

# APPROPRIATE ASSESSMENT SCREENING AND NATURA IMPACT STATEMENT

Planning Ref: **22/204**

**Proposed Construction of Pedestrian link between  
the River Nore Linear Park and the Riverside  
Gardens**

Kilkenny City, Co. Kilkenny

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# 1 SUMMARY

SLR Consulting Ireland (SLR) was commissioned by Kilgallen & Partners Ltd. on behalf of Kilkenny County Council to prepare an Appropriate Assessment Screening Report (AA) and if needed a Natura Impact Statement Report (NIS) report for a proposed pedestrian link between the River Nore Linear Park and the Riverside Gardens in Kilkenny City, Co. Kilkenny.

The route of the proposed pedestrian link is along the western bank of the River Nore, north of Greens Bridge in central Kilkenny, joining up the existing Bishops Meadows Walk and the new Riverside Gardens Walk. The pedestrian link will pass under an archway beneath Greens Bridge and will continue north via an elevated boardwalk lit with LED lighting. The overall length of the proposed pedestrian link is approximately 190 metres. The working area required for construction and the permanent footprint of the proposed pedestrian link comprise the proposed development site.

A desk study was carried out to collate available information site designated for nature conservation as well as records of rare and/or protected species within the potential zone of influence of the proposed development. There are two Natura 2000 sites overlapping the Site: River Nore SPA in which the Project site is inside and River Barrow and River Nore SAC where the project site is located on the riverbank adjacent to the European site. The Site was surveyed by SLR ecologist Michael Bailey (MCIEEM) on 24th November 2022

The aim of this report is to evaluate the possible impacts on protected Natura 2000 sites. The AA screening report examines the Conservation objectives of these sites in order to assess if any objectives could be undermined due to the proposed Project. The conclusion of the report identified likely significant effects on Qualifying Interests of the European Sites, therefore a Natura Impact Statement was prepared. In the NIS report adverse effects of the proposed project were examined and recommendations on appropriate mitigation measures were outlined.

Impacts during the construction, operation and decommissioning of the project were assessed. During construction and decommissioning the main concern were the effects on water quality due to the proximity of the proposed project to the River Nore. This has the potential to undermine conservation objectives for qualifying interests in both The River Nore SPA and the River Barrow and River Nore SAC, including kingfisher, otter, the lampreys, salmon, twaite shad and white-clawed crayfish. Fish, otter and kingfisher may be affected by vibrations and noise during construction and decommissioning. Habitat loss/disruption is a concern for the kingfisher and otter during the construction and decommissioning of the proposed project. Otters and fish may be affected by lighting of the walkway at night during the operation of the proposed project.

Suitable mitigation measures are outlined in the report covering all aspects of construction, operation, and decommissioning. These measures will ensure the integrity of the Natura 2000 sites is not undermined.

## 2 INTRODUCTION

### 2.1 Background and Report Purpose

SLR Consulting was commissioned by Kilgallen & Partners Ltd. on behalf of Kilkenny County Council to prepare an Appropriate Assessment (AA) screening report and, if necessary, a Natura Impact Statement, for a proposed pedestrian link, in the form of a boardwalk, between the River Nore Linear Park and the Riverside Gardens in Kilkenny City; the Project.

The purpose of this report is to provide supporting information to assist the Competent Authority, in this case Kilkenny County Council, to carry out an Appropriate Assessment screening for likely significant effects arising from the Project, and, if it is concluded one is required, a Stage 2 Appropriate Assessment.

### 2.2 Brief Description of the Project

The Project is the construction of a boardwalk in Kilkenny city. The purpose of the project is to create a pedestrian and cyclist route between the existing Nore Linear Park trail and the Riverside Gardens walk. The boardwalk structure will comprise 200mm diameter tubular steel mini piles, infilled with concrete, installed in pairs at 2m centres at intervals of 6m along the route. Steel beams will span the pile heads to support the boardwalk decking. The deck surface is proposed to be manufactured from recycled plastic. The proposed deck width is 3m, reduced to 2.2m at pinch points between existing trees and walls and the river's edge. An area of clearance of 1m is proposed at the western side of the boardwalk to allow for maintenance. Parapets are required to provide fall protection at the sides of the boardwalk to a height of 1.5m. The parapets will be constructed from painted mild steel vertical uprights supporting recycled plastic horizontal rails. No in-channel works are required or proposed. The construction materials can be transported along the riverbank using small quadbike type vehicles.

### 2.3 General Description of the Project Site

The Project Site is located at approximate ITM coordinates 650449 656562 on the western bank of the River Nore, in the townland of Gardens in the West of Kilkenny City. The Site comprises of 570m<sup>3</sup> of land consisting of an existing footpath along the river bounded by a willow treeline and a mortared stonewall, amenity grassland and scrub. The site is divided by Greens Bridge, which spans the river in a West to East direction. There is a stone archway located underneath the bridge within the footprint of the proposed Project.

The site is bounded to the West by Green Street and residential properties which front onto Green Street. To the East is the River Nore, to the south is the Abbey Quarter/Riverside Garden area, and to the north the River Nore Linear Park at Bishops Meadows.

### 2.4 The Requirement for an AA Screening and NIS

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures to be addressed in the AA process<sup>12</sup> as follows:

- Firstly, a plan / project should aim to avoid any negative impacts on Natura 2000 sites by identifying possible impacts early and designing the project / plan to avoid such impacts.

<sup>1</sup> The objectives as outlined are based on those set out in Scott Wilson and Levett-Therivel, (2006).

<sup>2</sup> [http://www.npws.ie/sites/default/files/publications/pdf/NPWS\\_2009\\_AA\\_Guidance.pdf](http://www.npws.ie/sites/default/files/publications/pdf/NPWS_2009_AA_Guidance.pdf)

- Secondly, mitigation measures should be applied during the AA process (after Stage 1 Screening) to the point where no adverse impacts on the site(s) remain.

Thirdly a plan / project may have to undergo an assessment of alternative solutions. Under this stage of the assessment, compensatory measures are required for any remaining adverse effects, but they are permitted only if (a) there are no alternative solutions and (b) the plan / project is required for imperative reasons of overriding public interest (the 'IROPI test'). European case law highlights that consideration must be given to alternatives outside the plan / project boundary area in carrying out the IROPI test.

## 2.5 Relevant Legislation

### 2.5.1 European Nature Directives (Habitats and Birds)

The Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora) forms the basis for the designation of Special Areas of Conservation (SAC). Similarly, Special Protection Areas (SPA) are classified under the Birds Directive (Council Directive 2009/147/EEC on the Conservation of Wild Birds). Collectively, SACs and SPAs are referred to as the Natura 2000 network. The Natura 2000 Network is considered to be the minimum protected land area required to conserve certain habitats and species listed in the Directives.

Under Article 6(3) of the Habitats Directive, an Appropriate Assessment (AA) must be undertaken for any plan or project that is not directly connected with or necessary to the management of a Natura 2000 site but is likely to have a significant effect thereon, either individually or in combination with other plans or projects. An AA is an evaluation of the potential impacts of a plan or project on the conservation objectives of a Natura 2000 site, and the identification, where necessary, of mitigation or avoidance measures to preclude adverse effects on the integrity of the site.

Article 6, paragraph 3 of the European Commission Habitats Directive 92/43/EEC ("the Habitats Directive") states that:

*"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".*

### 2.5.2 European Communities (Birds and Natural Habitats) Regulations 2011

Pursuant to the Habitats Directive, Part 5 of the European Communities (Birds and Natural Habitats) Regulations 2011, as amended, similarly sets out the requirements for screening assessments and the circumstances under which an AA is required.

Regulation 42(1) requires that 'a screening for Appropriate Assessment of a plan or project for which an application for consent is received, or which a public authority wishes to undertake or adopt, and which is not directly connected with or necessary to the management of the site as a European Site, shall be carried out by the public authority to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that plan or project, individually or in combination with other plans or projects is likely to have a significant effect on the European site.' Regulation 42(2) expands on this, stipulating that a public authority must carry out a screening for AA before consent for a plan or project is given, or a decision to undertake or adopt a plan or project is taken.

Regulation 42(6) requires that *'the public authority shall determine that an Appropriate Assessment of a plan or project is required where the plan or project is not directly connected with or necessary to the management of the site as a European Site and if it cannot be excluded, on the basis of objective scientific information following screening under this Regulation, that the plan or project, individually or in combination with other plans or projects, will have a significant effect on a European site'*.

Regulation 42(3)(a) gives the public authority the power to direct a third party to provide a Natura Impact Statement (NIS) and Regulation 42(3)(b) allows it to request any additional information that it needs to complete the screening assessment or AA. Regulation 42(5) goes on to make clear that the NIS should include such information as the public authority considers necessary to enable it to undertake the AA and to ascertain if a project or plan will affect the integrity of a Natura 2000 site.

In addition to the information, Regulation 2(1) provides a definition of a Natura Impact Statement as *'a report comprising the scientific examination of a plan or project and the relevant European Site or European Sites, to identify and characterise any possible implications of the plan or project individually or in combination with other plans or projects in view of the conservation objectives of the site or sites, and any further information including, but not limited to, any plans, maps or drawings, scientific information or data required to enable the carrying out of an Appropriate Assessment'*.

Regulation 42(11) makes clear that the AA must be carried out by the public authority and that it must include its conclusion as to whether the project or plan would adversely affect the integrity of a Natura 2000 site, and that this must be done prior to consenting the project.

