through the compounding effects as a result of the coming together of two or more effects (Bowers-Marriott, 1997).

As part of the Appropriate Assessment, in addition to the proposed works, other relevant projects and plans in the region must also be considered. This step aims to identify at this stage any possible significant in-combination or cumulative effects / impacts of the proposed works on the Natura 2000 sites with other such plans and projects.

Relevant Current Plans

- Kilkenny City and County Development Plan 2021-2027 – AA (NIS) prepared for this plan.

- NPWS Conservation Management Plans – No AA needed as they relate to the management of a Natura 2000 sites.

Current Projects and Future Plans / Projects

The Kilkenny County Council planning map tool was used to identify any current plans or projects which may potentially impact in combination with the proposed works on any Natura 2000 sites. In recent years, a large number of developments (small domestic, large scale residential, commercial and industrial) have been permitted within Kilkenny City.. Where necessary, these developments were either screened for AA and where necessary a NIS was submitted to mitigate against potential impacts that may arise.

In relation to current or foreseeable plans and projects, Kilkenny County Council, as the competent authority, is required to assess each application or plan under Article 6(3) of the Habitats Directive to determine whether Appropriate Assessment (AA) is necessary. All such applications are subject to individual screening or full AA as appropriate.

A review of relevant planning data indicates no other proposed or permitted developments within the vicinity of the site that, in combination with the proposed works, would give rise to significant effects on the conservation objectives or integrity of the River Barrow and River Nore SAC or the River Nore SPA.

With the implementation of the mitigation measures outlined in Section 6 of this NIS, the potential for significant cumulative or in-combination effects is not considered likely. Therefore, it can be concluded that the proposed development, alone or in combination with other plans or projects, will not adversely affect the integrity of any European Site.

6 MITIGATION MEASURES

In order to prevent any habitat loss or fragmentation within the SAC/SPA and to avoid any reductions in water quality in the area surrounding the proposed development, a number of mitigation measures must be implemented and followed. These measures will protect the water quality and integrity of River Nore where it is designated as an SAC / SPA. Measures have also been suggested that will help to protect the local biodiversity of the surrounding area and to ensure the protection of local wildlife. Although these are standard mitigation measures, their implementation will ensure the protection of Natura 2000 habitats and species, and the local non-designated ecological receptors. The primary parties responsible for the implementation of these measures include the applicants and the construction team (site manager, site workers). The local authority will be responsible for the enforcement of these measures. These measures should be included as part of the CEMP.

Pre-Construction and Construction

- Site preparation and construction must be confined to the development site only and should adhere to all standard best practice measures. Work areas should be kept to the minimum area required to carry out the proposed works and the area should be clearly marked out in advance of the proposed works. The applicant and the construction contractors will be made aware of the sensitivity of the location prior to the commencement of construction activities. The protection of water quality locally will be highlighted. These measures will be undertaken from initial site works until the completion of all construction works on site.
- Prior to the commencement of developments on site, the site engineer and the contractors should be made aware of the ecological sensitivity of the site and its connection to the SAC / SPA. They must be made familiar with the mitigation measures outlined in this NIS and if possible, a statement signed by them acknowledging these mitigation measures should be presented to the Local Authority along with the Notice of Commencement. The applicant will be responsible for alerting the engineers and contractors to the sensitivity of the habitats surrounding the site. This should be done prior to the commencement of any site works.
- Prior to commencement of works, the woodland areas that are within the SAC should be fenced off with a robust fence. These include the areas of the SAC that are within the site (south) and adjacent to it (west and east). The fence should extend beyond the width of the largest tree crown along the perimeter. There should be no works, disposal or

storage of soil, construction waste or machinery in this area. This will protect the Root Protection Zone of these trees.

- This fence should additionally be constructed with a geotextile membrane to prevent movement of silt from construction works from entering the SAC. The silt fences should be sturdy and constructed of a suitable geotextile membrane to ensure that water can pass through, but that silt will be retained. An interceptor trench will be required in front of this interceptor fence. The silt fence must be capable of preventing particles of 425µm from passing through.
- The silt fences should be monitored daily to ensure that they remain functional throughout the construction of the proposed development. Maintenance of the fences should be carried out regularly. Fences should be inspected thoroughly after periods of heavy rainfall.
- Other woodland areas that are within the site (in the northern section of the site along Sion Road) adjacent to the site, but not within the SAC, should also be fenced off from inappropriate works as per the above guidelines. This will protect the Root Protection Zone of all trees, ensuring their longevity.
- In order to protect water quality in the River Nore and its tributaries, all site preparation and construction works should conform to all guidelines within the document *Inland Fisheries Ireland Requirements for the Protection of Fisheries Habitats during Construction and Development Works and River Sites* (www.fisheriesireland.ie) and the updated guidelines entitled *Guidelines on Protection of Fisheries During Construction Works in And Adjacent to Waters (2016)*.
- All construction waste must be removed from site by a registered contractor to a registered site. Evidence of the movement and safe disposal of the construction waste must be retained and presented to Local Authority upon request. The applicants and construction contractors will be responsible for the safe removal of any construction waste generated on site. Removal of the construction waste will occur as soon as possible after demolition / construction works.
- There should be no discharges of contaminated waters to ground or surface waters from these developments, either during the construction or operation of the development. In order to avoid indirect sedimentation impacts on the River Nore, run-off from the construction areas should be intercepted and managed through a series of treatment

