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EIRSPAN BRIDGE MANAGEMENT SYSTEM

Task Order No. 333
Leinster Bridges – Term Maintenance Contract No. 4

Natura Impact Statement

April 2024

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1. INTRODUCTION

1.1 Background

The EIRSPAN Bridge Management System covers all aspects of bridge management, including routine maintenance. Over the past number of years routine maintenance contracts have been undertaken by private contractors under Bridge Term Maintenance contracts.

This contract will run until 2026, where it is intended to carry out annual routine maintenance work between 1st March and 30th September.

Bridge inspections are carried out according to the *EIRSPAN Bridge Management System Routine Maintenance Manual* (TII, 2022). The undertaking of bridge inspections generates data that is entered into an EIRSPAN database and works orders are produced for each bridge, which details the works to be undertaken for each component of that bridge. The works orders detail routine maintenance works as set out in the manual.

According to the guidance document, "*Routine Maintenance comprises simple remedial works frequently or periodically required*" (TII, 2022). Another document *Lot 3 Leinster Bridges Term Maintenance Contract No. 4 Volume A: Work Requirements Part 2 – Specification* (TII, 2023) details the work specifications for routine maintenance works.

Non-routine maintenance works to address bridge strikes and other works which fall outside the scope of routine maintenance works (TII, 2023), are not included in the Works Orders under the Leinster Bridges Term Maintenance Contract No. 4. Such works will be subject to Screening for Appropriate Assessment as they arise.

As the maintenance contract is to run over a 4-year period, the Contractor is required to employ a suitably qualified ecologist to provide advice on the ecological features and constraints at specific bridge locations as the project progresses. The required qualifications of the contractors ecologist are not contained in the 'Works Requirements – Specification' document, however the criteria are presented in Section 4 'Mitigation' of this report.

The Contractor is expected by the Contract to adhere to the level of best practice as espoused in these and other accepted/published best practice for on-site works; these requirements are also specifically included in the Contract. As part of the Contract, a Resident Engineer (RE) will oversee works on behalf of Transport Infrastructure Ireland (TII).

The AA Screening for the works, which were carried out by TII, concluded, in view of best scientific knowledge and the Conservation Objectives of the sites concerned, that, in the absence of mitigation measures, the proposed works at 39 of the 342 structures were likely to have adverse effects on one or more European sites. TII's conclusion was based on the works involving the application of wet cementitious materials directly over water and the removal of large debris and sediment from watercourses, and instream works such as rock armour repair and scour repairs within or upstream of European sites. On the basis of this conclusion, TII, in its capacity as the Competent Authority at the screening stage, determined that AA was required in order to assess the implications of the proposed works at these 39 structures.

This document comprises the NIS in respect of the proposed works at 39 structures ("the proposed works") and has been prepared by ROD on behalf of TII. It contains an examination, analysis and evaluation of the likely impacts from the proposed works, both individually and in combination with other plans and projects, in view of best scientific knowledge and the Conservation Objectives of the European sites concerned. It also prescribes appropriate mitigation to ensure that the proposed works will not adversely affect the integrity of those sites. Finally, it provides complete, precise and definitive findings which are capable of removing all reasonable scientific doubt as to the absence of adverse effects on the integrity of the European sites concerned.

1.2 Legislative Context

Council Directive 92/43/EEC of the 21st May 1992 on the conservation of natural habitats of wild fauna and flora ("the Habitats Directive") and Directive 2009/147/EC of the European Parliament and of the Council of the 30th November 2009 on the conservation of wild birds ("the Birds Directive") list habitats and species which are important for conservation and in need of protection. This protection is afforded in part through the designation of sites which support significant examples of habitats or populations of species ("European sites"). Sites designated for birds are termed "Special Protection Areas" (SPAs) and sites designated for natural habitat types or other species are termed "Special Areas of Conservation" (SACs). The complete network of European sites is referred to as "Natura 2000".

In order to ensure the protection of European sites in the context of land use planning and development, Article 6(3) of the Habitats Directive provides for the assessment of the implications of plans and projects for European sites, as follows:

> "*Any plan or project not directly connected with or necessary to the management of the site [or sites] 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* [...], *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* [...]."

The requirements arising out of Article 6(3) are transposed into Irish law by Part 5 of the Habitats Regulations (and in other circumstances Part XAB of the Planning and Development Act 2000 (as amended).

The determination of whether or not a plan or project meets the two thresholds for requiring AA is referred to as "Stage 1" or "AA Screening". The first threshold is reached if the plan or project is not directly connected with or necessary to the management of one or more European sites. In its ruling in *Waddenzee*[1], the Court of Justice of the European Union (CJEU) interpreted the second threshold as being reached where "*it cannot be excluded, on the basis of objective information, that [the plan or project] will have a significant effect on that site*". Thus, in applying the Precautionary Principle, the CJEU interpreted the word "likely" to mean that, as long as it cannot be demonstrated that an effect will not occur, that effect is considered "likely". A likely effect is considered to be "significant" only if it undermines any of the Conservation Objectives of the site concerned (OPR, 2021).

[1] Landelijke Vereniging tot Behoud van de Waddenzee, Nederlandse vereniging tot Bescherming van Vogels v. Staatssecretaris van Landbouw, Naturbeheer en Visserij (Waddenzee) [2004] C-127/02 ECR I-7405.

Prior to approval of a plan or project which is the subject of AA (also referred to as "Stage 2"), it is necessary to "*ascertain*" that the plan or project will not "*adversely affect the integrity of the site*". In its guidance document (EC, 2018), the European Commission stated that "the integrity of a site involves its constitutive characteristics and ecological functions" and that "*the decision as to whether it is adversely affected should focus on and be limited to the habitats and species for which the site has been designated and the site's conservation objectives*". Regarding the word "ascertain", the CJEU, also in Waddenzee, interpreted this as meaning "*where no reasonable scientific doubt remains as to the absence of such effects*". Therefore, the legal test at Stage 2 is satisfied (and the plan or project may be authorised) when it can be demonstrated beyond reasonable scientific doubt that the plan or project will not interrupt or cause delays in the achievement of the Conservation Objectives of the site or sites concerned. AA is informed by a "Natura Impact Report" (NIR) in the case of plans or a "Natura Impact Statement" (NIS) in the case of projects.

The CJEU has made a relevant judgment on what information should be contained within documents supporting AA[2] (in the NIR or NIS):

> "*[The AA] cannot have lacunae and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the works proposed on the protected site concerned*."

The High Court and Supreme Court[3] have also provided clarity on how competent authorities should undertake AA[4] and has stated that the following four matters require to be addressed:

- First, an appropriate assessment must identify, in the light of the best scientific knowledge in the field, all aspects of the development project which can, by itself or in combination with other plans or projects, affect (a) European site(s) in the light of its conservation objectives.
- Second, there must be complete, precise and definitive findings and conclusions regarding the previously identified potential effects on any relevant European site(s) this and may not have lacunae or gaps. The requirement for precise and definitive findings and conclusions requires analysis, evaluation and decisions. Further, the reference to findings and conclusions in a scientific context requires both findings following analysis and conclusions following an evaluation each in the light of the best scientific knowledge in the field.
- Third, on the basis of those findings and conclusions, the Competent Authority (here Transport Infrastructure Ireland) must be able to determine that no scientific doubt remains as to the absence of the identified potential effects. Fourth, where the aforesaid three requirements are satisfied, Transport Infrastructure Ireland may determine that the proposed development will not adversely affect the integrity of any relevant European site. Accordingly, an appropriate assessment may only include a determination that the proposed development will not adversely affect the integrity of any relevant European site where upon the basis of complete, precise and definitive findings and conclusions made the Board decides that no reasonable scientific doubt remains as to the absence of the identified potential effects.

[2] *Sweetman v. An Bord Pleanála* [2013] Case C-258/11
[3] See *Kelly (Eoin) v An Bord Pleanála* [2014] I.E.H.C. 400 where the High Court (Finlay Geoghegan J.) held that section 177V(1) of the Planning and Development Act 2000 (as amended) must be construed so as to give effect to Article 6(3) of the Habitats Directive, and hence, an appropriate assessment carried out under section 177V(1) of the 2000 Act must meet the requirements of Article 6(3) of the Habitats Directive as interpreted by jurisprudence of the CJEU case law; *Connelly v An Bord Pleanála* [2018] 2 I.L.R.M 453; [2018] I.E.S.C. 31.
[4] *Kelly v. An Bord Pleanála* [2014] IEHC 422

1.3 Methodology

On the basis of the objective information provided in the AA Screening Spreadsheets (ROD, 2023) and in view of the Conservation Objectives of the relevant European sites, TII, as the Competent Authority at that stage, determined that the works proposed at each of 39 separate structures, either individually or in combination with other plans and projects, was likely to have a significant effect on six European sites, namely the Slaney River Valley SAC, the River Barrow and River Nore SAC, Lough Ree SAC, the River Nore SPA, Wexford Harbour and Slobs SPA and the Lough Ree SPA.

In accordance with the requirements for AA, this NIS was prepared, and which presents the assessment of potential adverse effects of the proposed works on the integrity of the European sites identified at Stage 1. This assessment is undertaken in six steps, as follows:

1. Step 1 involves gathering all of the information and data that will be necessary for a full and proper assessment. These include, but are not limited to, the details of all phases of the plan or project, environmental data pertaining to the area in which the plan or project is located, e.g. rare or protected habitats and species or invasive species present or likely to be present, and the details of the European sites within the likely zone of impact.
2. Step 2 involves examination of the information gathered in the first step and detailed scientific analysis of the effects of the plan or project on the ecological structure and function of the receiving environment, focussing on European sites.
3. Step 3 evaluates the effects analysed in Step 2 against the Conservation Objectives of the relevant European site or sites, thereby determining whether or not they constitute adverse effects on site integrity.
4. Having established that the plan or project will adversely affect the integrity of one or more European sites, Step 4 involves the development of appropriate mitigation, including, where appropriate, monitoring and enforcement measures, to eliminate or minimise those effects such that they no longer constitute adverse effects on the integrity of the site(s) concerned, as well as consideration of the significance of any residual (post-mitigation) effects.
5. Step 5 involved the assessment of the significance of any residual effects arising from the proposed works in combination with other plans or projects.
6. Step 6 involves the final determination of whether or not the plan or project will adversely affect the integrity of one or more European sites. Notwithstanding the final recommendation made in the NIS, the responsibility for completing this step lies solely with the Competent Authority.

The following guidance documents informed the assessment methodology:

- EC (2021) *Assessment of plans and projects in relation to Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*. Environment Directorate-General of the European Commission.
- EC (2018) *Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC*. European Commission, Brussels.
- DEHLG (2010) *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities*. Department of the Environment, Heritage and Local Government, Dublin.