### 2.5.3 Planning and Development Act 2000 (as amended)

These processes have been further enshrined in the Planning and Development Act 2000 (as amended), in Sections 177T, 177U and 177V, which are reproduced below:

177T (1)(b) A Natura Impact Statement means a statement for the purposes of Article 6 of the Habitats Directive, of the implications of a proposed development, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the site or sites.

(2) Without prejudice to the generality of subsection (1), a Natura impact report or a Natura impact statement, as the case may be, shall include a report of a scientific examination of evidence and data, carried out by competent persons to identify and classify any implications for one or more than one European site in view of the conservation objectives of the site or sites.

177U. (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.

(4) The competent authority shall determine that an appropriate assessment of a draft Land use plan or a proposed development, as the case may be, is required if it cannot be excluded, on the basis of objective information, that the draft Land use plan or proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site.

177V (1) An appropriate assessment carried out under this Part shall include a determination by the competent authority under Article 6.3 of the Habitats Directive as to whether or not a draft Land use plan or proposed development would adversely affect the integrity of a European site and an appropriate assessment shall be carried out by the competent authority, in each case where it has made a determination under section 177U(4) that an appropriate assessment is required, before —  
... ( b ) consent is given for the proposed development.



## 2.6 Evidence of Technical Competence and Experience

This Report was prepared by Kieran Moynihan BSc. Stephanie Boocock and Richard Arnold conducted the technical review.

### **Kieran Moynihan BSc (Hons) - Ecologist**

Kieran Moynihan is an Ecologist with SLR and has worked in ecological consultancy since July 2022. Kieran holds a BSc in Ecology from University College Cork. Since joining SLR Kieran has gained experience in Vantage Point surveys, plant identification and habitat surveys. He has helped prepare AA screenings for a range of projects.

### **Stephanie Boocock MCIEEM – Principal Ecologist**

Steph Boocock is a Principal Ecologist based at our Bristol office. Steph has over nineteen years' experience in environment-based roles and is a Chartered Environmentalist and Full Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM). Steph has led on medium-large scale development projects delivering Ecological Impact Assessments, Appropriate Assessments (in UK and Ireland) and developing mitigation strategies for a range of EPS, including obtaining licences for bats.

### **Richard Arnold BSc (Hons) MRes MCIEEM CEnv - Technical Director**

Richard Arnold BSc (Hons) MRes MCIEEM CEnv - Richard Arnold is a Technical Director with SLR. Richard has a BSc (Hons) in Ecology, an MRes in Environmental Science, is a full member of CIEEM and a Chartered Environmentalist. Richard has 23 years of experience as a consultant ecologist, including projects of all sizes and stages of development in the UK and Ireland

## 3 METHODOLOGY

### 3.1 General Approach

The methodology used in this report is based on guidance provided by the National Parks and Wildlife Service (NPWS, 2010), the Office of the Planning Regulator (OPR, 2021) and EC Guidance (EC, 2018) (EC, 2020) (EC, 2021) on the application of Article 6 of the Habitats Directive.

The 2021 EC guidance describes a series of stages and steps which should be completed when carrying out the assessment and these are followed here with minor modifications. The assessment applies only to Natura 2000 sites (SPAs and SACs). More specifically, it only applies to the habitats and species listed as qualifying interests (QIs) of SACs and the bird species listed as Special Conservation Interests (SCIs) for SPAs. For the purposes of this report, both QIs and SCIs will be referred to as QIs.

### 3.2 Stage One: Screening<sup>3</sup>

Stage One is a screening assessment, the purpose of which is to determine whether a plan or project requires more detailed assessment. There are two principal tests. The first considers whether the plan or project is needed for the management of a European site for the purpose of maintaining or restoring its conservation interest. Any such plans or projects can usually be screened out of further assessment. The second test considers whether the plan or project, without specific mitigation measures, would be likely to have a significant effect on any European Site. This requires consideration of the project on its own and in combination with other plans or projects.

A project can only be screened out of further assessment if it is certain (beyond reasonable scientific doubt and on the basis of the best scientific knowledge) that there would be no significant effects on any Natura 2000 site without mitigation designed specifically to address potential impacts on the qualifying interest of such sites. Significant effects in this assessment are those which could undermine the conservation objectives of a qualifying interest feature. The process is used to determine which Natura 2000 Sites should be included in the later stages of the assessment. It can also be used to determine which qualifying interest features require further assessment.

### 3.3 Stage Two: Appropriate Assessment

Stage Two is a more detailed assessment, known as an “Appropriate Assessment” following the terminology in the legislation. This essentially repeats the second test of the screening assessment but in more detail and considers mitigation measures before reaching a conclusion. At this stage, the test is whether the project or plan will have an adverse effect on the integrity of any European site. This must be done in light of the conservation objectives for each of the sites and qualifying interest features that have been ‘screened in’ by the earlier stage of assessment. Any effect which could undermine the conservation objectives is considered an adverse effect on the integrity of the site, and vice versa. If the project is predicted to lead to adverse effects upon the integrity of the site, further stages of assessment are required before the project can be authorised.

### 3.4 Sources of Information

Sources of information for the assessment of the Project ‘alone’ include:

- Ecological Desk study completed by SLR

- Habitat Survey completed by SLR
- Article 17 and Article 12 reports completed by the National Parks and Wildlife Service.
- Site Synopses, Conservation Objectives and Standard Data Forms for the Natura 2000 sites
- Environmental Protection Agency (EPA) Maps<sup>4</sup>.
- National Biodiversity Data Centre Maps<sup>5</sup>

Sources of information for the plans and projects for the 'in-combination' assessment were as above and also include:

- Kilkenny County City and County Development Plan 2021-2027<sup>6</sup>
- Kilkenny County Council planning portal<sup>7</sup> and myplan.ie<sup>8</sup> were accessed for information on other projects and plans including environmental reports of other projects.

<sup>4</sup> <http://gis.epa.ie/> (last accessed February 2023)

<sup>5</sup> [Maps - Biodiversity Maps \(biodiversityireland.ie\)](https://maps.biodiversityireland.ie/) (last accessed February 2023)

<sup>6</sup> <https://www.kilkennycoco.ie/eng/services/planning/development-plans/city-and-county-development-plan/adopted-city-and-county-development-plan.html> (last accessed February 2023)

<sup>7</sup> [ePlan::Find a planning application \(kilkennycoco.ie\)](https://www.kilkennycoco.ie/eplan/find-a-planning-application) (last accessed February 2023)

<sup>8</sup> <https://myplan.ie/> (last accessed February 2023)

## 4 STAGE 1: APPROPRIATE ASSESSMENT SCREENING

### 4.1 Step 1: Management of Natura 2000 Sites

The proposed Project consists of constructing a raised walkway to connect the existing River Nore Linear Park trail and the new Riverside Gardens walk in Kilkenny City. It is therefore not directly connected with, or necessary for, the management of any Natura 2000 site and cannot be screened out on that basis.

### 4.2 Step 2, Part 1: Project Description

#### 4.2.1 The Project

##### Overview

The proposed pedestrian link is required to join up the existing River Nore Linear Park trail, ca. 160m upstream of Greens Bridge to the new Riverside Gardens walk, ca. 30m downstream of Greens Bridge. The pedestrian link will pass under the archway beneath Greens Bridge. To complete the link upstream of Greens Bridge, an elevated boardwalk will be constructed. The boardwalk section will be lit with LED lighting incorporated into the parapet top rail. The overall length of the pedestrian link is ca. 190m.

The existing River Nore Linear Park, which comprises of 2.6km of walkway in Bishops Meadows, was constructed in 2006 and is currently linked to the Peace Park Walk and Canal Walk through a series of access routes, which take the public away from the river's edge. The Riverside Gardens project, which was constructed in 2020/21, forms part of the Abbey Quarter Masterplan, providing a pedestrian link between Greens Bridge and Bateman Quay. The completion of the proposed development to link the River Nore Linear Park to the Riverside Gardens project is an objective of the Kilkenny City and County Development Plan 2021-2027.

##### Construction

The boardwalk structure will consist of 200mm diameter tubular steel mini piles, infilled with concrete, installed in pairs at 2m centres at intervals of 6m along the route. Steel beams will span between the pile heads to support the boardwalk decking. The deck surface is proposed to be manufactured from recycled plastic. The proposed deck width is 3m, reduced to 2.2m at pinch points between existing trees and walls and the river's edge. Parapets are required to provide fall protection at the sides of the boardwalk at a height of 1.5m. Painted mild steel vertical uprights are proposed to support recycled plastic horizontal rails.

For drainage purposes, the boardwalk deck would be constructed in slatted recycled plastic boards. Joints will be open, allowing rainwater to pass directly through the deck without the requirement for collection and disposal. At the northern end the extended concrete footpaths will drain to the grass verge. At the southern end, the ramped path will drain to the grass verge. On the southern side of the arch, some minor regrading works will be required to allow the footpath to drain freely to the grass verge.

##### Operation

The purpose of the Project in the operational phase is to provide a pedestrian and cycle link. During operation the Project will be lit with LED lighting incorporated into the parapet top rail. This will allow pedestrians and cyclists to use the boardwalk in the day and night time.

##### Decommissioning

The project is designed to be permanent. However, in the unlikely event of decommissioning only the above ground parts of the boardwalk will be removed.

## Programme

The duration of works will be six months. Vegetation clearing and piling will be done in the summer months as to avoid excess risk of silt discharge into the River Nore.

### 4.2.2 The Project Site

#### Habitats (Annex I)

The River Nore is adjacent to the Project Site. The river may comprise the Annex I habitat 3260 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation. The habitats within the Project Site comprise of scrub WS1, stone walls BL1, treeline WL2, amenity GA2, scattered trees and parkland WDS, depositing/ lowland rivers FW2, buildings and artificial surfaces BL3 and earth banks BL2.