stages, that may include suitably designed settlement ponds / filter channels along with other pollution control methods such as silt fence (double fences if required) and silt mats. Pumping and transport of water off-site in tankers may be required if volumes prevent effective control by other means. The applicant, site engineer and construction contractors will be responsible for the proper surface water treatment from this site. The design and infrastructure must be signed off and certified by a suitably qualified engineer prior to use. Records for this certification must be kept.

- Best practice concrete / aggregate management measures should be employed on site. These should include:
 - Best practice in bulk-liquid concrete management must be employed on site addressing pouring and handling, secure shuttering, adequate curing times etc.
 - Stockpile areas for sands and gravel should be kept to a minimum size, well away from the drains and watercourses (minimum 50m).
 - Where concrete shuttering is used, measures should be put in place to prevent against shutter failure and control storage, handling and disposal of shutter oils.
 - Ready mix concrete wagons and mixers should be washed off site to minimise emissions into local watercourses.
 - Activities which result in the creation of cement dust should be controlled by dampening down the areas.
 - Raw and uncured waste concrete should be disposed of by removal from the site or by burial on the site in a location and manner which will not impact upon local watercourses.
 - Stockpile areas for sands and gravel should be kept to a minimum size, well away from the river.
- Hydrocarbon / fluid management measures should include:
 - Fuels, oils, greases and hydraulic fluids must be stored in bunded compounds well away from watercourses and open excavations;
 - All refuelling and lubrication of equipment shall take place on sealed and bunded surfaces in order to avoid the potential for accidental spillage of hydrocarbons;
 - Any bulk fuel storage tank should be properly bunded with a bund capacity of at least 110% of that of the fuel tank. Containers should be properly secured to prevent unauthorised access and misuse.
 - Storage areas, machinery depots and site offices should be located remotely from the River Nore and open excavations.

- An effective spillage procedure should be put in place with all staff properly briefed. Any waste oils or hydraulic fluids should be collected, stored in appropriate containers and disposed of offsite in an appropriate manner.
 - All plant and machinery shall be regularly maintained and serviced to minimise release of hydrocarbons. Spill kits should be present in all plant machinery.
 - Oil booms and oil soakage pads should be kept on site to deal with any accidental spillages.
 - Waste oils and hydraulic fluids should be collected in leak-proof containers and removed from site for disposal and recycling
 - Fuels, oils, greases and hydraulic fluids must be stored in bunded compounds well away from watercourses. Refuelling of machinery, etc., should be carried out in bunded areas.
- All waste associated with the development should be disposed of in an environmentally friendly manner. Registered contractors should only be used. This includes any excavated soil. There must be no placement of soil or waste within any area designated as an SAC or SPA.
 - All topsoil generated from site works should be stored within the application site until it is required for landscaping. It must not be stored outside the site boundaries and it must not be used for the infilling of any area outside of the site. It must be stored at appropriate locations within the site, away from the river and the SAC. If there is more top soil than is needed for landscaping, it must be removed from site by a registered contractor for appropriate use elsewhere. The end location of the top soil must be identified and records presented to the local authority if requested.
 - Connection to the public wastewater infrastructure should be subject to agreement with Irish Water.

Post-Construction / Operation

- Post construction surface water run-off from hardcore / concreted / tarmac areas should be directed into properly designed and constructed soakaways. Additional treatment via serviced sediment and oil interceptor traps should be considered prior to discharge into any soakaway.
- Walkers using the existing paths within the SAC should be informed as to the ecologically sensitive nature of the site and its legal protection under European law.