- NPWS (2010) *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular Letter NPWS 1/10 & PSSP 2/10*. Department of the Environment, Heritage and Local Government, Dublin.
- OPR (2021) *Appropriate Assessment Screening for Development Management*. Office of the Planning Regulator, Dublin.

1.4 Desk Study

During the desk study, the statutory consultee, the NPWS, provided data on designations of sites, habitats and species of conservation interest. This included the Site Synopses and Conservation Objectives (including supporting documents) for the relevant European sites. The NPWS also provided a shapefile containing spatial data of records for Freshwater Pearl Mussel in Leinster which was reviewed as part of the desk study. The dataset provided by the NPWS includes a note explaining that genetic research has placed the Nore population (formerly *Margaritifera durrovensis*) within the *Margaritifera margaritifera* taxon. All records of *Margaritifera durovensis* have been renamed as *Margaritifera margaritifera*.

Freshwater Pearl Mussel surveys were undertaken by TII as part of the Leinster Bridges Contract No. 3 [redacted]

[redacted]

Surveys were undertaken where there were records of Freshwater Pearl Mussel in the particular watercourse, where suitable habitat existed close to the structure, where there was potential for the proposed works to affect this species and where standard best practice mitigation could not remove the doubt as to the potential for adverse effects. [redacted]

The desk study involved reviews of existing information relating to ecology in the vicinity of the proposed works. A number of web-based geographic information systems (GISs) were used to obtain information relating to the natural environment surrounding the proposed development. These included the NPWS Designations Viewer (NPWS, 2024), which provided information on the locations of protected sites, and the EPA unified GIS application (EPA, 2024), which provided information on the locations of waterbodies.

As with all desk studies, the data considered were only as good as the data supplied by the recorders and recording schemes. The recording schemes provide disclaimers in relation to the quality and quantity of the data they provide, and these were considered when examining outputs of the desk study.

1.5 Field Surveys

An ecological survey was carried out at the same time as the inspections at each structure. The surveys were undertaken by qualified and suitably experienced ecologists from Roughan & O'Donovan. The purpose of the survey was to identify:

- Signs of rare and/or protected species e.g. Otter.
- Rare and/or protected habitats.
- Invasive Species

The Ecological surveys were carried out between 23rd January and 12th April 2023. Each survey was undertaken at the bridge location, focussing on the area of the structure and the immediate surroundings, and a buffer, which determined by the accessibility around the structure and the riverbanks. Given the nature of the proposed works, it was not considered appropriate to survey 150m upstream and downstream, as recommended in *Ecological Survey Techniques for National Road Schemes* (TII, 2009), which is relevant to the construction of national road schemes over watercourses. The survey methodologies are outlined below.

Otter

The Otter surveys involved a systematic search within the vicinity of each structure, where accessible. The survey involved a search for signs of otter activity (prints, spraints, trails, holts, couches, slides, feeding remains etc.).

Habitats

Habitats within the vicinity of each structure were surveyed. Any habitats corresponding to types listed on Annex I to the Habitats Directive were classified based on the Interpretation Manual of European Union Habitats (EC, 2013).

Invasive Species

The focus of the invasive species survey was to identify species subject to restrictions under Regulation 49 of the European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended). Other invasive species which can negatively impact biodiversity were also recorded. The distribution of recorded species was sketched on field maps and target notes were taken which detailed height, density, and any signs of previous management. The ecological surveys were undertaken outside the optimum survey season for invasive species, when the plants have either died back or are dormant.

2. METHODOLOGY FOR PROPOSED WORKS

This section outlines the works elements being undertaken on the structures which are assessed in this NIS. The work elements being carried out at each specific structure are outlined in Table 3.1 in Section 3 of this document. The following descriptions of the proposed works are taken from the *Lot 3 Leinster Bridges Term Maintenance Contract No. 4 Volume A: Works Requirements Part 2: Specification.*

2.1 Bridge Surface

Sealing of Pavement Cracks

All dirt, debris and vegetation shall be removed from pavement and carriageway cracks either by sweeping clean with a brush, using a power hose (air line) or manual raking out. The cracks shall be sealed with hot poured bitumen or similar approved product in accordance with standard good practice or any proprietary product manufacturer's specified method. Any material to be used shall be compatible with the existing surfacing material.

Maintenance of Kerb Stones

Disturbed, broken or misaligned kerbstones shall be re-laid or replaced as appropriate. Where existing kerbs are concrete, only precast kerbs shall be permitted. In situ concrete kerbs are not permitted. Prior to replacement old backing and bedding shall be broken out and removed and replaced with new material.

Patching of Potholes

Potholes present over, beneath or adjacent to structures shall be cleaned of loose debris. All surfaces shall be cleaned and broken back as necessary to ensure a sound surface both at the sides and at the base of the pothole. The sides of the excavation shall be excavated as near as possible to vertical but not as to undermine the surrounding pavement. The road pavement shall be reinstated using macadam or similar approved surfacing material compatible with the existing. A bitumen tack coat shall be applied to all prepared surfaces prior to placement of premix materials (if appropriate). Prior to application of the base course, the sub-base shall be fully compacted using appropriate mechanical or hand-ramming means. The depth of bituminous surfacing shall be no less than the existing. On completion, the surfacing shall be flush with the existing at the interface and by a tolerance of +/-10mm on a 500mm long straight edge. The running surface of the repair and the repair joints carried out under the above specification shall be waterproof. All repair joints will be sealed with hot poured bitumen.

For areas of localised surface deterioration, each of an area less than 0.5sq.m. which could result in potholes and/or surface delamination, these shall be broken out as necessary and repaired as for potholes.

Pavement Remedial Works

Pavement remedial works shall be carried out in accordance with the TII Publications Specification for Works.

Sweeping and Cleaning

All debris, silt and vegetation shall be removed from the bridge surface using a mechanical road sweeper or other appropriate means. An ordinary sweeping brush may be acceptable on smaller bridges with the Employer's Representative's consent.

Vegetation growth in soft verges either side of rubbing strips or along the length of the parapets shall be strimmed back.

Cleaning of Drain Gullies

All drain gullies on or adjacent to structures shall be cleaned of silt, debris and vegetation and all deposits removed for off-site disposal. Gullies to be rodded and/or suctioned unless agreed with the Employer's Representative. Power hosing is not permitted to clean drains and gullies, unless it is a dry structure away from a watercourse and only when the area being power hosed is isolated from the drainage network.

The contents of any sucked/rodded gully/outlet shall not be pushed out into/discharged to the watercourse. All gully connections and/or outlet pipes shall be cleared to ensure the unimpeded flow of water from the gullies and through the drainage outlets and all deposits removed for off-site disposal. No discharge of waste is to be permitted on-site. The deposits are to be transported in permitted waste vehicles in compliance with the Waste Management (Collection Permit) Regulations, 2007 as amended and the waste disposed of at licensed/permitted waste facilities.

Hosing of Drainage System

All drainage kerbs, Beanie Blocks, channels and similar on or adjacent to structures shall be cleaned of silt, debris and vegetation and all deposits removed for off-site disposal. No discharge of waste is to be permitted on-site.

Drainage to be rodded and/or suctioned unless agreed with the Employer's Representative. Power hosing is not permitted to clean drainage, unless it is a dry structure away from a watercourse and only when the area being power hosed is isolated from the drainage network.

The contents of any rodded gully/outlet cannot be pushed out into / discharged to the watercourse. The deposits are to be transported in permitted waste vehicles in compliance with the Waste Management (Collection Permit) Regulations, 2007 as amended and the waste disposed of at licensed/permitted waste facilities.

Installation of retroreflective road studs

Missing road studs shall be replaced in accordance with the manufactures specification and to match the original. Replacement units shall be approved in advance by the Employer's Representative.

The works may include replacing loose or missing road studs or inserts, replacing road studs exhibiting wear, corrosion or damage, resetting road studs exhibiting sinkage or settlement, cleaning detritus from lenses ensuring integrity and security of casings of "embedded" studs (housings), making good loss of adhesion or breaking up of surface mounted road studs under traffic loading, resetting road studs misaligned with existing road markings, the change in position of road studs except if misaligned, the installation new road studs and the replacement or repair of accident damaged road studs.

Replacing Gully/Channel Gratings

Replacement gully/channel gratings shall meet the requirements of the TII Specification for Roadworks and installed in accordance with the relevant TII Road Construction Detail.

2.2 Expansion Joints

Cleaning of Expansion Joints

All dirt, debris and vegetation shall be removed from expansion joints by either sweeping clean with a brush or using an airline/hose. The deposits are to be transported in permitted waste vehicles in compliance with the Waste Management (Collection Permit) Regulations, 2007 as amended and the waste disposed of at licensed/permitted waste facilities.

Maintenance of Joints

Cracked, rutted, worn or delaminated asphaltic plug joints in the carriageway or footway shall be made good using a macadam material or a proprietary material. Such material must be compatible with the existing material have similar or better expansion/contraction properties than the original material and have the prior approval of the Employer's Representative. When using an accepted proprietary material, the method of repair shall be in accordance with the manufacturer's specification.

Missing and/or poor condition sealant at movement joints in parapet upstands shall be removed, the joints cleaned out and replacement compressible filler and polysulphide sealant or similar approved material installed in accordance with manufacturer's instructions.

Reinstatement of Fixings

All loose holding down fixings shall be tightened to the correct torque. Any missing bolts or fixings and associated brackets shall be replaced to match original.

Any other routine repair and maintenance works to the footways not covered by the above items and included in the bridge Works Order shall be undertaken in accordance with the requirements of the Employers.

2.3 Footways/Median

Installation of Rubbing Strip

Where required, break up of existing pavement shall be carefully removed and replaced with Cl. 804 material.

Sealing of Pavement Cracks

The method for sealing pavement cracks is described in Section 2.1 above. For concrete footways, the cracks shall be sealed with an approved non-shrink mortar in accordance with standard good practice or any approved proprietary product manufacturer's specified method.

Sweeping and Cleaning

The methodology for sweeping and cleaning is described in Section 2.1 of this report.

Maintenance of Surface

All potholes, excess wear, rutting and general degradation of surfacing shall be repaired to match existing. All loose and broken material shall be removed and exposed surfaces cleaned and an approved repair material placed in accordance with normally approved methods as follows:

a) Concrete

Concrete shall be repaired by removing loose or damaged material, preparing the repair perimeter by saw cutting to a depth of 10mm, roughening the face of

the exposed concrete below and then reinstating with an approved non-shrink mortar, and primer if necessary, in accordance with the manufacturer's instructions.

b) Asphalt

The area to be repaired shall be saw cut through the asphalt layer. Loose waste material shall be removed. Bedding material shall be made up to the required level and compacted to the satisfaction of the Employer's Representative and the remaining hole reinstated with material compatible with the original.

c) Paving slabs/flags

Broken flags shall be removed and replaced with similar. Loose or displaced flags to be rebedded using material comparable with existing.

d) Cobbles/setts are to be rebedded in a manner similar to the original. Before placing any surfacing, paving slabs, setts/cobbles etc the sub-base/bedding shall be made up to the required level with full compaction to the satisfaction of the Employer's Representative.