#### Species (Annex I birds and Annex II other species)

There are records of kingfisher (2 records) and otter (1 record) within the River Nore within 2km of the Project Site.

#### Ecological Connections

The Project site has a direct ecological connection with the River Nore as it is alongside the river and within bankside habitat.

#### Hydrology connections

The Project site has a direct hydrological connection with the River Nore as it is alongside the river; precipitation occurring on the Project site will drain directly to the River.

## 4.3 Step 2, Part 2: Potential Impact Factors

The proposed project has the potential to result in the following impacts:

- Habitat loss and damage during construction.
- Changes to water quality due to accidental silt discharge, pollution and dust during construction and decommissioning.
- Spread of Invasive Non-native Species (INNS) during construction and decommissioning
- Noise and vibration disturbance of fauna during construction, operation, and decommissioning.
- Visual disturbance of fauna during construction, operation, and decommissioning.
- Lighting disturbance of flora and fauna during construction, operation, and decommissioning.

The risks arising from these impact factors for the habitats and species listed as Qualifying Interest (QIs) of any Natura 2000 sites in proximity to the Project must therefore be assessed. These effects are considered further below.

## 4.4 Step 3: Identification of relevant Natura 2000 Sites

The first step in identification of relevant Natura 2000 sites for further assessment is to identify those that will be at risk from likely significant effects where a Source-Pathway-Receptor link exists between the proposed development and the Natura 2000 site.

The relevant Natura 2000 sites are identified through a review of the nature and scale of the project, the project location relative to Natura 2000 sites, presence of ecological and landscape connectivity, such as along waterways, hedgerows and treelines between the Site and the Natura 2000 sites, known impacts and

effects likely to arise as a result of this type of project, distance from Natura 2000 sites and the qualifying interests of the Natura 2000 sites.

Table 4.1: Natura 2000 Sites and Interest Features initially considered for potential Source-Pathway-Receptor links below provides a list of Natura 2000 sites which were selected for initial consideration of Source-Pathway-Receptor links which will be assessed as part of the screening process. These are also shown on Drawing 1.

The EPA Appropriate Assessment tool<sup>9</sup> was used to assess the connectivity that exists between the Project Site and Natura 2000 sites. There is a direct hydrological link between the Project Site and both River Nore SPA and River Barrow and River Nore SAC, as the proposed Project is located on the Western bank of the River Nore. The Project Site is inside the SPA boundary but outside the SAC boundary; however, the exclusion of the Project site from the SAC may be due to mapping inaccuracies rather than intentional.

There are no other Natura sites within 15km of the Project site and no connectivity between the Site and any other Natura 2000 site. Therefore, all other Natura 2000 sites can be excluded from the screening process.

<sup>9</sup> <https://gis.epa.ie/EPAMaps/AAGeoTool> (last accessed February 2023)

**Table 4.1: Natura 2000 Sites and Interest Features initially considered for potential Source-Pathway-Receptor links**

Site Name (Code)	Distance <sup>10</sup>	Qualifying Interests <sup>11</sup>	Conservation Objective	Impact (Source-Pathway-Receptor)	Considered further in Screening Report Y/N
River Nore SPA [004233]	The proposed project is inside the SPA	Kingfisher ( <i>Alcedo atthis</i> ) [A229]	To maintain or restore the favourable conservation condition of Kingfisher. There is no recent data on population status however this species is declining in Ireland, and it is assumed that the objective is to restore the population.	The proposed project site is inside the River Nore SPA. There is potential for impacts arising from: Habitat loss and damage during construction. Changes to water quality due to accidental silt discharge, pollution and dust during construction and decommissioning. Noise and vibration disturbance during construction, operation, and decommissioning. Visual disturbance during construction, operation, and decommissioning. Lighting disturbance during construction, operation, and decommissioning. . The site visit did not identify suitable kingfisher nesting habitat however this species is known to occur locally. Due to the potential impacts on kingfisher mitigation measures are required.	Y
River Barrow and River Nore SAC [002162]	The proposed project site is adjacent to the the SAC	Estuaries [1130]	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore Sac	Construction and decommissioning at the Project Site may cause aquatic pollution (source), there is a downstream hydrological link from the Project Site to the Estuary (pathway) and estuaries are sensitive to certain types of pollution (receptor). However the scale of the project (small), the length of the pathway 32km (long) and the scale of the estuary (very large) mean that any pollution arising at the Project Site alone would be imperceptible and make no meaningful contribution to in combination effects.	N
		Mudflats and sandflats not covered by seawater at low tide [1140]	Maintain		N

<sup>10</sup> When measured in a straight line over the shortest distance between the site and Natura 2000 site.

<sup>11</sup> For SPAs, the bird species that are the reason for designation are Species of Conservation Interest (SCIs) and for SACs the habitats and species that are the reason for designation are its Qualifying Interests (QIs). For convenience, the term qualifying interest or QI is used here for both SPAs and SACs.

<sup>9</sup> [Protected Sites in Ireland | National Parks & Wildlife Service \(npws.ie\)](https://www.npws.ie/Protected-Sites-in-Ireland)

Site Name (Code)	Distance <sup>10</sup>	Qualifying Interests <sup>11</sup>	Conservation Objective	Impact (Source-Pathway-Receptor)	Considered further in Screening Report Y/N
		Reefs [1170]	Maintain		N
		Salicornia and other annuals colonising mud and sand [1310]	Maintain		N
		Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritima</i> ) [1330]	Restore		N
		Mediterranean salt meadows ( <i>Juncetalia aritime</i> ) [1410]	Restore		N
		Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260]	Maintain	The Project Site is outside but adjacent to the SAC. Nevertheless, there is potential for impacts on Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation due to: Changes to water quality during construction and decommissioning and lighting disturbance of flora during construction, operation, and decommissioning. No pathway for lighting, habitat loss and noise.	Y
		European dry heaths [4030]	Maintain	No potential for impacts on European dry heaths due to being terrestrial and habitats outside of the proposed Project Site. No pathway.	N
		Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]	Maintain	There is potential for impacts on Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels occurring downstream of the site due to possible changes in water quality.	Y
		Petrifying springs with tufa formation (Cratoneurion) [7220]	Maintain	There is no potential for impacts on Petrifying springs with tufa formation. Springs are groundwater dependent terrestrial ecosystems. They are not dependent on river water. There is no pathway for effects as the River Nore is not connected to a spring other than those in its own headwaters.	N
		Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]	Restore	No potential for impacts on Killarney fern due to being terrestrial and habitats outside of the proposed Project Site.	N



Site Name (Code)	Distance <sup>10</sup>	Qualifying Interests <sup>11</sup>	Conservation Objective	Impact (Source-Pathway-Receptor)	Considered further in Screening Report Y/N
		Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae) [91E0]	Restore	There is no potential for impacts on Alluvial forests located approx. 3.77km downstream. The conservation objectives are concerned with direct habitat loss or changes and not water quality changes. The distance from the proposed site means there is no pathway.	N
		<i>Vertigo moulinsiana</i> (Desmoulin's Whorl Snail) [1016]	Maintain	There is no potential for impacts on the Desmoulin's Whorl Snail due to their locations upstream from the proposed site. No pathway.	N
		<i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029]	N/A	The status of this species is under review. The results of this review will determine site specific Conservation objectives. However, they have been recorded in the SAC previously so potential impacts at this time cannot be ruled out.	Y
		<i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092]	Maintain	This species occurs upstream of the Project site and downstream as far as Thomastown on the River Nore. There could be impacts on white clawed crayfish due to changes in water quality, noise/vibration and lighting.	Y
		<i>Petromyzon marinus</i> (Sea Lamprey) [1095]	Restore	Three species of lamprey including: brook, sea and river could be affected by possible changes to water quality with construction planned on the riverbank. As it only occurs/occurred downstream sea lamprey could not be affected by habitat loss, noise/vibrations and lighting.	Y
		<i>Lampetra planeri</i> (Brook Lamprey) [1096]	Restore	As above, except Brook Lamprey could occur in proximity to the Project site and could therefore be affected by habitat damage, noise/vibration, and lighting.	Y
		<i>Lampetra fluviatilis</i> (River Lamprey) [1099]	Restore	As for sea lamprey.	Y
		<i>Alosa fallax fallax</i> (Twaite Shad) [1103]	Restore	Twaite Shad use the river for spawning so may be affected by possible changes to water quality. As this species only occurs/occurred downstream, Twaite shad could not be affected by habitat loss, noise/vibration, and lighting.	Y
		<i>Salmo salar</i> (Atlantic salmon) [1106]	Restore	Atlantic Salmon use the river for spawning and occur up- and downstream of the Project site so may be affected by changes	Y

Site Name (Code)	Distance <sup>10</sup>	Qualifying Interests <sup>11</sup>	Conservation Objective	Impact (Source-Pathway-Receptor)	Considered further in Screening Report Y/N
				to water quality. Atlantic salmon could be affected by habitat damage, noise/vibration, and lighting.	
		<i>Lutra lutra</i> (Otter) [1355]	Restore	<p>Otter could be affected by</p> <p>Habitat loss and damage during construction.</p> <p>Changes to water quality due to accidental silt discharge, pollution and dust during construction and decommissioning.</p> <p>Noise and vibration disturbance during construction, operation, and decommissioning.</p> <p>Visual disturbance during construction, operation, and decommissioning.</p> <p>Lighting disturbance during construction, operation, and decommissioning.</p>	Y
		<i>Trichomanes speciosum</i> (Killarney Fern) [1421]	Maintain	No potential for impacts on Killarney fern due to being terrestrial and habitats outside of the proposed site area. No pathway.	N
		<i>Margaritifera durrovensis</i> (Nore Pearl Mussel) [1990]	Restore	There is no potential for impacts on the Nore Pearl mussel due to its location upstream from the proposed site. No pathway.	N

## 4.5 Step 4, Part 1: Assessment of Likely Significant Effects for Project Alone

There are two Natura 2000 sites for which there is a direct connection (source-pathway-receptor link) with the Site; River Nore SPA and the River Barrow and River Nore SAC. It has been identified that, for these sites, habitat loss/damage, changes in water quality and disturbance of fauna through noise, lighting and the presence of people may result in likely significant effects for some of the habitats and species for which these Natura 2000 sites are designated., as shown in Table 4.1: Natura 2000 Sites and Interest Features initially considered for potential Source-Pathway-Receptor links

The potential for likely significant effects on screened-in QIs from habitat loss, changes in water quality, noise, vibrations, spread of invasive species and lighting are considered further below.