Protection of Biodiversity / Landscaping

- During the movement of top soil for landscaping, measures, e.g., barriers, bunds, geotextile curtains, should be used to protect the River Nore from sedimentation due to the movement of this top soil. The soil should be seeded as soon as possible to prevent erosion.
- It is illegal to remove hedgerows / treelines during the bird nesting season.
- The existing treelines within the site are important landscape and ecological features. They form a vital part of the ecological network around the River Nore and its riparian habitats. The removal and fragmentation of these treelines should be avoided. If trees are to be removed, it should only be done outside of the bird nesting season. An arborilogical report should also be prepared prior to the removal of any trees.
- Any landscaping should involve the planting of native Irish species that are indigenous to the site. Suitable species would include hazel, birch, oak, willow and alder. The characteristics of newly planted hedgerows should mimic those in the surrounding area. Invasive species must not be used. Any landscape plan must be cognisant of the sensitivity of the natural habitats surrounding the site. Herbicides should be avoided during all phases of the construction and operation as these chemicals can have detrimental impacts upon local populations of pollinators.
- Bare soil should be seeded as soon as possible with grass seed. This will minimise erosion into local drains and watercourses. Non-native wildflower mixes should be avoided in a sensitive area such as this, as they can alter the genetic balance of the existing flora.
- Natural herbaceous verges should be maintained or created. These will benefit local populations of pollinators. (See the National Biodiversity Data Centre's Pollinator Plan).

Lighting

The lighting scheme of the site should adhere to the following guidelines below. These guidelines will also protect nocturnal terrestrial mammals that use the site.

- Mammal friendly lighting should be employed on site to reduce impacts upon nocturnal species, including bats. The recommendations outlined in the guidance "Bats and Lighting Guidance Notes for: Planners, Engineers, Architects and Developers" should be followed. See https://www.batconservationireland.org/wp-content/uploads/2013/09/BCIrelandGuidelines_Lighting.pdf.

- Luminaire design is extremely important to achieve an appropriate lighting regime. Luminaires come in a myriad of different styles, applications and specifications which a lighting professional can help to select. The following should be considered when choosing luminaires for any new lighting within the site. This is taken from the most recent BCT Lighting Guidelines (BCT, 2018).
 - All luminaires used must lack UV/IR elements to reduce impact.
 - LED luminaires should be used due to the fact that they are highly directional, lower intensity, and have good colour rendition and dimming capability.
 - A warm white spectrum (<2700 Kelvins) should be used to reduce the blue light component of the LED spectrum).
 - Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
 - Column heights should be carefully considered to minimise light spill. The shortest column height allowed should be used where possible.
 - Only luminaires with an upward light ratio of 0% and with good optical control should be used.
 - Luminaires should be mounted on the horizontal, i.e. no upward tilt.
 - As a last resort, accessories such as baffles, hoods or louvres should be used to reduce light spill and direct it only to where it is needed.

7 APPROPRIATE ASSESSMENT CONCLUSION

This current NIS has been undertaken to evaluate the potential impacts of the proposed development with regard to the effects upon the conservation objectives and qualifying interests (including the habitats and species) of the River Barrow and Nore SAC and the River Nore SPA. It is considered that following mitigation, that the proposed project does not have the potential to significantly affect the conservation objectives of these aforementioned Natura 2000 sites and the integrity of these sites as a whole will not be adversely impacted.

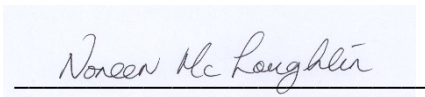
The qualifying interests of the site and their potential to be impacted upon from the potential development were listed in Section 4.2. It is considered that these potential impacts can be successfully mitigated against. With implementation of the mitigation measures there will be no deterioration in water quality or impacts upon any designated habitat or any species dependent on these designated habitats.

In light of the above, it is considered that the proposed works do not have the potential to significantly affect the conservation objectives or qualifying interests of the River Barrow and Nore SAC and the River Nore SPA. The integrity of the site will not be adversely affected. Table 4 follows the integrity of the SAC / SPA checklist, which shows that the integrity of the site would not be affected by the proposed development.

Conservation Objective: Does the project have the potential to:	Yes / No
Cause delays in progress towards achieving the conservation objectives of the site?	N
Interrupt progress towards achieving the conservation objectives of the site?	N
Disrupt those factors that help to maintain the favourable conditions of the site?	N
Interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	N
Other Objectives: does the project have the potential to:	
Cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	N
Change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	N

Interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	N
Reduce the area of key habitats?	N
Reduce the population of key species?	N
Change the balance between key species?	N
Reduce diversity of the site?	N
Result in disturbance that could affect population size or density or the balance between key species?	N
Result in fragmentation?	N
Result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding, etc.)	N

Table 4 – Integrity of Site Checklist (From NPWS, Information Checklist for AA, Box 6, EC (2002))



Noreen McLoughlin, MSc, MCIEEM.
Ecologist.