Where dig out and replace is the approved repair method, the perimeter of the repair shall be saw cut and the repair area excavated to ensure all weak and contaminated or disturbed material is removed.

The perimeter of the area where re-shaping is required shall be determined by the Contractor and shall be the minimum required to achieve the surface shape criteria. The deviation (up or down) when measured with a 2m straightedge shall not be greater than 5mm, both within the repair and between the existing pavement and the repair, and there shall be no sharp ridges. There shall be no depressions in the finished surface that allow water to pond.

Surfacing treatments shall match the adjacent carriageway material. Surface texture shall match that of the adjacent pavement and have a similar or greater skid resistance value. Where necessary the circumference of the repair shall be crack sealed to ensure waterproof joints.

All line markings and raised pavement markers disturbed or removed during the completion of the repair shall be reinstated.

Resetting/Locking Drainage Covers

Open/loose drainage covers to be locked in accordance with manufacturer's instructions. Any missing bolts, nuts or washers and associated brackets shall be replaced to match original.

Any other routine repair and maintenance works to the footways not covered by the above items and included in the bridge Works Order shall be undertaken in accordance with the requirements of the Employers instructions.

2.4 Parapets/Safety Barrier

Removal of vegetation

All vegetation including but not be limited to trees, shrubs, ivy, moss and roots shall be removed from masonry, concrete and steel parapets in such a manner as to avoid damage to mortar, concrete, protective systems and fixings. The use of chemical spraying prior to vegetation removal is prohibited in European sites. Vegetation removal within European sites will be carried out by mechanical means where possible (e.g. hand-cutting and brushing). See Section 2.4.1 below for cases where it is not

possible to remove vegetation without the use of herbicides. Its use elsewhere is subject to the findings of the risk assessment completed by the registered pesticide advisor (see Section 2.4.1) and approved by the contractor's ecological advisor and the Employers Representative. Power hosing of masonry is prohibited.

All vegetation rooted in, undermining or otherwise affecting the integrity of a parapets shall be removed in such a manner as to avoid damage to the wall. This shall include but not be limited to trees, shrubs, ivy, moss and roots within 1m of a masonry or concrete parapet.

This process will initially involve the chemical spraying the vegetation, allowing sufficient time based on manufactures instructions for the spray to take effect before returning to carefully remove the vegetation.

Vegetation (including ivy) growth may be chemically sprayed with a product to be approved by the Employer's Representative and left to wilt before removal. Notification of intention to spray is to be given to the relevant Local Authority at least one week prior to work commencing in any Local Authority area. Chemicals used for vegetation control shall be safe for use near water and approved by the Employer's Representative and TII as suitable for the uses as specified in the contract documents.

All operators must hold a current (local industry) qualification and be in possession of training certificates for the type of work specified. Chemicals shall be prepared and applied in accordance with manufacturers' recommendations and Codes of Practice and in strict compliance with all relevant Acts, Regulations and Bylaws governing their use. The Contractor shall supply the details regarding chemicals and application rates to be used for each area, the methodology including programme for chemical application and equipment to be used.

The Contractor shall notify the Employer's Representative prior to any change in chemicals, planned application rates and methods from those detailed at the time of tendering. During spraying operations applications rates may be varied at the Contractor's discretion to achieve the specified standard of vegetation control. Changes to daily application rates shall be recorded by the Contractor on his diary sheet. The Contractor shall complete a daily chemical diary detailing all work undertaken including application rates and chemicals used, wind direction, rainfall and any other relevant information and submit to the Employer's Representative with each monthly payment claim. The Contractor shall ensure that no toxic or contaminating substances are allowed to spill or drift onto non-targeted land or water during the work and take precautions to prevent the contamination of water courses by chemical run-off from sprayed areas.

Due consideration is to be given to run-off and the risk of contaminates entering water courses of affecting the surrounding flora and fauna. Where necessary, run-off shall be contained by water retaining barriers and disposed of at an approved disposal site. No spraying shall be undertaken in the rain or when rain is forecast to fall before the manufacturers labelled drying times can be met.

The Contractor shall prevent chemical drift when spraying. Chemicals are not to be used when wind speed exceeds 10km/hr unless an approved "anti-drift" nozzle is used. No chemicals shall be used when wind speed is in excess of 15km/hr. Edible fruits and berries shall not be sprayed between the period May to August inclusive. Waste or surplus chemicals shall be disposed of in a safe manner. In the event of contamination caused by any action or inaction of the Contractor, the Contractor shall

comply with all relevant Acts, Regulations and Bylaws governing the remedy and mitigation of any adverse effects on the environment.

The Contractor in consultation with the ecological advisor must prepare a risk assessment for the appropriate use of herbicides taking into consideration proximity and connectivity to Natura 2000 sites, drinking water sources and Freshwater Peral Mussel populations downstream of each bridge. When working within these areas of special conservation and national monuments the Contractor shall only carry out chemical spraying on the written approval of the Authority controlling the Park, Reserve or other land, shall submit a copy of such written approval to the Employer's Representative prior to commencement or work and shall implement any measures set by the Controlling Authority. Additionally, in areas where chemical use has been allowed no spray tanks shall be emptied or sluiced out or any other equipment cleaned anywhere within the boundaries. Where chemical use has been allowed the Warden, Ranger or other concerned authority shall be notified immediately following any accidental chemical spillage that may endanger the flora and fauna of the area.

Trees shall be cut above ground level and the stumps grubbed out. The stumps of vegetation with a diameter greater than 100mm shall have vertical saw cuts made into the stub to promote natural rotting. Any roots remaining after the above work shall be treated with a root killer approved by the Employer's Representative. Deeply rooted trees and other vegetation which are likely to result in damage to the structure on removal are to be referred to the Employer's Representative for further guidance.

On completion of removal of vegetation, the parapets are to be cleaned using stiff brush to restore the original condition as far as possible. Any damage to masonry, mortar or other materials shall be repaired in accordance with the relevant Section of this Methodology.

Herbicide Use in European Sites

The removal of Ivy and similar plants from surfaces may include the use of herbicide prior to mechanical removal. The use of any chemical to assist in the removal of vegetation from structures must be approved by the Employer's Representative and be undertaken under the advice of an appropriately trained and registered pesticide advisor. Herbicides must be of a type approved for use near water and must be used in accordance with the manufacturer's instructions. Only appropriately trained and registered users may carry out the application of herbicides.

The primary legislation governing the use of herbicides/ pesticides/ plant protection products are:

- Regulation (EC) No. 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC
- European Communities (Plant Protection Products) Regulations, 2012 (S.I. No. 159 of 2012)
- European Communities (Sustainable Use of Pesticides) Regulations, 2012, (S.I. No. 155 of 2012).
- European Communities (Sustainable Use of Pesticides) (Amendment) Regulations, 2019 (S.I. No. 438 of 2019).

The use of herbicide in European sites is only permissible where no other viable alternative exists. The need for herbicide must be demonstrated by the Registered Pesticide Advisor and a risk assessment will be prepared to this effect, in accordance

with Regulation 12(2) of the Sustainable Use of Pesticides Regulations 2012 (as amended).

The use of herbicides in or near European sites are dealt with in Regulation 12 of the European Communities (Sustainable Use of Pesticides) Regulations, 2012 (as amended). Article 12 (1) prohibits the use of pesticides in European sites, however under certain circumstance this is permissible, as outlined in Regulation 12(2), which states that "*Where a person, having completed a risk assessment, is obliged to use a pesticide in an area referred to in paragraph (1), he or she shall ensure that preference is given to the use of low risk plant protection products or biological and cultural control measures and where such measures are not capable of performing the necessary function, a person shall prioritise the use of plant protection products that are not classified as R50 in accordance with Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 as amended by Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008*".

Regulation 12(3) states that "Where a person uses a pesticide in an area referred to in paragraph (1) the onus of proof will lie with that person to show that there was no viable alternative and appropriate risk management measures were put in place."

The European Communities (Sustainable Use of Pesticides) Regulations, 2012 (as amended) outlines the requirements for users of pesticides. Regulation 5(1) states that all users, subject to exemptions listed in Regulation 5(2), a professional user of pesticides must *hold a certificate confirming that the professional user has been trained to a standard determined by the Minister in the subjects listed in Annex I of the Directive* and shall *comply with any additional training requirements as determined by the Minister.*

The Contractor must ensure that users of pesticides are either registered professional users or are under the direct supervision of a registered professional user.

Records of pesticide use must be kept detailing the product, concentration and area where the product has been applied in line with Regulation 67(1) of the Plant Protection Products Regulation 1107/2009 which states that *professional users of plant protection products shall, for at least three years, keep records of the plant protection products they use, containing the name of the plant protection product, the time and the dose of application, the area and the crop where the plant protection product was used*.

Concrete Repair

Concrete repairs shall be carried out where minor areas of defective concrete are identified by the Employer's Representative.

Cracked, honeycombed, delaminated, contaminated or otherwise defective concrete shall be broken out by hand held drill/impact hammer or other specified method, taking due care to avoid damage to sound concrete and reinforcement.

The concrete shall be broken out to a depth equal to the maximum size of aggregate plus 5mm beyond the reinforcement. Where corroded reinforcement is identified, the area of concrete removed shall be extended to expose 100 mm of non-corroded reinforcement.

Before cutting out, the Contractor shall determine the position and depth of the reinforcement. The perimeter of the concrete to be removed shall be saw cut perpendicularly to the face of the concrete to a depth of not less than 10 mm or to

within 10 mm of the reinforcement, whichever is the lesser. The concrete shall be removed by the use of suitable hand or mechanical tools or high-pressure water jetting. Where concrete is removed by high pressure water jetting a lightweight electric demolition hammer may be used for final trimming of the area broken out.

At the upper limits of repairs to be made by repair concrete, sloping cuts may be used to avoid the entrapment of air when the concrete is poured. The saw cut edges shall be abraded by grit blasting or equivalent methods.

The exposed faces shall be formed by cutting neat straight edges and shall be scabbled if necessary and cleaned off. The exposed surfaces shall be suitably primed and an approved, proprietary prebagged repair mortar, placed by hand ensuring a flush finish with the adjoining surface. The repair mortar shall be prepared and placed in accordance with the manufacturer's requirements.

Standard - Concrete surfaces shall be clean and dry and free of cement laitance, contaminants and loose friable material. The surface shall be such that repair concrete shall flow freely into all voids and be in intimate contact with the existing concrete.

Overbreak of concrete shall be made good with appropriate material. Reinforcement damaged during concrete removal shall be made good. Where considered necessary by the Employer's Representative existing reinforcement which has corroded or is otherwise damaged shall be removed, and additional steel reinforcement shall be lapped or welded onto the existing reinforcement. All loose reinforcement shall be securely tied with stainless steel tying wire.