### 4.5.1 River Nore SPA

The only QI for the River Nore SPA is the kingfisher. Kingfisher is at risk of disturbance while foraging during construction, operation, and decommissioning, and impacts on food source due to changes in water quality. Therefore, Likely Significant Effects cannot be excluded without further assessment and/or mitigation.

### 4.5.2 Rive Barrow and River Nore SAC

#### Killarney fern and Terrestrial Habitats

There is no potential for impacts on Killarney fern, Old sessile oak woods and European dry heaths due to these being terrestrial and habitats outside of the proposed site area.

There is also no potential for impacts on Alluvial forests the nearest of which located approx.. 3.77km downstream. The conservation objectives (NPWS 2011) are concerned with direct habitat loss or changes and not water quality changes which could not be undermined by the Project. Likely Significant Effects can therefore be excluded for Killarney fern, Old sessile oak woods and European dry heaths.

#### Marine and Coastal Habitats

There is no potential for impacts on tidal/ estuarine habitats due to the small scale of the project, the temporary construction and decommissioning activities, and the distance from proposed site and assimilation capacity of the river. These are:

- Estuaries.
- Mudflats and sandflats not covered by seawater at low tide.
- Reefs
- Salicornia and other annuals colonising mud and sand.
- Atlantic salt meadows.
- Mediterranean salt meadows.

There will be no direct loss or fragmentation of these habitats during construction of the Project. There will be localised habitat disruption during construction, this encompasses a mosaic of habitats of which none are listed as Qualifying Interest. The habitats at the Project Site include scrub WS1, stone walls BL1, treeline WL2, amenity GA2, scattered trees and parkland WDS, depositing/ lowland rivers FW2, buildings and artificial surfaces BL3 and earth banks BL2. Likely Significant Effects for Estuaries, Mudflats and sandflats not covered by seawater at low tide, Reefs, Salicornia and other annuals colonising mud and sand, Atlantic salt meadows, and Mediterranean salt meadows can therefore be excluded for the Project Alone.

### **Petrifying springs with tufa formation (Cratoneurion) [7220]**

There is no potential for impacts on Petrifying springs with tufa formation. Springs are groundwater dependent terrestrial ecosystems. They are not dependent on river water. There is no pathway for effects as the River Nore is not connected to a spring other than those in its own headwaters. LSE on Petrifying springs with tufa formation can therefore be excluded.

### **Desmoulin's Whorl Snail**

The conservation objectives for *Vertigo moulinsiana* (Desmoulin's Whorl Snail) include distribution, population size, population density, area of occupancy, habitat quality in terms of vegetation and soil moisture levels. The proposed project could not undermine the objectives for Desmoulin's Whorl Snail. This is because whorl snails are located upstream from the project site in a section of the SAC near Oldglass river which joins the River Erkina. The River Erkina joins the Nore at Durrow approx. 26.4km upstream from the proposed site. The other recorded area of whorl snails occurs on the River Barrow. The Nore joins the River Barrow 46.2km downstream of the site. The convergence is also downstream of the whorl snail populations. Due to the location of whorl snails up stream and in a different river system there will be no potential for direct or indirect impacts. LSE on Desmoulin's Whorl Snail can therefore be excluded.

### **Nore Pearl Mussel**

The conservation objective is to restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC. The objectives are to maintain sufficient juvenile salmonids to host glochidial larvae, water quality, substratum quality in terms of filamentous algae, sediment, and oxygen availability and hydrological regime in terms of flow variability. NPWs have recorded Nore Pearl Mussel approx. 21.2km upstream of the proposed Project Site. Water quality, substratum quality and hydrological regime will not be affected due to the distance of the Nore Pearl Mussel upstream from the proposed site, therefore LSE can be excluded for the Nore Pearl Mussel.

### **LSEs White-clawed crayfish**

White-clawed crayfish have been identified as being at risk of potential LSE due to changes in water quality, noise/vibration and lighting as a result of the project. As such in the absence of mitigation or further assessment there is potential for LSE on this QI and therefore stage 2 Appropriate Assessment is required.

### **LSEs on Otter**

Otter has been identified as being at risk of potential LSE due to changes in water quality and lighting. Potential LSEs on otter are as follows:

- Habitat loss and damage during construction.
- Changes to water quality due to accidental silt discharge, pollution and dust during construction and decommissioning.
- Noise and vibration disturbance during construction, operation, and decommissioning.
- Visual disturbance during construction, operation, and decommissioning.
- Lighting disturbance during construction, operation, and decommissioning.

As such in the absence of mitigation or further assessment there is potential for LSE on this QI and therefore stage 2 Appropriate Assessment is required.

### LSEs on QI fish arising from changes to water quality, lighting, noise and vibrations

The species of fish which have been identified as being at risk of LSE are Sea, brook and river lamprey, *Petromyzon marinus*, *Lampetra planeri*, *Lampetra fluviatilis* respectively, and Atlantic salmon *Salmo salar*. The potential impacts on fish species are as follows;

- Potential degradation of spawning and juvenile habitat and subsequent potential effects on population structures of all four of these fish species due to the potential of increased suspended solids.
- Direct effects on all four fish species due to impacts on water quality such as potential mortality or reduction in food availability.
- Disturbance caused by lighting, noise and vibrations during construction and decommissioning for brook lamprey and Atlantic salmon only.

In the absence of mitigation there is potential for LSE on QI fish species in the SAC, it is therefore not possible to exclude likely significant effects on these QIs as a result of the proposed project alone and second stage Appropriate assessment is required.

### LSE on QI plant communities arising from changes to water quality

Potential LSEs on QI plant communities include:

Impacts on water quality as a result of the Project has the potential to alter nutrient concentrations which could potentially lead to LSE on the QI “water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation” and “Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels”.

As such, in the absence of mitigation or further assessment there is potential for LSE on this QI and therefore second stage Appropriate Assessment is required.

### Freshwater Pearl Mussel

The Freshwater Pearl Mussel has been identified as being at risk of LSE as a result to changes in water quality. In absence of mitigation there is potential for LSE on Freshwater Pearl mussel. It is therefore not possible to screen out potentially significant effects on these Qis as a result of the proposed project alone and second stage Appropriate assessment is required.

## 4.6 Step 4, Part 2: Assessment of Likely Significant Effects for Project In Combination

Other projects or plans which are within the River Nore catchment area have the potential to act cumulatively with the proposed project to affect the River Barrow and Nore SAC and River Nore SPA. Therefore, LSE cannot be excluded for the River Barrow and Nore SAC and River Nore SPA when considered in combination with other plans and projects at this stage.

## 4.7 Conclusions

This screening report, based on the available scientific information and project details demonstrates, that “likely significant effects” on any Natura 2000 site due to the project cannot be excluded. Therefore, in the absence of consideration of suitable mitigation, likely significant effects on these two Natura 2000 sites cannot be excluded and the assessment must proceed to Stage 2: Appropriate Assessment and a Natura Impact Statement must be prepared.

## 5 STAGE 2: APPROPRIATE ASSESSMENT (NATURA IMPACT STATEMENT)

This Natura Impact Statement (NIS) was prepared as part of a planning application to Kilkenny County Council by Kilgallen & Partners Ltd in respect to the proposed construction of Pedestrian link between the River Nore Linear Park and the Riverside Gardens in Kilkenny City.

The Competent Authority, in this case Kilkenny County Council will therefore be required to carry out a Stage 2 Appropriate Assessment to determine whether the proposed project would adversely affect the integrity of the River Nore SPA and the River Barrow and Nore SAC. The '*integrity of the site*' can be defined as 'the coherence of the site's ecological structure and function, across its whole area, or the habitats, complex of habitats and / or populations of species for which the site is or will be classified'

The headings within the appropriate assessment report template provided in the European Commission guidance document on the assessment of plans and projects significantly affecting Natura 2000 sites have been used to provide a framework to examine the potential impacts of the proposed project on the River Nore SPA and River Barrow and Nore SAC. This section of the report sets out the potential implications of the plan or project (both alone or in combination with other projects or plans) on the integrity of the Natura 2000 site with respect to the conservation objectives of the site and to its structure and function. The precautionary principle should be applied when considering the potential implications and the focus should be on demonstrating, with supporting evidence, that there will be no adverse effects on the integrity of the River Nore SPA and the River Barrow and River Nore SAC. Where this is not the case, adverse effects must be assumed.

### 5.1 Step 1, Part 1: Information on the Project

The Project Site is located at approximate ITM coordinates 650449 656562 on the western bank of the River Nore, in the townland of Gardens in the West of Kilkenny City. The Site comprises of 570m<sup>3</sup> of land consisting of an existing footpath along the river bounded by a willow treeline and a mortared stonewall, amenity grassland and scrub. The site is divided by Greens Bridge, which spans the river in a West to East direction. There is a stone archway located underneath the bridge within the footprint of the proposed Project.