(PI Insurance details available on request)

APPENDIX I - REFERENCES AND FURTHER READING

- Bowers Marriott, B.** (1997) Practical Guide to Environmental Impact Assessment: A Practical Guide. Published by McGraw-Hill Professional, 1997, 320 pp.
- Colhoun K. & Cummins, S.** (2013) Birds of Conservation Concern in Ireland 2014-19. Irish Birds 9:523-544.
- Crowe, O.** (2005) *Ireland's Wetlands and their Waterbirds: Status and Distribution*. Birdwatch Ireland, Newcastle, Co Wicklow.
- Department of the Environment, Heritage and Local Government** (2009) Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities.
- Dwyer,** (2000) *Protecting Nature in Ireland, The NGO Special Areas of Conservation Shadow List*. Published by the Irish Peatland Conservation Council, Dublin.
- EPA** (2001) Parameters of Water Quality - Interpretation and Standards. Environmental Protection Agency, Ireland.
- EPA** (2002) *Guidelines on the Information to be contained in Environmental Impact Statements*. Environmental Protection Agency, Ireland.
- EPA** (2003) *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements*. EPA, Kilkenny, Ireland.
- Hayden, T. & Harrington, R.** (2000) *Exploring Irish Mammals*. Dúchas the Heritage Service, Town House Dublin.
- Fossit, J.A.** (2000) *A Guide to Habitats in Ireland*. The Heritage Council, Kilkenny.
- Heath, M-F. & Evans, M-I.** eds. (2000) *Important Bird Areas in Europe: Priority Sites for Conservation. 1: Northern Europe*. Cambridge UK: BirdLife International (BirdLife Conservation Series No. 8).
- Hunt, J; Derwin, J; Coveney, J. & Newton, S.** (2000) *Important Bird Areas in Europe: Priority sites/or conservation. 1:* (pp 365 – 416) in Heath M.F. and Evans, M.I., eds. Cambridge UK: BirdLife International (BirdLife Conservation Series No. 8).
- Igoe, D.T., Quigley, G., Marnell, F., Meskill, E., O'Connor, W. and Byrne, C.** (2004) The Sea Lamprey *Petromyzon marinus*(L.), River Lamprey *Lampetra fluviatilis*(L.) and Brook Lamprey *Lampetra planeri*(bloch) in Ireland: General Biology, Ecology, Distribution and Status with Recommendations for Conservation. Biology And Environment: Proceedings Of The Royal Irish Academy, Vol.104b, No.3, 43/56.
- Institute of Environmental Assessment** (1995) *Guidelines for Baseline Ecological Assessment*. Institute of Environmental Assessment, Great Britain.

IUCN (2003) *Red List of Threatened Species*. International Council for Conservation of Nature and Natural Resources.

King, J.J. and Linnane, S.M. (2004) The Status and Distribution of Lamprey and Shad in the Slaney and Munster Blackwater SACs. Irish Wildlife Manuals No. 14.

Kurz, I. and Costello, M.J. (1999) An Outline Of The Biology, Distribution And Conservation Of Lampreys In Ireland. F. Marnell (ed.), Irish Wildlife Manuals, No. 5.

Ó Néill L. (2008) Population dynamics of the Eurasian otter in Ireland. Integrating density and demography into conservation planning. PhD thesis. Trinity College, Dublin.

Lynas P; Newton, S.F. and Robinson, J.A. (2007). *The Status of Birds in Ireland: An Analysis of Conservation Concern 2008-2013*. Irish Birds, 8:149-167.

Mullarney, K; Svensson, L; Zetterstrom, D. & Grant, P.J. (1999) *Collins Bird Guide*. HarperCollins, London.

Natura Environmental Consultants (2005) Draft Habitat Survey Guidelines: A Standard Methodology for Habitat Survey and Mapping in Ireland. The Heritage Council, Kilkenny.

NPWS (2008) Conservation Status in Ireland of Habitats and Species listed in the European Council Directive on the Conservation of Habitats, Flora and Fauna 92/43/EEC

NPWS (2009) Otter Threat Response Plan 2009 – 2011. National Parks & Wildlife Service.

NPWS (2011) Conservation Objectives : River Barrow and River Nore SAC. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2019) The Status of Protected EU Habitats and Species in Ireland. Overview Volume 1. Unpublished Report, National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

NRA (2004) *Guidelines for Assessment of Ecological Impacts of National Road Schemes*. National Roads Authority, Dublin.

Whilde, A. (1993) *Threatened Mammals, Birds, Amphibians and Fish in Ireland*. Irish Red Data Book 2: Vertebrates. HMSO, Belfast.

APPENDIX II – BIODIVERSITY REPORT (ROGER GOODWILLIE)

RECEIVED: 25/07/2025