Waste material from the above operations shall be removed offsite. The Site shall be kept free of debris or standing water arising from the jetting activities.

All proprietary materials shall be stored in a dry weather-proof lock up store free from extremes of cold or heat in accordance with the manufacturer's instructions. The materials shall not be removed from the store for use until immediately prior to mixing.

Repairs shall only be undertaken by Contractors who are able to demonstrate suitable experience and a proven track record dealing with concrete repairs.

Concrete Crack Repair

Concrete crack repairs shall be carried out using a high strength, non-shrink, low viscosity epoxy resin injection grout.

Maintenance of Bedding Mortar

Loose and broken bedding mortar beneath parapet post base plates shall be made good with a compatible proprietary bedding mortar of no less strength than the original. All loose and broken material shall be broken out, surfaces cleaned and roughened prior to placement of the repair material.

During replacement of bedding material appropriate support arrangements for maintaining the parapet posts in an upright position shall be provided.

Repair of Parapet

All missing parapet holding down and fixing nuts shall be replaced by similar and tightened in accordance with the manufacture's method to the required torque.

All loose nuts shall be retightened similarly unless they are damaged or show signs of excessive corrosion in which case they shall be removed and replaced as above.

Tensioned wire rope parapets shall be re-tensioned as required to remove sag from the wire ropes.

Any damaged holding down bolts and studs shall be reported to the Employer's Representative.

Any damaged mesh facing panels shall be removed and, together with missing panels, replaced by new of similar form, colour, size and protective system as the original. Replacement fixings and trims shall be provided as necessary.

Parapet posts or rails which have incurred localised damaged or deformation shall be replaced to match the original. The new rail or post shall be sourced from a TII approved supplier and shall meet the existing level of containment.

Sealing of cracks in concrete parapets or any other concrete repairs called up under this heading shall be carried out in accordance with Section 2.14 below.

All missing concrete coping (wall caps) and pilasters (pillar caps) shall be replaced using units of a similar type, shape and size to the original and to the original line and level. Mortar used shall be a suitable cementitious mortar.

All damaged blockwork shall be replaced, together with all missing blockwork, using blocks of a similar type, shape and size to the original and to the original line and level. Blockwork repairs shall match existing blockwork. Mortar used shall be a suitable cementitious mortar.

Removal of Graffiti

When removing graffiti, where possible the use of proprietary graffiti removing products shall be favoured over abrasive cleaning techniques to avoid unnecessary damage to the fabric of the structure. Therefore, graffiti shall be removed by a combination of proprietary materials such as water-soluble sprays and aerosols, gels and poultices, and high-pressure hosing, stiff brush and abrasives when so approved by the Employer's Representative.

In certain instances, the use of proprietary materials such as water-soluble sprays and aerosols, gels and poultices is prohibited such as works in close proximity to any water course or a structure that been coated with an anti-carbonation or crack bridging coating. In these circumstances the use of an anti-graffiti coating/overpainting should be considered especially on high-risk structures where graffiti is a persistent problem. Over painting of graffiti covered surfaces must be preceded by appropriate surface preparation followed by the use of a sealer coat to prevent the graffiti pigment from bleeding through. Where over painting is required, the colour of the applied paint shall match the existing.

Regardless of the method of removal of graffiti it will always be necessary to carry out in-situ trials on a small unobtrusive section of the structure to determine the effectiveness of the chosen method and to confirm that no undue damage is caused to the substrate during the process. Proprietary materials shall be applied strictly in accordance with the manufacturers recommendations and shall be appropriate both for the substrate material (concrete, masonry, metalwork, etc.) and the marking agent (paint, ink, wax based materials, etc.). Acid based cleaners should never be used on

acid sensitive materials that might be etched or abraded by acid. These include stonework such as limestone, marble or calcareous sandstone. The thicker consistency of gels and poultices, which are expressly designed to draw out pigment from permeable materials, make them more suitable for brickwork and other porous substrates. However, aluminium (parapets, etc.) and anodised metals can be attacked by bleach, ammonia and other alkalis.

Mechanical abrasive graffiti removal shall be carried out as a last resort by specialist firms and should only be carried out on uncoated concrete substrates. Typical methods include low and high- pressure water cleaning with or without detergents as well as sand or grit blasting.

Due care shall be taken to protect the general public from the effects of all mechanical abrasive graffiti removal techniques, to the satisfaction of the Employer's Representative. The Contractor shall provide method statements and risk assessments associated with graffiti removal to demonstrate compliance with this methodology at least 2 weeks prior to undertaking any trials on bridge structures.

Ink and felt tip marker stains should be removed using a glycol ether solvent, such as methoxypropanol, applied with a clean white cloth over the area affected. The minimum amount of solvent necessary to remove the stain shall be used as excess solvents on porous substrates (i.e. concrete) can potentially carry the dyes further into the parent material. Materials such as brick and stone are generally not adversely affected by glycol ether. However, if a reaction is noted, the area should be immediately dosed in water. All personnel using glycol ethers shall be trained in their use and application and alerted to the dangers of using these chemicals in accordance with the requirements of the Health Safety and Welfare at Work (Construction) Regulations 2013.

The majority of the graffiti encountered on bridge structures consist of spray-applied paint. Graffiti caused by spray-applied paints shall be removed using a water based cleaning gel. The gel shall be applied to the affected area with a brush in a circular motion. After a short waiting time the mixture of paint and gel shall be washed off with water, collected and disposed of offsite in a suitable waste disposal facility. In the case of persistent graffiti stains the cleaning action should be repeated.

Masonry Repointing

Prior to commencement of all repointing and repair works, all vegetation and algae to be removed from face of walls and arch barrel soffits in accordance with this methodology.

Loose and cracked pointing shall be raked out to sound material and the joint cleaned. All such joints and joints with deep pointing shall be repointed flush with the masonry face.

All repointing shall be undertaken with lime mortar.

For parapet reconstruction works, all mortar beds shall be of a thickness to match the adjacent stonework as closely as possible. P articular care shall be taken in respect of the finished appearance of the mortar joints. Where no adjacent stonework exists, bed thickness and form shall be to the reasonable satisfaction of the Engineer.

The colour of the mortar shall match the existing to the reasonable satisfaction of the Employer's Representative.

Pozzolanic Additives

The Contractor shall obtain the Engineer's approval prior to use of any Pozzolanic additive.

Conformancy Testing Requirements

Materials conformancy testing shall be carried out as required.

As soon as practicably possible after the start of each year of the works and at weekly intervals thereafter, the Contractor (for each crew involved in masonry works) shall prepare a minimum of 3 no. test moulds (9 no. prisms) for testing at 28-days to determine compressive and flexural strength thereof of his proposed lime mortar. The Employer's Representative shall be invited to attend the preparation of the mortar and test samples and shall be given a minimum of 7-days advance notice of the proposed date.

Repointing shall only be undertaken by stonemasons who have attended the TII approved 'Masonry Arch Bridge Repair Workshop' or are members of the Guild of Master Craftsmen and their qualifications shall be submitted to the Employer's Representative.

Masonry Repair

All damaged masonry shall be replaced, together with all missing masonry, by stone of a similar type, shape and size to the original and to the original line and level. Masonry repair shall match existing stonework.

Patch Painting of Steel

Steelwork with damaged, missing, flaking or otherwise poor condition paintwork shall be touch repainted over the defective areas. Prior to repainting all loose paint shall be removed, the surfaces exposed down to bare metal using a wire brush or other suitable method and the surfaces repainted using a compatible TII approved paint system.

Replacing Gully Gratings

The methodology from replacing gully gratings is described in Section 2.1 of this Report.

Any other routine repair and maintenance works to parapets/guardrails not covered by the above items and included in the bridge Works Order shall be undertaken in accordance with the requirements of the Employers instructions.

2.5 Embankments/Revetments

Removal of Vegetation

All trees, bushes, ivy, and deep-rooted vegetation within 1m of any part of a structure shall be removed down to ground level. Grass and light vegetation shall be strimmed to a height of 75mm. In some instances, it may be necessary to remove vegetation more than 1m from the structure to allow access to the substructure, where vegetation is deemed to be fast growing or where invasive roots may pose a threat to the structure. The stumps of vegetation with a diameter greater than 100mm shall have horizontal saw cuts made into the stub to promote natural rotting. The grubbing out of roots is not permitted. Any roots remaining after the above work shall be treated with root killer with the approval of the Employer's Representative.

The treatment to be adopted may vary with the type of vegetation but shall be similar to that adopted in Section 2.4 above.

All vegetation removal to the revetments shall be undertaken in such a manner as to avoid damage to tiles and the subbase of the revetment wall. Any damage shall be reinstated to match existing.

Maintenance of Slope Protection

Slope protection includes gabions, rock revetments, paving slabs, paviors, in situ concrete, stone or other materials placed specifically to protect an embankment slope. Slope protection shall be maintained by replacing missing, damaged or otherwise poor condition units. Unstable or displaced units shall be reinstated in a manner to match the existing bedding. Soft spots occurring beneath unstable or displaced units shall be excavated out and replaced with suitable compacted stone fill.

Reshaping (Imported Materials)

Earth embankments and slopes shall be re-profiled to the original slope using recovered soil or suitable imported fill if soil is not available on site. All imported material is subject to approval by the Employer's Representative.

Installation of Timber Fencing

Permanent fencing shall be timber post and Tension Mesh or Timber Post and Tension Mesh Stud Fence where within 8m of the road edge and not protected by a road restraint system.

Otherwise fencing to agricultural lands shall Timber Post and 4 Rail with Mesh (Stud Fencing).

Removal of Debris

The embankments shall be cleared of all obstructions and debris. This includes but is not limited to dumped household or domestic appliances/waste, cut branches or trees, concrete or masonry rubble or any detritus material.

Removal of Vegetation

All vegetation including but not be limited to trees, shrubs, ivy, moss and roots shall be removed from the embankments.

Any other routine repair and maintenance works to embankments/slopes not covered by the above items and included in the bridge Works Order shall be undertaken in accordance with the requirements of the Employers instructions and measured in accordance with TII's standard method of measurement.

2.6 Wing/Spandrel/Retaining Walls

Removal of vegetation

All vegetation rooted in, undermining or otherwise affecting the integrity of a wing/spandrel/retaining walls shall be removed in such a manner as to avoid damage to the wall. This shall include but not be limited to trees, shrubs, ivy, moss and roots within 1m of a masonry or concrete wing/spandrel/retaining wall.

The treatment to be adopted may vary with the type of vegetation but shall be similar to that adopted in Section 2.4 above.

Any damage to masonry, mortar or other materials resulting from this work shall be repaired in accordance with the relevant Section of this Specification.