The site is bounded to the West by Green Street and residential properties which front onto Green Street. To the East is the River Nore, to the south is the Abbey Quarter/Riverside Garden area, and to the north the River Nore Linear Park at Bishops Meadows. The boardwalk structure will comprise 200mm diameter tubular steel mini piles, infilled with concrete, installed in pairs at 2m centres at intervals of 6m along the route. Steel beams will span the pile heads to support the boardwalk decking. The deck surface is proposed to be manufactured from recycled plastic. The proposed deck width is 3m, reduced to 2.2m at pinch points between existing trees and walls and the river's edge. An area of clearance of 1m is proposed at the western side of the boardwalk to allow for maintenance. The deck surface is proposed to be manufactured from recycled plastic. This is an environmentally friendly material with excellent non slip characteristics and is completely rot proof thus significantly reducing maintenance. Parapets are required to provide fall protection at the sides of the boardwalk to a height of 1.5m. The parapets will be constructed from painted mild steel vertical uprights supporting recycled plastic horizontal rails. No in-channel works are required or proposed. The construction materials can be transported along the riverbank using small quadbike type vehicles.

### 5.2 Step 1, Part 2: Description of the Natura 2000 sites

A description of each of the Natura 2000 sites screened in for further assessment, River Nore SPA and the River Barrow and River Nore SAC is provided in **Table 2.1** above and detail on the conservation objectives for each site are provided below. The Qualifying Interests and Species conservation interests listed are those which the project may potentially affect.

### 5.2.1 River Nore SPA [004233]

#### Brief Description

The River Nore SPA is a long, linear site. The site is a Special Protection Area (SPA) under the E.U. Birds Directive of special conservation interest for the following species: Kingfisher. 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.

#### Qualifying Interest Screened in for Assessment

Kingfisher( *Alcedo atthis*) [A229]

#### Conservation Objectives

The conservation objectives (COs) for the River Nore SPA are as follows:

*To maintain or restore the favourable conservation condition of the bird species listed as Species conservation interests for this SPA i.e. restore the breeding baselin in 2010.Kingfisher( Alcedo atthis) [A229]*

**Table 5.1: Qualifying interest of the River Nore SPA and its conservation objectives**

Qualifying Interests	CO	Attributes	Targeted Objectives
Kingfisher ( <i>Alcedo atthis</i> ) [A229]	Maintain or restore, assumed restore due to declining population in Ireland	Assumed to be Population size and distribution	Assumed to be restore population to 16-20 territories, with breeding territories throughout the SPA.

### 5.2.2 River Barrow and River Nore SAC

#### Brief Description

This site consists of the freshwater stretches of the River Barrow and River Nore catchments as far upstream as the Slieve Bloom Mountains, and it also includes the tidal elements and estuary as far downstream as Creadun Head in Waterford. The site passes through eight counties – Offaly, Kildare, Laois, Carlow, Kilkenny, Tipperary, Wexford and Waterford.

#### Qualifying Interest Screened in for Assessment

The Qualifying Interest Screened in for Assessment were:

- 1092 White-clawed crayfish *Austropotamobius pallipes*
- 1095 Sea lamprey *Petromyzon marinus*
- 1096 Brook lamprey *Lampetra planeri*
- 1099 River lamprey *Lampetra fluviatilis*
- 1103 Twaite shad *Alosa fallax*

- 1106 Atlantic salmon (*Salmo salar*) (only in fresh water)
- 1355 Otter *Lutra lutra*
- 3260 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation
- 6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
- *Margaritifera margaritifera* (Freshwater Peral Mussel)

### Conservation Objectives

The conservation objectives (Cos) for the River Barrow and River Nore SAC are as follows:

*To maintain or restore the favourable conservation condition of the habitats and species listed as Qualifying interests for this SAC.*

The Conservation Objectives specific to each Qualifying Interest feature included in the assessment is provided in Table 5.2.

**Table 5.2: Qualifying interests of the River Barrow and River Nore SAC and their specific conservation objectives**

Qualifying Interests	CO	Attributes	Targeted Objectives
Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260]	Maintain	<ol style="list-style-type: none"> <li>1. Hydrological regime: river flow.</li> <li>2. Substratum composition: particle size range</li> <li>3. Water quality: suspended sediment</li> <li>4. Water quality: nutrients</li> </ol>	<ol style="list-style-type: none"> <li>1. The groundwater and surface water should have sufficient concentrations of minerals to allow deposition and persistence of tufa deposits.</li> <li>2. The concentration of suspended solids in the water column should be sufficiently low to prevent excessive deposition of fine sediments.</li> <li>3. The concentration of nutrients in the water column should be sufficiently low to prevent changes in species composition or habitat condition.</li> <li>4. Typical species of the relevant habitat sub-type should be present and in good condition</li> </ol>



Qualifying Interests	CO	Attributes	Targeted Objectives
			<ol style="list-style-type: none"> <li>The area of active floodplain at and upstream of the habitat should be maintained</li> </ol>
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]	Maintain	Hydrological regime: Flooding depth/height of water table	<ol style="list-style-type: none"> <li>No decline, subject to natural processes</li> <li>Area stable or increasing, subject to natural processes.</li> <li>Maintain appropriate hydrological regimes.</li> <li>30-70% of sward is between 40 and 150cm in height.</li> <li>Broadleaf herb component of vegetation between 40 and 90%.</li> <li>At least 5 positive indicator species present.</li> <li>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>).</li> </ol>
<i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092]	Maintain	<ol style="list-style-type: none"> <li>Distribution.</li> <li>Population structure: recruitment.</li> <li>Negative indicator species.</li> <li>Disease.</li> <li>Water quality.</li> <li>Habitat quality: heterogeneity</li> </ol>	<ol style="list-style-type: none"> <li>No reduction from baseline</li> <li>Juveniles and/or females with eggs in at least 50% of positive samples.</li> <li>No alien crayfish species.</li> <li>No instances of disease.</li> <li>At least Q3-4 at all sites sampled by EPA.</li> </ol>

Qualifying Interests	CO	Attributes	Targeted Objectives
			6. No decline in heterogeneity or habitat quality.
<i>Petromyzon marinus</i> (Sea Lamprey) [1095]	Restore	<ol style="list-style-type: none"> <li>1. Distribution: extent of anadromy.</li> <li>2. Population structure of juveniles.</li> <li>3. Juvenile density in fine sediment.</li> <li>4. Extent and distribution of spawning habitat.</li> <li>5. Availability of juvenile habitat.</li> </ol>	<ol style="list-style-type: none"> <li>1. Greater than 75% of main stem length of rivers accessible from estuary.</li> <li>2. At least three age/size groups present.</li> <li>3. Juvenile density at least 1/m<sup>2</sup>.</li> <li>4. No decline in extent and distribution of spawning beds.</li> <li>5. More than 50% of sample sites positive.</li> </ol>
<i>Lampetra planeri</i> (Brook Lamprey) [1096]	Restore	<ol style="list-style-type: none"> <li>1. Distribution.</li> <li>2. Population structure of juveniles.</li> <li>3. Juvenile density in fine sediment.</li> <li>4. Extent and distribution of spawning habitat.</li> <li>5. Availability of juvenile habitat.</li> </ol>	<ol style="list-style-type: none"> <li>1. Access to all watercourses down to first order streams.</li> <li>2. At least three age/size groups of brook/river lamprey present.</li> <li>3. Mean catchment juvenile density of brook/river lamprey at least 2/m<sup>2</sup>.</li> <li>4. No decline in extent and distribution of spawning beds.</li> <li>5. More than 50% of sample sites positive.</li> </ol>
<i>Lampetra fluviatilis</i> (River Lamprey) [1099]	Restore	<ol style="list-style-type: none"> <li>1. Distribution: extent of anadromy.</li> <li>2. Population structure of juveniles.</li> <li>3. Juvenile density in fine sediment.</li> <li>4. Extent and distribution of spawning habitat.</li> <li>5. Availability of juvenile habitat</li> </ol>	<ol style="list-style-type: none"> <li>1. Greater than 75% of main stem and major tributaries down to second order accessible from estuary.</li> <li>2. At least three age/size groups of river/brook lamprey present.</li> <li>3. Mean catchment juvenile density of brook/river lamprey at least 2/m<sup>2</sup>.</li> </ol>

Qualifying Interests	CO	Attributes	Targeted Objectives
			<ol style="list-style-type: none"> <li>No decline in extent and distribution of spawning beds.</li> <li>More than 50% of sample sites positive.</li> </ol>
<i>Alosa fallax fallax</i> (Twaite Shad) [1103]	Restore	<ol style="list-style-type: none"> <li>Distribution: extent of anadromy.</li> <li>Population structure: age classes.</li> <li>Extent and distribution of spawning habitat.</li> <li>Water quality: oxygen levels.</li> <li>Spawning habitat quality: Filamentous algae; macrophytes; sediment.</li> </ol>	<ol style="list-style-type: none"> <li>Greater than 75% of main stem length of rivers accessible from estuary.</li> <li>More than one age class present.</li> <li>No decline in extent and distribution of spawning habitats.</li> <li>No lower than 5mg/l.</li> <li>Maintain stable gravel substrate with very little fine material, free of filamentous algal (macroalgae) growth and macrophyte (rooted higher plants) growth.</li> </ol>
<i>Salmo salar</i> (Salmon) [1106]	Restore	<ol style="list-style-type: none"> <li>Distribution: extent of anadromy.</li> <li>Adult spawning fish Number.</li> <li>Salmon fry abundance.</li> <li>Out-migrating smolt abundance.</li> <li>Number and distribution of redds.</li> <li>Water quality.</li> </ol>	<ol style="list-style-type: none"> <li>100% of river channels down to second order accessible from estuary.</li> <li>Conservation Limit (CL) for each system consistently exceeded.</li> <li>Maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry/5 min sampling.</li> <li>No significant decline.</li> <li>No decline in number and distribution of spawning redds due to anthropogenic causes.</li> <li>At least Q4 at all sites sampled by EPA.</li> </ol>
<i>Lutra lutra</i> (Otter) [1355]	Restore	<ol style="list-style-type: none"> <li>Distribution.</li> </ol>	<ol style="list-style-type: none"> <li>No significant decline.</li> </ol>