Concrete Repair

Concrete repairs shall be carried out where minor areas of defective concrete are identified by the Employer's Representative.

Cracked, honeycombed, delaminated, contaminated or otherwise defective concrete shall be broken out by hand held drill/impact hammer or other specified method, taking due care to avoid damage to sound concrete and reinforcement.

The concrete shall be broken out to a depth equal to the maximum size of aggregate plus 5mm beyond the reinforcement. Where corroded reinforcement is identified, the area of concrete removed shall be extended to expose 100mm of non-corroded reinforcement.

Before cutting out, the Contractor shall determine the position and depth of the reinforcement. The perimeter of the concrete to be removed shall be saw cut perpendicularly to the face of the concrete to a depth of not less than 10mm or to within 10mm of the reinforcement, whichever is the lesser. The concrete shall be removed by the use of suitable hand or mechanical tools or high-pressure water jetting. Where concrete is removed by high pressure water jetting a lightweight electric demolition hammer may be used for final trimming of the area broken out.

At the upper limits of repairs to be made by repair concrete, sloping cuts may be used to avoid the entrapment of air when the concrete is poured. The saw cut edges shall be abraded by grit blasting or equivalent methods.

The exposed faces shall be formed by cutting neat straight edges and shall be scabbled if necessary and cleaned off. The exposed surfaces shall be suitably primed and an approved, proprietary prebagged repair mortar, placed by hand ensuring a flush finish with the adjoining surface. The repair mortar shall be prepared and placed in accordance with the manufacturer's requirements.

Standard - Concrete surfaces shall be clean and dry and free of cement laitance, contaminants and loose friable material. The surface shall be such that repair concrete shall flow freely into all voids and be in intimate contact with the existing concrete.

Overbreak of concrete shall be made good with material. Reinforcement damaged during concrete removal shall be made good. Where considered necessary by the Employer's Representative existing reinforcement which has corroded or is otherwise damaged shall be removed, and additional steel reinforcement shall be lapped or welded onto the existing reinforcement. All loose reinforcement shall be securely tied with stainless steel tying wire.

Waste material from the above operations shall be removed offsite. The Site shall be kept free of debris or standing water arising from the jetting activities. Due consideration is to be given to run-off and the risk of contaminants entering watercourses or affecting the surrounding flora and fauna. Where necessary, run-off shall be contained by water retaining barriers, collected and disposed of at an approved disposal site.

All proprietary materials shall be stored in a dry weather-proof lock up store free from extremes of cold or heat in accordance with the manufacturer's instructions. The materials shall not be removed from the store for use until immediately prior to mixing.

Concrete Crack Repairs

Concrete crack repairs shall be carried out using a high strength, non-shrink, low viscosity epoxy resin injection grout.

Maintenance of Joints

Missing and/or poor condition sealant at movement joints between non-continuous structural elements shall be removed, the joints cleaned out and replacement compressible filler and polysulphide sealant or similar approved material installed in accordance with manufacturer's instructions.

Establish Base Protection

Base protection shall be provided where there is evidence of water ponding around wing/spandrel/retaining walls. This will take the form of a sloped concrete apron.

Where wing wall footings have been identified as at risk of undermining, by washout, embankment instability or other means, mass concrete of not less than Grade C20/25 shall be placed and compacted in any void and an apron of not less than 300mm depth (below ground level) and 300mm width provided immediately in front of the wall over the length and width specified or otherwise directed by the Employer's Representative.

Maintenance of Base Protection

Where base protection is already in place but requires stabilisation/protection it shall be reinstated as necessary in accordance with item 'Establish Base Protection' above.

Masonry Repointing

Repointing shall be undertaken in the same manner as in Section 2.4.

Masonry Repair

Repairs shall be undertaken in the same manner as in Section 2.4.

Any other routine repair and maintenance works to wing/spandrel or retaining walls not covered by the above items and included in the bridge Works Order shall be undertaken in accordance with the requirements of the Employers instructions and measured in accordance with TII's standard method of Measurement.

2.7 Abutments

Removal of Vegetation

All vegetation rooted in, undermining or otherwise affecting the integrity of an abutment shall be removed in such a manner as to avoid damage to the wall. This shall include but not be limited to trees, shrubs, ivy, moss and roots within 1m of a masonry, concrete or reinforced earth abutment.

The treatment to be adopted may vary with the type of vegetation but shall be similar to that adopted in Section 2.4 above.

Any damage to masonry, mortar or other materials resulting from this work shall be repaired in accordance with the relevant Section of this Methodology.

Maintenance of Drainage Channel

The drainage channel on the abutments and associated drainage outlets shall be cleaned by hand brush and pressure hose as necessary and then rodded to ensure

the unimpeded flow of water from the bearing shelf and through the drainage outlets. Abutments shall be cleared of all loose debris.

No discharge of waste is to be permitted on-site. The deposits are to be transported in permitted waste vehicles in compliance with the Waste Management (Collection Permit) Regulations 2007 as amended and the waste disposed of at licensed/permitted waste facilities.

Similarly, all abutment gallery drainage runs shall be cleaned by hand brush and pressure hose as necessary and then rodded to ensure the unimpeded flow of water from the gallery and through the drainage outlets. Any staining to the gallery walls is to be removed by high pressure hosing and any miscellaneous debris is to be disposed of offsite at licensed/permitted waste facilities. The run-off cannot be pushed out/discharged into the watercourse.

Weep holes shall be rodded clear and all deposits removed for off-site disposal. The contents of any rodded gully/outlet cannot be pushed out/discharged into the watercourse. Any broken pipes shall be repaired to match existing.

The Contractor is to make all necessary arrangements for access to abutment galleries including liaison with the relevant Local Authority and any traffic management as required.

Concrete Repairs

Concrete repairs shall be carried out where minor areas of defective concrete are identified by the Employer's Representative.

Cracked, honeycombed, delaminated, contaminated or otherwise defective concrete shall be broken out by hand held drill/impact hammer or other specified method, taking due care to avoid damage to sound concrete and reinforcement.

The concrete shall be broken out to a depth equal to the maximum size of aggregate plus 5mm beyond the reinforcement. Where corroded reinforcement is identified, the area of concrete removed shall be extended to expose 100mm of non-corroded reinforcement.

Before cutting out, the Contractor shall determine the position and depth of the reinforcement. The perimeter of the concrete to be removed shall be saw cut perpendicularly to the face of the concrete to a depth of not less than 10mm or to within 10mm of the reinforcement, whichever is the lesser. The concrete shall be removed by the use of suitable hand or mechanical tools or high-pressure water jetting. Where concrete is removed by high pressure water jetting a lightweight electric demolition hammer may be used for final trimming of the area broken out.

At the upper limits of repairs to be made by repair concrete, sloping cuts may be used to avoid the entrapment of air when the concrete is poured. The saw cut edges shall be abraded by grit blasting or equivalent methods.

The exposed faces shall be formed by cutting neat straight edges and shall be scabbled if necessary and cleaned off. The exposed surfaces shall be suitably primed and an approved, proprietary prebagged repair mortar, complying with the requirements of BS EN 1504, placed by hand ensuring a flush finish with the adjoining surface. The repair mortar shall be prepared and placed in accordance with the manufacturer's requirements.

Standard - Concrete surfaces shall be clean and dry and free of cement laitance, contaminants and loose friable material. The surface shall be such that repair concrete shall flow freely into all voids and be in intimate contact with the existing concrete.

Overbreak of concrete shall be made good with material complying with the requirements of AM-STR-06052. Reinforcement damaged during concrete removal shall be made good. Where considered necessary by the Employer's Representative existing reinforcement which has corroded or is otherwise damaged shall be removed, and additional steel reinforcement shall be lapped or welded onto the existing reinforcement. All loose reinforcement shall be securely tied with stainless steel tying wire.

Waste material from the above operations shall be removed offsite. The Site shall be kept free of debris or standing water arising from the jetting activities.

All proprietary materials shall be stored in a dry weather-proof lock up store free from extremes of cold or heat in accordance with the manufacturer's instructions. The materials shall not be removed from the store for use until immediately prior to mixing.

Repairs shall only be undertaken by Contractors who are able to demonstrate suitable experience and a proven track record dealing with concrete repairs.

Concrete Crack Repairs

Concrete crack repairs shall be carried out using a high strength, non-shrink, low viscosity epoxy resin injection grout.

Maintenance of Soft Joints

Missing and/or poor condition sealant at movement joints between non-continuous structural elements shall be removed, the joints cleaned out and replacement compressible filler and polysulphide sealant or similar approved material installed in accordance with manufacturer's instructions.

Maintenance of Base Protection

Where base protection is already in place but requires stabilisation/protection it shall be reinstated as necessary in accordance with item 'Establish Base Protection' above.

Masonry Repointing

Repointing shall be undertaken in the same manner as in Section 2.4.

Masonry Repairs

Repairs shall be undertaken in the same manner as in Section 2.4.

Sweeping and Cleaning

All debris, loose grit, general litter and vegetation shall be removed from the abutments, using appropriate means. An ordinary sweeping brush may be acceptable on smaller bridges with the Employer's Representative's consent.

Any other routine repair and maintenance works to abutments not covered by the above items and included in the bridge Works Order shall be undertaken in accordance with the requirements of the Employers instructions and measured in accordance with TII's standard method of measurement.

2.8 Piers

Removal of Vegetation

All vegetation rooted in, undermining or otherwise affecting the integrity of a pier shall be removed in such a manner as to avoid damage to the wall. This shall include but not be limited to trees, shrubs, ivy and roots within 1m of a masonry or concrete pier.

The treatment to be adopted may vary with the type of vegetation but shall be similar to that adopted in Section 2.4 above.

Any damage to masonry, mortar or other materials resulting from this work shall be repaired in accordance with the relevant Section of this Methodology.

Maintenance of Drainage Channel

The drainage channel on the bearing shelf and associated drainage outlets shall be cleaned by hand brush and pressure hose as necessary and then rodded to ensure the unimpeded flow of water from the bearing shelf and through the drainage outlets. Bearing shelves shall be cleared of all loose debris by brushing or air line.

Weep holes shall be rodded clear and all deposits removed for off-site disposal. The contents of any rodded gully/outlet cannot be pushed out/discharged into the watercourse. Any broken pipes shall be repaired to match existing.

No discharge of waste is to be permitted on-site. The deposits are to be transported in permitted waste vehicles in compliance with the Waste Management (Collection Permit) Regulations 2007 as amended and the waste disposed of at licensed/permitted waste facilities.

Concrete Repairs

Concrete repairs shall be carried out where minor areas of defective concrete are identified by the Employer's Representative.

Cracked, honeycombed, delaminated, contaminated or otherwise defective concrete shall be broken out by hand held drill/impact hammer or other specified method, taking due care to avoid damage to sound concrete and reinforcement.