Qualifying Interests	CO	Attributes	Targeted Objectives
		2. Extent of terrestrial habitat. 3. Extent of marine habitat. 4. Extent of freshwater (river) habitat. 5. Extent of freshwater (lake) habitat. 6. Couching sites and holts. 7. Fish biomass available.	2. No significant decline. Area mapped and calculated as 122.8ha above high water mark (HWM); 1136.0ha along river banks / around ponds. 3. No significant decline. Area mapped and calculated as 857.7ha. 4. No significant decline. Length mapped and calculated as 616.6km. 5. No significant decline. Area mapped and calculated as 2.6ha. 6. No significant decline. 7. No significant decline.
<i>Margaritifera margaritifera</i> (Freshwater Peral Mussel) [1029]	Under review	Under review	Under review

## 5.3 Step 2, Part 1: Effects of Project Alone

The elements of the project identified as having potential to affect the River Nore SPA and River Barrow and River Nore SAC are as follows:

- Habitat loss and damage during construction.
- Changes to water quality due to accidental silt discharge, pollution and dust during construction and decommissioning.
- Noise and vibration disturbance of fauna during construction, operation, and decommissioning.
- Visual disturbance of fauna during construction, operation, and decommissioning.
- Lighting disturbance of flora and fauna during construction, operation, and decommissioning.

### 5.3.1 River Nore SPA

### 5.3.2 Kingfisher

The only QI for the River Nore SPA is the kingfisher. The conservation objective from (NPWS 2022) is assumed to be restore its favourable conservation condition. Kingfisher build nests in burrows excavated into stone free vertical banks with very little to no vegetation<sup>12</sup>. The site survey confirmed that the Project Site is not suitable as a nest site for kingfisher due to the existing retaining wall running the length of the route to the west and the bank is shallow and prone to flooding. However, kingfisher is recorded widely in the SPA, including within Kilkenny City, and will forage in proximity to the Project site.

Kingfisher is at risk of disturbance while foraging during construction, operation and decommissioning. This species flies away on approach and repeated disturbance could reduce the time available for foraging, which may be especially important during the breeding season. However, this species is relatively tolerant of human activity, being found commonly on urban rivers with footpaths alongside provided the water quality is high enough. It has long territories of over 1km and therefore it is readily able to avoid localised human activity. The boardwalk is just 100m in length and on one bank only, therefore less than 10% of a single kingfisher territory. Disturbance in this location would not be sufficient to prevent successful kingfisher territory along this stretch of the river.

Kingfisher is also at risk from impacts on food source due to changes in water quality because of suspended solid pollution during the construction and decommissioning of the project. The kingfisher is a carnivorous bird which preys mainly on small fish and crustacea and requires clear water to be able to hunt (Al-Zahaby & Elsheikh, 2014). Given the small scale and temporary nature of the works, unmitigated releases of suspended solids will be of small quantity and duration, and therefore unlikely to have population level effects on kingfisher. This can be made certain through mitigation.

### 5.3.3 River Barrow and Nore SAC

#### White-clawed crayfish

White-clawed crayfish have been recorded by NPWS approx. 3.77km downstream of the project site. The conservation objective is to maintain the favourable conservation condition of white-clawed crayfish in the River Barrow and River Nore and the attributes and targets are focused on maintaining favourable habitat, water quality, distribution, population structure, negative indicator species, and disease. Larger crayfish must

<sup>12</sup> [Kingfisher Breeding, Feeding and Territory - The RSPB](#) (31/01/2023)

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. The white-claw crayfish are present throughout most of the SAC. The proposed project will not directly affect the habitat of this species as works will be conducted on an existing path between the slope of the riverbank and the existing retaining wall. This area is not suitable habitat for white-clawed crayfish. Due to the location of works not in channel this will prevent the possible spread of disease and/or alien crayfish species and no machinery will be used in the water. Water quality must remain at least Q3-4 to remain suitable for this species. There is a risk of accidental silt runoff during the construction of the project due to the proximity of the proposed site and the Nore river. Due to the potential for undermining the conservation objectives, adverse effects on site integrity cannot be excluded without mitigation.

## Otter

Otter is also listed as a qualifying interest of the River Barrow and River Nore SAC. The conservation objective is to restore favourable condition of the otter population and the attributes and targets include, distribution, extent of terrestrial habitat, extent of marine habitat, extent of freshwater habitat (river), extent of freshwater habitat (lake), couching sites and holts, and fish biomass available. There is no suitable habitat to support otter holts along the proposed walkway. The riverbank along the proposed route is shallow, prone to flooding and consists of an existing retaining wall in lieu of an earth embankment. While it is probable that otter is using this section of the River Nore for foraging, the proposed works will not create significant disturbance to otter given the short extent of the proposed development (c.100m length) relative to the length of foraging habitat provided by the River Nore. Moreover, the otter is relatively tolerant of human presence and this is not a factor that would hinder the restoration of the otter population (Chanin, 2003). The proposed project may affect the target concerning fish biomass in the river which the otter feeds on. Changes in water quality may impact on fish stocks which is the primary prey species for otter (Lanszki & Sallai, 2006). Lighting the boardwalk at night and the use of the boardwalk by people may affect the nocturnal habits of the otter. Noise/vibrations during construction and decommissioning may affect the otters foraging. Due to the potential for adverse effects undermining conservation objectives of Otter, adverse effects on site integrity cannot be screened out without mitigation.

## Sea Lamprey

Conservation objective for sea lamprey is restore the favourable conservation condition of sea lamprey in the River Barrow and River Nore SAC. This can be defined by the following the attributes and targets s: Distribution: extent of anadromy, Population structure of juveniles, juvenile density in fine sediment, extent and distribution of spawning habitat and availability of juvenile habitat. There will be no artificial barrier put in place to disrupt the distribution and extent of anadromy and juvenile habitat therefore it will not affect population structure of juvenile's and the juvenile density in fine sediment. There will be no direct in channel works to disrupt spawning grounds. Due to the proximity of the proposed site to the River Nore there is a risk of indirect impacts of water quality in the event of silt run off or pollution during construction. The silt may affect spawning habitats of sea lamprey. Therefore, population structure of juveniles and juvenile density in fine sediment may be affected.. Due to the potential for this to undermine the conservation objectives, adverse effects on site integrity without mitigation.

## River Lamprey, Brook Lamprey

Conservation objectives for river lamprey and brook lamprey are to restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC. This can be defined by the following the attributes and targets: distribution in terms of the extent of anadromy, population structure of juveniles, juvenile density in fine sediment, extent and distribution of spawning habitat and availability of juvenile habitat. There will be no artificial barrier put in place to disrupt the distribution and extent of anadromy and

juvenile habitat therefore it will not affect population structure of juvenile's and the juvenile density in fine sediment. There will be no in channel works to directly disrupt spawning grounds. Due to the proximity of the Project Site to the River Nore there is a risk of silt run off during construction. This may affect the spawning sites of river and brook lamprey. Therefore, population structure of juveniles and juvenile density in fine sediment may be affected.

Brook lamprey is the only lamprey species known to occur in proximity to the Project site, the other species occur only downstream. Brook lamprey may be affected by noise and vibrations during construction. Fish are sensitive to noise and vibrations. Sound is used for fish in orientation, migration and avoiding predators (Popper & Hawkins, 2019). Noise and vibrations could have an effect on the ability of the fish to move through the river and therefore undermining conservation objectives. Fish may also be affected by lighting during the operation of the project. Fish can migrate in the night-time and this extra lighting could affect this.

Therefore mitigation is required to ensure that the conservation objectives would not be undermined.

### Twaite Shad

The conservation objectives for *Alosa fallax fallax* (Twaite Shad) is to restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC. This can be defined by the following the attributes and targets distribution: extent of anadromy, population structure, extent and distribution of spawning habitat, water quality, in terms of oxygen levels and spawning habitat in terms of habitat quality, filamentous algae, macrophytes and sediment quality. The proposed project could not undermine the conservation objective because it will not affect these targets. There will be no artificial barriers put in place for the proposed project. This will ensure the extent of anadromy will not be affected. No works will be carried out within the channel so spawning sites and population structure will not be affected directly. There is a risk of accidental silt discharge during construction due to the proximity of the site to the River Nore which may affect the habitat quality and spawning sites indirectly. Due to the potential for this to undermine the conservation objectives, adverse effects on site integrity without mitigation, This species only occurs downstream and therefore would not be affected by other activity at the Project site.

### Atlantic salmon

*Salmo salar* (Atlantic salmon) are a QI of this SAC. The conservation objective is to restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC. The the attributes and targets include: the distribution in terms of the extent of anadromy, adult spawning fish numbers, salmon fry abundance, out-migrating smolt abundance, number and distribution of redds and water quality. There will be no artificial barriers in place as all works will be conducted on the riverbank resulting in no impacts on the extent of anadromy. There will be no direct effects on spawning sites as all works will be conducted during the summer months which is outside of the spawning season. The works will be conducted on the riverbank and not in channel resulting in no direct significant effects on water quality, spawning sites and the population of salmon in the SAC. However, there is a risk of increased sedimentation due to accidental runoff from the proposed site during construction. This increased sedimentation could impact on salmon spawning sites. Salmon spawn in clean gravels and an increase in sedimentation could cause an indirect adverse effect on salmon spawning sites. Atlantic salmon may be affected by noise and vibrations during the construction and decommissioning phase of the project. During the operational phase of the project the lighting of the boardwalk may cause an effect on salmon migration during the night. Due to the potential for this to undermine the conservation objectives, adverse effects on site integrity cannot be screened out at this stage.

## Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels, and Water courses of plain to montane levels with the *Ranunculus fluitantis* and Callitricho-Batrachion vegetation

There is potential for water quality impacts on Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels, and Water courses of plain to montane levels with the *Ranunculus fluitantis* and Callitricho-Batrachion vegetation. During the site visit these habitats were not recorded however they may occur downstream and be affected by changes in water quality. These riverine habitats are affected by water quality. Changes in alkalinity, pH, nitrate, phosphate, potassium, suspended solids and lighting can influence species composition and extent of these habitats.. The proximity of the Project site to the River Nore creates a potential risk of changes in water quality during the construction and decommissioning of the project. Due to the potential for this to undermine conservation objectives, adverse effects on integrity cannot be excluded for these habitats without mitigation.

### Freshwater Pearl Mussel

Currently there are no conservation objectives for the Freshwater Pearl mussel. Works will be undertaken in The River Barrow and Nore SAC. Using the precautionary approach, it is possible that they may be impacted by changes in water quality during the construction phase. Likely significant effects on cannot be excluded for the Freshwater Pearl Mussel at this stage.

## 5.4 Step 2, Part 2: Effects of Project In Combination

In combination effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location which affect the same Natura 2000 sites. In combination effects can occur where a proposed development results in individually insignificant impacts that, when considered in-combination with impacts of other proposed or permitted plans and projects, can result in significant effects.

Other plans and projects that should be considered when establishing in combination effects are:

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

Myplan.ie<sup>13</sup> and Kilkenny County Council <sup>14</sup>planning portals were accessed to examine planning applications upstream and downstream of the proposed site with potential to act in combination with the proposed development at the Site. Active (i.e., within 6 years) planning applications in the surrounding area consist of several single house extensions, demolitions and renovations of commercial buildings.

<sup>13</sup> [National Planning Application Map Viewer - My Plan](#) (last accessed 31/01/23)

<sup>14</sup> [2022 - Kilkenny County Council \(kilkennycoco.ie\)](#) ( last accessed 31/01/23)



- The River Court Hotel was granted permission to modify the existing structure an Environmental Impact assessment was carried out and it was accepted that it would not pose any likely significant effects to the SPA and SAC.
- Saint Lukes General hospital was granted permission to erect a single ground storey floor extension of 292sq.m to the existing radiology department. This is an extension within the grounds of the existing building, and it was accepted that it would not affect the integrity of the European sites.
- The existing Troyswood Water Treatment plant is a large development located North of the proposed site. The existing plant located approx. 4.8km upstream of the proposed site location is currently under development after planning permission was granted by An Bord Pleanala under conditions. An NIS report was conducted and direct impacts to the River Nore SPA and River Barrow and River Nore SAC were highlighted. In the report mitigation measures were outlined to address concerns over possible significant direct and indirect effects on the protected areas given the nature of works involving direct water abstraction from the River Nore, direct in channel works and habitat loss. These mitigations measures were accepted and the development by itself or in combination with other projects was deemed to not adversely affect the integrity of the European sites. The development started in December 2021; it is estimated to take approx. 2.5 years to complete.

## 5.5 Step 2, Part 3: Effects on the Conservation Objectives

### 5.5.1 River Nore SPA

There is the potential for direct impact on Kingfisher habitat in the River Nore SPA. The proposed site is located on the banks of the river Nore where there is a possibility that Kingfisher use this area for foraging. The habitat loss/disruption, and issues with water quality affecting fish biomass due to the construction and decommissioning of the proposed project could undermine the conservation objectives of the Natura 2000 site.

**Table 5.3: Effects on Conservation Objectives River Nore SPA**

Ref	Objective	Alone	In Combination
Kingfisher ( <i>Alcedo atthis</i> ) [A229]	Restore the Kingfisher Population	Changes in water quality and habitat disruption has potential to effect: <ul style="list-style-type: none"> <li>• Foraging habitat.</li> <li>• Reduction of prey species.</li> </ul>	Potential to exacerbate effects of changes in water quality by acting in – combination with other projects

### 5.5.2 River Barrow and River Nore SAC

There is the potential for indirect impacts on the River Barrow and Nore SAC during construction by accidental run off of silt into the River Nore. This could lead to indirect impacts on species of lamprey, salmon, otter, white-clawed crayfish and twaite shad. It could also affect hydrophilous tall herb fringe communities of plains and of the montane to alpine levels and Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation that may occur downstream of the site. The main concern for lamprey, salmon, twaite shad and salmon is changes to water quality due to silt run off during construction. Silt runoff causes an increase in suspended solids and can cause increased sedimentation in spawning sites. White-claw crayfish are very sensitive to changes in water quality. Water quality levels need to remain at Q3-

4 to remain suitable for this species. Otter may be affected by changes in water quality due to the effects of silt runoff on fish biomass.

**Table 5.4: Effects on Conservation Objectives River Barrow and River Nore SAC**

Ref	Objective/ Target	Attribute/ Alone	In Combination
<i>Lutra lutra</i> (Otter)	Restore the Otter Population	Changes in water quality has potential to effect: <ul style="list-style-type: none"> <li>• Fish biomass available</li> </ul>	Potential to exacerbate effects of changes in water quality by acting in – combination with other projects
<i>Salmo salar</i> (Salmon) [1106]	Restore favourable conservation condition of Atlantic Salmon.	Changes in water quality has potential to effect: <ul style="list-style-type: none"> <li>• Conservation Limit (CL) for each system consistently exceeded.</li> <li>• Maintain or exceed 0+ fry mean catchment - wide abundance threshold value. Currently set at 17 salmon fry/5 min sampling.</li> <li>• No significant decline.</li> <li>• No decline in number and distribution of spawning redds due to anthropogenic causes.</li> <li>• At least Q4 at all sites sampled by EPA.</li> </ul> Lighting during operation has the potential to effect: <ul style="list-style-type: none"> <li>• Fish Migration during the night</li> </ul> Vibrations during construction and decommissioning has the potential to effect: <ul style="list-style-type: none"> <li>• Fish migration</li> </ul>	Potential to exacerbate effects of changes in water quality by acting in – combination with other projects
<i>Alosa fallax fallax</i> (Twaite Shad) [1103]	Restore favourable conservation condition of Twaite Shad.	Changes in water quality has potential to effect: <ul style="list-style-type: none"> <li>• More than one age class present.</li> <li>• No decline in extent and distribution of spawning habitats.</li> <li>• No lower than 5mg/l.</li> <li>• Maintain stable gravel substrate with very little fine material, free of filamentous algal (macroalgae) growth and</li> </ul>	Potential to exacerbate effects of changes in water quality by acting in – combination with other projects

Ref	Objective/ Target	Attribute/ Alone	In Combination
		macrophyte (rooted higher plants) growth.	
<i>Lampetra fluviatilis</i> (River Lamprey) [1099]	Restore favourable conservation condition of River Lamprey	<p>Changes in water quality has potential to effect:</p> <ul style="list-style-type: none"> <li>• At least three age/size groups of river/brook lamprey present.</li> <li>• Mean catchment juvenile density of brook/river lamprey at least 2/m<sup>2</sup>.</li> <li>• No decline in extent and distribution of spawning beds.</li> <li>• More than 50% of sample sites positive.</li> </ul>	Potential to exacerbate effects of changes in water quality by acting in – combination with other projects
<i>Lampetra planeri</i> (Brook Lamprey) [1096]	Restore favourable conservation condition of Brook Lamprey	<p>Changes in water quality has potential to effect:</p> <ul style="list-style-type: none"> <li>• At least three age/size groups of brook/river lamprey present.</li> <li>• Mean catchment juvenile density of brook/river lamprey at least 2/m<sup>2</sup>.</li> <li>• No decline in extent and distribution of spawning beds.</li> </ul> <p>More than 50% of sample sites positive.</p> <p>Lighting during operation has the potential to effect:</p> <ul style="list-style-type: none"> <li>• Fish Migration during the night</li> </ul> <p>Vibrations during construction and decommissioning has the potential to effect:</p> <p>Fish migration</p>	Potential to exacerbate effects of changes in water quality by acting in – combination with other projects
<i>Petromyzon marinus</i> (Sea Lamprey) [1095]	Restore favourable conservation condition of Sea Lamprey	<p>Changes in water quality has potential to effect:</p> <ul style="list-style-type: none"> <li>• At least three age/size groups present.</li> <li>• Juvenile density at least 1/m<sup>2</sup>.</li> </ul>	Potential to exacerbate effects of changes in water quality by acting in – combination with other projects