The concrete shall be broken out to a depth equal to the maximum size of aggregate plus 5mm beyond the reinforcement. Where corroded reinforcement is identified, the area of concrete removed shall be extended to expose 100mm of non-corroded reinforcement.

Before cutting out, the Contractor shall determine the position and depth of the reinforcement. The perimeter of the concrete to be removed shall be saw cut perpendicularly to the face of the concrete to a depth of not less than 10mm or to within 10mm of the reinforcement, whichever is the lesser. The concrete shall be removed by the use of suitable hand or mechanical tools or high-pressure water jetting. Where concrete is removed by high pressure water jetting a lightweight electric demolition hammer may be used for final trimming of the area broken out.

At the upper limits of repairs to be made by repair concrete, sloping cuts may be used to avoid the entrapment of air when the concrete is poured. The saw cut edges shall be abraded by grit blasting or equivalent methods.

The exposed faces shall be formed by cutting neat straight edges and shall be scabbled if necessary and cleaned off. The exposed surfaces shall be suitably primed and an approved, proprietary prebagged repair mortar, placed by hand ensuring a flush finish with the adjoining surface. The repair mortar shall be prepared and placed in accordance with the manufacturer's requirements.

Standard - Concrete surfaces shall be clean and dry and free of cement laitance, contaminants and loose friable material. The surface shall be such that repair concrete shall flow freely into all voids and be in intimate contact with the existing concrete.

Overbreak of concrete shall be made good with material. Reinforcement damaged during concrete removal shall be made good. Where considered necessary by the Employer's Representative existing reinforcement which has corroded or is otherwise damaged shall be removed, and additional steel reinforcement shall be lapped or welded onto the existing reinforcement. All loose reinforcement shall be securely tied with stainless steel tying wire.

Waste material from the above operations shall be removed offsite. The Site shall be kept free of debris or standing water arising from the jetting activities.

All proprietary materials shall be stored in a dry weather-proof lock up store free from extremes of cold or heat in accordance with the manufacturer's instructions. The materials shall not be removed from the store for use until immediately prior to mixing.

Repairs shall only be undertaken by Contractors who are able to demonstrate suitable experience and a proven track record dealing with concrete repairs.

Concrete Crack Repairs

Concrete crack repairs shall be carried out using a high strength, non-shrink, low viscosity epoxy resin injection grout.

Maintenance of Base Protection

Where base protection is already in place but requires stabilisation/protection it shall be reinstated as necessary in accordance with item 'Establish Base Protection' above.

Masonry Repointing

Repointing shall be undertaken in the same manner as in Section 2.4.

Masonry Repairs

Repairs shall be undertaken in the same manner as in Section 2.4.

Miscellaneous works

Any other routine repair and maintenance works to piers not covered by the above items and included in the bridge Works Order shall be undertaken in accordance with the requirements of the Employers instructions and measured in accordance with TII's standard method of measurement.

2.9 Bearings

Cleaning of Bearings

Bearings shall be cleared of all silt, dirt and debris or any other material which may impede the movement of or otherwise adversely affect the bearing by hand brushing

and/or airline. Where required by the Client moving and sliding parts shall be regreased.

Material which may impede moving parts and cannot be removed must be reported immediately to the Employer's Representative.

Miscellaneous Works

Any other routine repair and maintenance works to bearings not covered by the above items and included in the bridge Works Order shall be undertaken in accordance with the requirements of the Clients instructions.

2.10 Deck/Slab/Arch/Barrel

Cleaning of Drip Tubes

Any drip tubes or deck drains on the soffit of a bridge deck shall be rodded clear and all deposits removed for off-site disposal. The contents of any rodded outlets cannot be pushed out/discharged into the watercourse. Any broken pipes shall be repaired and made good.

Concrete Repairs

Concrete repairs shall be carried out where minor areas of defective concrete are identified by the Employer's Representative.

Cracked, honeycombed, delaminated, contaminated or otherwise defective concrete shall be broken out by hand held drill/impact hammer or other specified method, taking due care to avoid damage to sound concrete and reinforcement.

The concrete shall be broken out to a depth equal to the maximum size of aggregate plus 5mm beyond the reinforcement. Where corroded reinforcement is identified, the area of concrete removed shall be extended to expose 100mm of non-corroded reinforcement.

Before cutting out, the Contractor shall determine the position and depth of the reinforcement. The perimeter of the concrete to be removed shall be saw cut perpendicularly to the face of the concrete to a depth of not less than 10mm or to within 10mm of the reinforcement, whichever is the lesser. The concrete shall be removed by the use of suitable hand or mechanical tools or high-pressure water jetting. Where concrete is removed by high pressure water jetting a lightweight electric demolition hammer may be used for final trimming of the area broken out.

At the upper limits of repairs to be made by repair concrete, sloping cuts may be used to avoid the entrapment of air when the concrete is poured. The saw cut edges shall be abraded by grit blasting or equivalent methods.

The exposed faces shall be formed by cutting neat straight edges and shall be scabbled if necessary and cleaned off. The exposed surfaces shall be suitably primed and an approved, proprietary prebagged repair mortar, placed by hand ensuring a flush finish with the adjoining surface. The repair mortar shall be prepared and placed in accordance with the manufacturer's requirements.

Standard - Concrete surfaces shall be clean and dry and free of cement laitance, contaminants and loose friable material. The surface shall be such that repair concrete shall flow freely into all voids and be in intimate contact with the existing concrete.

Overbreak of concrete shall be made good with material. Reinforcement damaged during concrete removal shall be made good.

Where considered necessary by the Employer's Representative existing reinforcement which has corroded or is otherwise damaged shall be removed, and additional steel reinforcement shall be lapped or welded onto the existing reinforcement. All loose reinforcement shall be securely tied with stainless steel tying wire.

Waste material from the above operations shall be removed offsite. The Site shall be kept free of debris or standing water arising from the jetting activities.

All proprietary materials shall be stored in a dry weather-proof lock up store free from extremes of cold or heat in accordance with the manufacturer's instructions. The materials shall not be removed from the store for use until immediately prior to mixing.

Repairs shall only be undertaken by Contractors who are able to demonstrate suitable experience and a proven track record dealing with concrete repairs.

Concrete Crack Repairs

Concrete crack repairs shall be carried out using a high strength, non-shrink, low viscosity epoxy resin injection grout.

Masonry Repointing

Prior to commencement of all repointing and repair works, all vegetation and algae to be removed from face of arch barrel soffits in accordance with the specification.

Loose and cracked pointing shall be raked out to sound material and the joint cleaned. All such joints and joints with deep pointing shall be repointed flush with the masonry face.

All repointing shall be undertaken with lime mortar. The colour of the mortar shall match the existing to the reasonable satisfaction of the Employer's Representative.

Mortar for new and repointing existing masonry work shall be NHL5 lime mortar Mix Reference (a) in accordance with of Transport Infrastructure Ireland Publication CC-SPW-02400.

Due consideration is to be given to the risk of contaminates entering water courses or affecting the surrounding flora and fauna and a method of working and precautions adopted to prevent same.

Masonry Repair

Loose stone/brickwork is to be reinstated and missing stone/brickwork is to be replaced with stone/brickwork of a similar size and shape. An approved mortar shall be used to bed and repoint the masonry.

Repairs shall be undertaken in the same manner as in Section 2.4.

Due consideration is to be given to the risk of contaminates entering water courses or affecting the surrounding flora and fauna and a method of working and precautions adopted to prevent same.

Removal of Vegetation

All vegetation shall be removed from masonry, concrete and steel surfaces in such a manner as to avoid damage to mortar, concrete, protective systems and fixings.

The treatment to be adopted may vary with the type of vegetation but shall be similar to that adopted in Section 2.4 above.

Any damage to masonry, mortar or other materials resulting from this work shall be repaired in accordance with the relevant Section of this Methodology.

Removal of Waste

All debris, loose grit and general litter shall be removed and appropriately disposed of. General litter also includes unused ropes or wires, general construction waste and miscellaneous debris.

Any other routine repair and maintenance works to deck/slab not covered by the above items and included in the bridge Works Order shall be undertaken in accordance with the requirements of the Employers instructions and measured in accordance with TII's standard method of Measurement.

2.11 Beam/Girders/Transverse Beams

Concrete Repairs

Concrete repairs shall be carried out where minor areas of defective concrete are identified by the Employer's Representative.

Cracked, honeycombed, delaminated, contaminated or otherwise defective concrete shall be broken out by hand held drill/impact hammer or other specified method, taking due care to avoid damage to sound concrete and reinforcement.

The concrete shall be broken out to a depth equal to the maximum size of aggregate plus 5mm beyond the reinforcement. Where corroded reinforcement is identified, the area of concrete removed shall be extended to expose 100mm of non-corroded reinforcement.

Before cutting out, the Contractor shall determine the position and depth of the reinforcement. The perimeter of the concrete to be removed shall be saw cut perpendicularly to the face of the concrete to a depth of not less than 10mm or to within 10mm of the reinforcement, whichever is the lesser.

The concrete shall be removed by the use of suitable hand or mechanical tools or high-pressure water jetting. Where concrete is removed by high pressure water jetting a lightweight electric demolition hammer may be used for final trimming of the area broken out.

At the upper limits of repairs to be made by repair concrete, sloping cuts may be used to avoid the entrapment of air when the concrete is poured. The saw cut edges shall be abraded by grit blasting or equivalent methods.

The exposed faces shall be formed by cutting neat straight edges and shall be scabbled if necessary and cleaned off. The exposed surfaces shall be suitably primed and an approved, proprietary prebagged repair mortar, placed by hand ensuring a flush finish with the adjoining surface. The repair mortar shall be prepared and placed in accordance with the manufacturer's requirements.

Standard - Concrete surfaces shall be clean and dry and free of cement laitance, contaminants, and loose friable material. The surface shall be such that repair concrete shall flow freely into all voids and be in intimate contact with the existing concrete.

Overbreak of concrete shall be made good with material. Reinforcement damaged during concrete removal shall be made good. Where considered necessary by the Employer's Representative existing reinforcement which has corroded or is otherwise damaged shall be removed, and additional steel reinforcement shall be lapped or welded onto the existing reinforcement. All loose reinforcement shall be securely tied with stainless steel tying wire.

Waste material from the above operations shall be removed offsite. The Site shall be kept free of debris or standing water arising from the jetting activities.

All proprietary materials shall be stored in a dry weather-proof lock up store free from extremes of cold or heat in accordance with the manufacturer's instructions. The materials shall not be removed from the store for use until immediately prior to mixing.

Repairs shall only be undertaken by Contractors who are able to demonstrate suitable experience and a proven track record dealing with concrete repairs.

Concrete Crack Repairs

Concrete crack repairs shall be carried out using a high strength, non-shrink, low viscosity epoxy resin injection grout.

Any other routine repair and maintenance works to beams/girders/transverse beams not covered by the above items and included in the bridge Works Order shall be undertaken in accordance with the requirements of the Clients instructions.

2.12 Riverbed

Clearance of Watercourse

The watercourse shall be cleared of all obstructions, debris and vegetation that may impede flow. This includes household or domestic items dumped in the stream, tree branches, concrete or masonry rubble or other objects which have become lodged between abutments and /or piers or within pipes and debris build up under the structure. This may also include obstructions up to 20m upstream or downstream of the bridge.

Naturally occurring aquatic vegetation growth in the riverbed shall not be cut back. Excessive overgrowth of brambles etc. from adjacent embankments which is impeding flow should be cut back by manual means only. Vegetation in dry spans shall be cut back in accordance with Section 2.4. Heavy machinery will not be permitted in the watercourse.

The Contractor shall ensure that property boundary markings in the form of fencing are not removed or disturbed throughout the works. Where debris or branches are snagged in any grates or grilles fixed to structure (i.e. at inlet or outlet) this is to be carefully relocated to ensure no further debris trap exists.

For the desilting of heavily silted culverts, the use of specialist drain clearing suction rigs may be required. No discharge of waste is to be permitted on-site. The deposits are to be transported in permitted waste vehicles in compliance with the Waste

Management (Collection Permit) Regulations 2007 as amended and the waste disposed of at licensed/permitted waste facilities.

Any earthworks shall be as per Series 600 of the TII Specification for Works and within the appendices provided as part of the *Lot 3 Leinster Bridges Term Maintenance Contract No. 4 Volume A: Works Requirements Part 2: Specification*.

Where clearance of an obstruction may result in undermining or instability or scour of the abutments the Employer's Representative shall be informed and clearance at the risk area shall not be undertaken until instructions are received.

Scour Repairs

Scour holes will be filled with Class 1C material as described in Table 6/1 of Series 600 of the TII Specification for Road Works.

Damage or voids to existing concrete inverts shall be repaired using mass concrete of not less than Grade C20/25 which shall be placed and compacted in any void of not less than 300mm depth. Earthworks shall be as per Series 600 of the TII Specification for Works and the appendices provided as part of the *Lot 3 Leinster Bridges Term Maintenance Contract No. 4 Volume A: Works Requirements Part 2: Specification*.

Miscellaneous Works

Any other routine repair and maintenance works to other components not covered by the above items and included in the bridge Works Order shall be undertaken in accordance with the requirements of the Employer's instructions and measured in accordance with TII's standard method of measurement.

2.13 Other Elements

Concrete Repairs

Concrete repairs shall be carried out where minor areas of defective concrete are identified by the Employer's Representative.

Cracked, honeycombed, delaminated, contaminated or otherwise defective concrete shall be broken out by handheld drill/impact hammer or other specified method, taking due care to avoid damage to sound concrete and reinforcement.

The concrete shall be broken out to a depth equal to the maximum size of aggregate plus 5mm beyond the reinforcement. W here corroded reinforcement is identified, the area of concrete removed shall be extended to expose 100mm of non-corroded reinforcement.

Before cutting out, the Contractor shall determine the position and depth of the reinforcement. The perimeter of the concrete to be removed shall be saw cut perpendicularly to the face of the concrete to a depth of not less than 10mm or to within 10mm of the reinforcement, whichever is the lesser. The concrete shall be removed using suitable hand or mechanical tools or high-pressure water jetting. Where concrete is removed by high pressure water jetting a lightweight electric demolition hammer may be used for final trimming of the area broken out.

At the upper limits of repairs to be made by repair concrete, sloping cuts may be used to avoid the entrapment of air when the concrete is poured. The saw cut edges shall be abraded by grit blasting or equivalent methods.

The exposed faces shall be formed by cutting neat straight edges and shall be scabbled if necessary and cleaned off. The exposed surfaces shall be suitably primed and an approved, proprietary prebagged repair mortar, placed by hand ensuring a flush finish with the adjoining surface. The repair mortar shall be prepared and placed in accordance with the manufacturer's requirements.

Standard - Concrete surfaces shall be clean and dry and free of cement laitance, contaminants and loose friable material. The surface shall be such that repair concrete shall flow freely into all voids and be in intimate contact with the existing concrete.

Overbreak of concrete shall be made good with material. Reinforcement damaged during concrete removal shall be made good. Where considered necessary by the Employer's Representative existing reinforcement which has corroded or is otherwise damaged shall be removed, and additional steel reinforcement shall be lapped or welded onto the existing reinforcement. All loose reinforcement shall be securely tied with stainless steel tying wire.

Waste material from the above operations shall be removed offsite. The Site shall be kept free of debris or standing water arising from the jetting activities.

All proprietary materials shall be stored in a dry weather-proof lock up store free from extremes of cold or heat in accordance with the manufacturer's instructions. The materials shall not be removed from the store for use until immediately prior to mixing.

Repairs shall only be undertaken by Contractors who are able to demonstrate suitable experience and a proven track record dealing with concrete repairs.

Concrete Crack Repairs

Concrete crack repairs shall be carried out using a high strength, non-shrink, low viscosity epoxy resin injection grout.

Sweeping and Cleaning

Sweeping of footways called up under this heading shall be carried out in accordance with Section 2.3 above.

Patch Painting

Patch painting of steel shall be carried out in accordance with Section 2.4 above.

Prior to repainting of all other surfaces, all loose paint shall be removed, the surfaces cleaned back of any contaminants and the surfaces repainted using a compatible paint system approved for use by the Employers Representative.

Removal of Vegetation

All vegetation shall be removed from masonry, concrete and steel surfaces in such a manner as to avoid damage to mortar, concrete, protective systems and fixings.

The treatment to be adopted may vary with the type of vegetation but shall be similar to that adopted in Section 2.4 above.

Any damage to masonry, mortar or other materials resulting from this work shall be repaired in accordance with the relevant Section of this Methodology.

Drainage Pipes and Conduits

Loose and/or damaged conduits and ducts attached to the bridge structure to be repaired/refixed to the bridge structure.

Other Miscellaneous works

Any other routine repair and maintenance works not covered by the above items and included in the bridge Works Order shall be undertaken in accordance with the requirements of the Employer's instructions and measured in accordance with TII's standard Method of Measurement.

2.14 Structure in General

Removal of Signage

All unauthorised signage including construction contractors advertising signage is to be carefully removed and disposed of at an approved disposal site. For items of a sensitive nature such as memorials, helpline plaques etc. TII will need to be consulted prior to removal and if removed, the items shall be retained for a period of 28 days and owners contacted where possible to claim them back.

Concrete Repairs

Concrete repairs shall be carried out where minor areas of defective concrete are identified by the Employer's Representative.

Cracked, honeycombed, delaminated, contaminated or otherwise defective concrete shall be broken out by hand held drill/impact hammer or other specified method, taking due care to avoid damage to sound concrete and reinforcement.

The concrete shall be broken out to a depth equal to the maximum size of aggregate plus 5mm beyond the reinforcement. Where corroded reinforcement is identified, the area of concrete removed shall be extended to expose 100mm of non-corroded reinforcement.

Before cutting out, the Contractor shall determine the position and depth of the reinforcement. The perimeter of the concrete to be removed shall be saw cut perpendicularly to the face of the concrete to a depth of not less than 10mm or to within 10mm of the reinforcement, whichever is the lesser. The concrete shall be removed by the use of suitable hand or mechanical tools or high-pressure water jetting. Where concrete is removed by high pressure water jetting a lightweight electric demolition hammer may be used for final trimming of the area broken out.

At the upper limits of repairs to be made by repair concrete, sloping cuts may be used to avoid the entrapment of air when the concrete is poured. The saw cut edges shall be abraded by grit blasting or equivalent methods.

The exposed faces shall be formed by cutting neat straight edges and shall be scabbled if necessary and cleaned off. The exposed surfaces shall be suitably primed and an approved, proprietary prebagged repair mortar, placed by hand ensuring a flush finish with the adjoining surface. The repair mortar shall be prepared and placed in accordance with the manufacturer's requirements.

Standard - Concrete surfaces shall be clean and dry and free of cement laitance, contaminants and loose friable material. The surface shall be such that repair concrete shall flow freely into all voids and be in intimate contact with the existing concrete.

Overbreak of concrete shall be made good with material. Reinforcement damaged during concrete removal shall be made good.

Where considered necessary by the Employer's Representative existing reinforcement which has corroded or is otherwise damaged shall be removed, and additional steel reinforcement shall be lapped or welded onto the existing reinforcement. All loose reinforcement shall be securely tied with stainless steel tying wire.

Waste material from the above operations shall be removed offsite. The Site shall be kept free of debris or standing water arising from the jetting activities.

All proprietary materials shall be stored in a dry weather-proof lock up store free from extremes of cold or heat in accordance with the manufacturer's instructions. The materials shall not be removed from the store for use until immediately prior to mixing.

Repairs shall only be undertaken by Contractors who are able to demonstrate suitable experience and a proven track record dealing with concrete repairs.

Concrete Crack Repairs

Concrete crack repairs shall be carried out using a high strength, non-shrink, low viscosity epoxy resin injection grout.

Removal of Graffiti

Refer to Section 2.4 above.

Maintenance of Structure ID

The structure ID number plate to be replaced shall take the form of a plastic 'car registration plate type and shall measure 105mm X 520mm. The signs Shall be made from clear PET with radiused corners, with white reflective sheeting and black numbers/letters reverse applied to the PET.

The plates shall be fixed to concrete abutments/piers/parapets using an approved adhesive which will ensure that the plate is securely bonded to the substrate. Previously approved adhesives include "Pinkgrip" and "Tech 7" polymer adhesives. Where it is not possible to fix a plate to a substrate using adhesive then metal/plastic fixings will be allowed. This will be required largely on masonry parapet walls. The Contractor should avoid using metal fixings on reinforced concrete abutments/piers or parapets.

For steel/aluminium parapets it may be possible to fix the plate to the Steel mesh by using plastic ties. Alternatively, it may be possible to fix the plate to the approach safety barrier. This will be possible for OBB safety barriers. Again, an appropriate adhesive shall be used.

Where adhesives are used to fix the plates, it is vitally important that proper surface preparation is carried out in accordance with the manufacturer's instructions.

Where parapets are not present, marker posts labelled with the structure ID shall be erected within the verge or footpath. The guidelines to be followed when siting marker plates and posts are as follows:

In the case of single carriageway overbridges, the identification will be located on the left abutment or pier (in the direction of increasing chainage). The identification should be placed at a visible location on the front of the abutment (under the bridge). It is

recommended that where possible the plate be fixed at a height of 2.5m above ground level. Additionally, the identification marker plate shall be fixed to the parapet of all single carriageway bridges, locating it on the road face at the near end of the left parapet in the direction of increasing chainage. On dual carriageways, the marker plate shall be fixed on both abutments, or piers, and on both parapets at the approach ends.