Ref	Objective/ Target	Attribute/ Condition	Alone	In Combination
			<ul style="list-style-type: none"> <li>No decline in extent and distribution of spawning beds.</li> <li>More than 50% of sample sites positive.</li> </ul>	
<i>Austroptamobius pallipes</i> (White-clawed Crayfish) [1092]	Maintain favourable conservation condition of White-clawed Crayfish		<p>Changes in water quality has potential to effect:</p> <p>At least Q3 - 4 at all sites sampled by EPA.</p>	Potential to exacerbate effects of changes in water quality by acting in – combination with other projects
<i>Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels</i> [6430]	Maintain favourable conservation condition of habitat.		<p>Changes in water quality has potential to effect:</p> <ul style="list-style-type: none"> <li>No decline, subject to natural processes</li> </ul>	Potential to exacerbate effects of changes in water quality by acting in – combination with other projects
<i>Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation</i> [3260]	Maintain favourable conservation condition of habitat		<p>Changes in water quality has potential to effect:</p> <ul style="list-style-type: none"> <li>The groundwater and surface water should have sufficient concentrations of minerals to allow deposition and persistence of tufa deposits.</li> <li>The concentration of suspended solids in the water column should be sufficiently low to prevent excessive deposition of fine sediments.</li> <li>The concentration of nutrients in the water column should be sufficiently low to prevent changes in species composition or habitat condition.</li> </ul>	Potential to exacerbate effects of changes in water quality by acting in – combination with other projects
<i>Margaritifera margaritifera</i> (Freshwater Peral Mussel) [1029]	Under review		Changes in water quality	Potential to exacerbate effects of changes in water quality by acting in – combination with other projects

## 5.6 Step 3: Effects on Integrity

As shown in the table above the project has the potential to undermine conservation objectives in both the River Nore SPA and River Barrow and River Nore SAC. As a result, there is potential to undermine the integrity of these Natura 2000 sites without mitigation.

## 5.7 Step 4, Part 1: Mitigation Measures

To mitigate against the risk of undermining the conservation objectives during the construction, operation and decommissioning stages, the following mitigation measures will be implemented.

### 5.7.1 Water Quality

Water quality is a concern for kingfisher, otter, the lampreys, salmon, twaite shad and white-clawed crayfish. The following management measures will ensure that water quality is not affected during the construction and decommissioning of the proposed project.

- Standard best practices as laid out by Inland Fisheries Ireland (IFI) will be used during the construction of the proposed project which include the following (IFI 2016).
- Topsoil only be removed during periods of dry weather.
- Topsoil will be removed in a staged process to reduce the amount of potential run-off.
- Silt fencing will be put in place along the riverbank between the waterway and the zone of works to prevent accidental silt run-off during construction.
- Spill kits to be used when machinery is working near the river.
- All machinery to be stored and refuelled off site.
- Only use cutting, grinding, or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays.

### 5.7.2 Habitat Loss

Habitat loss/disruption is a concern for the kingfisher and otter during the construction and decommissioning of the proposed project. The following management measures will be implemented:

- Pruning of vegetation instead of clearing will be done where possible to avoid excessive disruption to the local habitat.
- A pre-construction survey for otter holts will be carried before construction begins.

### 5.7.3 Lighting

Otters and fish may be affected by lighting of the walkway at night. Mitigation measures include:

- Minimise light spills using shields, masking & louvres.
- Restrict lights to ensure that there are dark hours.

### 5.7.4 Vibrations and noise

Fish, otter and kingfisher may be affected by vibrations and noise during construction and decommissioning. Any piling done during construction will use the screw piling method. This method produces minimal noise and vibrations during construction (Mohajerani et al., 2016).

## 5.8 Step 4, Part 2: Effect of Mitigation Measures

### 5.8.1 River Nore SPA

Table 4.1 Mitigation Measures River Nore SPA

Ref	Objective	Mitigation	Alone	In Combination
Kingfisher	Restore the kingfisher population	<p><b>Water quality control measures;</b></p> <ul style="list-style-type: none"> <li>• Standard best practices as laid out by Inland Fisheries Ireland (IFI) will be used during the construction of the proposed project which include the following (IFI 2016).</li> <li>• Topsoil only be removed during periods of dry weather.</li> <li>• Topsoil will be removed in a staged process to reduce the amount of potential run-off.</li> <li>• Silt fencing will be put in place along the riverbank between the waterway and the zone of works to prevent accidental silt run-off during construction.</li> <li>• Spill kits to be used when machinery is working near the river.</li> <li>• All machinery to be stored and refuelled off site.</li> <li>• Only use cutting, grinding, or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays.</li> </ul>	No risk	No risk,

Ref	Objective	Mitigation	Alone	In Combination
		<p><b>Habitat control measures:</b>                      Pruning instead of clearing vegetation where possible.</p> <p><b>Noise and vibration Control measures:</b>                      Use of screw piling</p>		

## 5.8.2 River Barrow and River Nore SAC

Table 4.2 Mitigation Measures 5.8.2 River Barrow and River Nore SAC

Ref	Objective/ Target	Attribute/ Target	Mitigation	Alone	In Combination
Otter	Maintain the Otter Population		<p><b>Water quality control measures:</b>                      As above</p> <p><b>Lighting control measures:</b></p> <ul style="list-style-type: none"> <li>Minimise light spills using shields, masking &amp; louvres.</li> <li>Restrict lights to ensure that there are dark hours.</li> </ul> <p>A pre-construction survey for otter holts should be carried before construction begins as water levels were high during the site survey.</p>	No risk.	No risk,
Migratory Fish	Restore favourable conservation conditions of all migratory fish species.		<p><b>Water quality control measures:</b>As above</p> <p><b>Noise and vibration control:</b>                      Use of screw piling</p> <p><b>Lighting control:</b></p> <ul style="list-style-type: none"> <li>Minimise light spills using shields,</li> </ul>	No risk	No risk

Ref	Objective/ Target	Attribute/ Mitigation	Alone	In Combination
		masking & louvres. <ul style="list-style-type: none"> <li>Restrict lights to ensure that there are dark hours.</li> </ul>		
White-clawed Crayfish	Maintain favourable conservation conditions	Water quality control measures: As above	No risk	No risk
<i>Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels</i>	Maintain favourable conservation conditions	Water quality control measures: As above	No risk	No risk
<i>Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation</i>	Maintain favourable conservation conditions	Water quality control measures: As above	No risk	No risk
Freshwater Pearl Mussel	Under review	Water quality measures: As above.	No risk	No risk

## 5.9 Consideration of Findings

The above-listed mitigation measures will ensure that there will be no adverse effects on the integrity of any Natura 2000 site. On this basis, this report to inform the Appropriate Assessment, based on the best scientific knowledge, shows that, considering the project with mitigation measures, the proposed project will not undermine the conservation objectives for the River Nore SPA or the River Barrow and Nore SAC either alone or in-combination with other projects or plans.

Based on the information set out in this report we submit that the competent authority has sufficient information to allow it to determine that the proposed construction of the Pedestrian link between the River



Nore Linear Park and the Riverside Gardens, individually or in combination with other plans or projects, will not have an adverse effect on the integrity or pose a risk of likely significant effects on the Natura 2000 sites: River Nore SPA and River Barrow and River Nore SAC.

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## DRAWINGS

650300

650400

650500

650600

656700

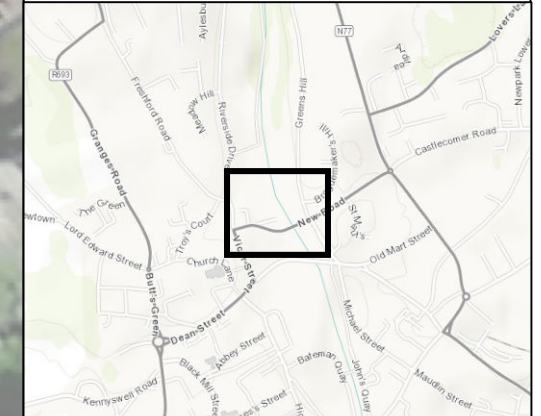
656800

425.064454.00001.0001.0 Habitat Map



**LEGEND**

- Proposed Infrastructure
- Fossitt Habitat Classification**
- BL1 - Stone Walls & Other Stoneworks
- BL2 - Earth Banks
- BL1 - Stone Walls & Other Stoneworks
- BL3 - Buildings & Artificial Surfaces
- FW2 - Depositing / Lowland Rivers
- GA2 - Amenity
- WD5 - Scattered Trees & Parkland
- WL2 - Treeline
- WS1 - Scrub



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NORE BOARDWALK  
ECOLOGY  
HABITAT MAP





**FIGURE 1**

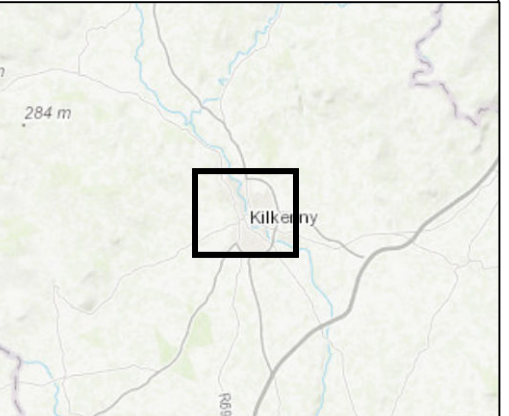
Scale 1:1,000 @ A3      Date JANUARY 2023





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- LEGEND**
-  Proposed Infrastructure
  -  Proposed Infrastructure 2 km Buffer
  -  Special Area of Conservation (SAC)
  -  Special Protection Area (SPA)



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NORE BOARDWALK  
 ECOLOGY  
 NATURA 2000 SITES WITHIN 2 KM

**FIGURE 2**

Scale 1:18,000 @ A3      Date JANUARY 2023

425.064454.00001.0002.0 Natura 2000 Sites

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