Removal of Waste

All debris, loose grit and general litter shall be removed and appropriately disposed of offsite. General litter also includes unused ropes or wires, general construction waste and miscellaneous debris.

Any other routine repair and maintenance works to Structure in General not covered by the above items and included in the bridge Works Order shall be undertaken in accordance with the requirements of the Employers instructions and measured in accordance with TII's standard method of Measurement.

2.15 Nature of the proposed works

The nature of the proposed works is presented in Table 2-1. The extent of the works is presented in Table 3-1. The locations of the works are presented in Appendix B.

Table 2-1 Nature of the proposed works

Bridge ID	Bridge Name	Masonry repointing/ repair	Removal of material from riverbed	Scour repair	Concrete repair	Seal jojnts on edge beam	Reshaping of wingwall	Bedding mortar reinstated
CW-N80-001.00	Raheen Culvert		✓	✓	✓			
CW-N80-005.00	Ballykealey Bridge	✓	✓	✓				
CW-N80-007.00	Fighting Cocks Bridge	✓	✓	✓				
CW-N80-009.00	Bollinocarrig Bridge	✓	✓					
CW-N81-007.00	New Mill Leat	✓			✓			
KE-N78-002.00	Augustus Bridge	✓			✓			
KE-N78-003.00	Athy Bridge	✓						
KK-N76-002.00	Kilbride River Bridge	✓						
KK-N76-005.50	Moankeal Culvert	✓	✓	✓				
KK-N76-006.00	Knockreagh Bridge	✓	✓					
KK-N76-009.00	Shellumsrath Bridge		✓	✓				
KK-N77-001.00	Baun Bridge	✓			✓			
KK-N77-002.00	Dinin Bridge	✓						
KK-N78-001.00	Douglas River Bridge	✓			✓			
KK-N78-002.00	Julianstown Bridge	✓	✓					
KK-N78-003.00	Lisnafunshin Bridge	✓			✓			
KK-N78-004.00	Dysart Bridge South	✓		✓	✓	✓		
KK-N78-005.50	Ballycomey Culvert	✓	✓					
KK-N78-006.00	Clashduff Lower Bridge	✓	✓	✓				

Bridge ID	Bridge Name	Masonry repointing/ repair	Removal of material from riverbed	Scour repair	Concrete repair	Seal jojnts on edge beam	Reshaping of wingwall	Bedding mortar reinstated
KK-N78-007.00	Castlecomer Bridge	✓						
KK-N78-008.00	Castlecomer Tributary Bridge	✓						
KK-N78-009.00	Crettyard Bridge				✓			
LD-N05-000.10	Termonbarry Bridge				✓			
LS-N77-001.00	Durrow Bridge				✓			
LS-N77-002.00	New Bridge, River Nore	✓						
LS-N78-001.00	Ormonde Bridge	✓			✓		✓	
LS-N80-000.80	Coolanowle Culvert		✓	✓				
LS-N80-009.00	Mountmellick Bridge			✓	✓			✓
LS-N80-010.00	Moll Rowe's Corner Bridge	✓	✓		✓			
WW-N81-002.00	Eldon Bridge	✓		✓				
WW-N81-004.00	Mattymount Bridge	✓						
WW-N81-005.00	Waterloo Bridge	✓						
WW-N81-007.00	Whitestown Bridge	✓						
WW-N81-008.00	Whitestown Stream Bridge	✓			✓			
WW-N81-009.00	Carrigower Bridge	✓						
WX-N30-004.00	Ballymackesy Bridge			✓	✓			
WX-N80-001.00	Tomnakipeen Bridge	✓		✓	✓			
WX-N80-002.00	Tomagarrow Bridge	✓	✓					

Bridge ID	Bridge Name	Masonry repointing/ repair	Removal of material from riverbed	Scour repair	Concrete repair	Seal jojnts on edge beam	Reshaping of wingwall	Bedding mortar reinstated
WX-N80-004.00	Clody Bridge	✓						

3. IDENTIFICATION OF ADVERSE EFFECTS AND EVALUATION AGAINST CONSERVATION OBJECTIVES

Table 3-1 presents the identification of adverse effects and evaluation against the relevant conservation objective.

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011b)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Carlow	CW-NBD-001.00	Raheen Culvert	Sweep and clean the entire bridge surface (80m2). Clean gully (1 no.). Remove vegetation growth from east (60m2), and west (60m2) embankments. **Watercourse to be cleared from northern pipe, 0.3m depth of sediment to be removed (20m2). This sediment is cobbles/ gravel from the culvert, which is above the normal water level and was dry when the survey was undertaken. Scour repair required between pipes at downstream end in two locations (0.5m3 each). Minor concrete repair required at various locations along the pipes with steel bars exposed. 6 no. locations require concrete repair (0.05m2) & concrete repairs required on west side at two northern pipes at the elevation face (0.1m2 each).**	This culvert is 1.6km upstream of the SAC.	Slaney River Valley SAC [000781]	1029 Freshwater Pearl Mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the Slaney River Valley SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Slaney and its tributaries [redacted] 44km downstream of the culvert. Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1095 Sea Lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the Slaney River Valley SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Slaney in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
						1096 Brook Lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the Slaney River Valley SAC		
						1099 River Lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the Slaney River Valley SAC		
						1106 Atlantic Salmon Salmo salar	To restore the favourable conservation condition of Salmon in the Slaney River Valley SAC		
						1103 Twaite Shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the Slaney River Valley SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the Slaney River Valley SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in the Slaney River Valley SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the Slaney River Valley SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1365 Harbour Seal Phoca vitulina	To maintain the favourable conservation condition of Harbour Seal in the Slaney River Valley SAC	The closest suitable habitat for Harbour Seal is >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	No
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the Slaney River Valley SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of old sessile oakwoods with Ilex and Blechnum in the Slaney River Valley SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion) in the Slaney River Valley SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	No

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011b)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Carlow	CW-NBD-005.00	Ballykealey Bridge	Pavement cracks require sealing with hot poured bitumen at southbound lane (8m long). Sweep and clean the entire bridge surface (230m2). Clean all gullies (1 no.). 1 no. gully cover to be replaced. Clean footways (45m2). **Undermining present to footway in southwest corner (1m deep x 0.2m high x 1m long, 0.2m3 total).** Remove moss growth from parapets at east inner face (1m2), and west inner face (10m2). Masonry repointing required east inner face (1.5m2), and west inner face (7m2). Remove vegetation growth at northeast (8m2), northwest (1m2), southeast (10m2) and southwest (3m2) embankments. Remove vegetation from southwest spandrel wall (1m2). **Masonry repointing required at southwest spandrel wall (1m2), southwest wingwall (1m2), southeast wingwall (3m2), northwest wingwall (0.5m2) and northeast wingwall (2.5m2). Clearance of watercourse required under the bridge (3 big rocks to be removed, 0.4m3 each). Clearance required downstream, 10m from structure (5m2 of branches and trees to be removed).** Installation of 1 no. missing structure ID required at east parapet.	This bridge is 3.8km upstream of the SAC.	Slaney River Valley SAC [000781]	1029 Freshwater Pearl Mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the Slaney River Valley SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Slaney and its tributaries [redacted] 7km downstream of the bridge. Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1095 Sea Lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the Slaney River Valley SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Slaney in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
						1096 Brook Lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the Slaney River Valley SAC		
						1099 River Lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the Slaney River Valley SAC		
						1106 Atlantic Salmon Salmo salar	To restore the favourable conservation condition of Salmon in the Slaney River Valley SAC		
						1103 Twaite Shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the Slaney River Valley SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the Slaney River Valley SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in the Slaney River Valley SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the Slaney River Valley SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1365 Harbour Seal Phoca vitulina	To maintain the favourable conservation condition of Harbour Seal in the Slaney River Valley SAC	The closest suitable habitat for Harbour Seal is >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	No
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the Slaney River Valley SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of old sessile oakwoods with Ilex and Blechnum in the Slaney River Valley SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion) in the Slaney River Valley SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	No

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Carlow	CW-NBD-007.00	Fighting Cocks Bridge	Pavement cracks require sealing with hot poured bitumen at the midspan (10m long), and eastbound lane (8m long). Sweep and clean the entire bridge surface (300m2). Sweep and clean rubbing strip (20m2). Remove vegetation growth from embankments at south (20m2), southeast (2m2), and southwest (2m2). Remove vegetation growth from spandrel walls at south (1m2), north (7m2). **Base protection to be maintained at northeast 1m long scour pocket, northwest 3m long scour pocket. Masonry repointing required to spandrel walls at northeast (15m2).** Masonry repair required to wingwalls southeast (4m3). **Masonry repointing required to abutment at northeast end and west end (5m2 each). Watercourse to be cleared from branches/fallen trees/debris/overgrown vegetation at upstream (14m2) and downstream (2m2)**. Litter to be removed from upstream, southwest side (0.5m2). Installation of 1 no. missing structure ID required at south parapet.	This bridge is 18.6km upstream of the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Barrow and its tributaries. [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Barrow and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Barrow in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. While there is no direct pathway for water quality impacts on the Nore Freshwater Pearl Mussel, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts and have the potential to be exposed to these types of impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Barrow, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with Alnus glutinosa and Fraxinus excelsior (alno-Padion, Alnion incanae, Alicion albae). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Carlow	CW-NBD-009.00	Bollinocarrig Bridge	Sweep and clean the entire bridge surface (400m2). Installation of a new rubbing strips are required at following locations: east side (20m long). Sweep and clean rubbing strip (30m2). Remove vegetation growth from parapets at northeast (7m2), northwest (30m2), southeast (20m2), and southwest (30m2). **Masonry repointing required to parapets internal and external face throughout (40m2).** Remove vegetation growth from wingwalls at northwest (10m2), and southwest (15m2). Remove vegetation growth from spandrel walls at west exterior face (2.5m2). Remove vegetation growth from approach retaining wall at west exterior face (15m2). **Masonry repointing required to spandrel walls at west exterior face (2.5m2).** Remove litter from southwest wingwall (1m2). **Remove log from under the bridge (15m long x 1m width). Remove 1 no. log that is attached to arch barrel on southwest side (4m long, 0.4m dia).** Installation of 1 no. missing structure ID required at north parapet.	This bridge is 3.9km upstream of the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Barrow and its tributaries [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Barrow and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Barrow in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. While there is no direct pathway for water quality impacts on the Nore Freshwater Pearl Mussel, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts and have the potential to be exposed to these types of impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Barrow, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion alboe*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011b)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Carlow	CW-NB1-007.00	New Mill Leat	Sweep and clean the entire surface of carriageway (10m2). Hosing of combined kerb drainage system (3m). Sealing of pavement crack at northwest corner of chamber cover (0.5m2). Sweeping and cleaning footway (12m2). Removal of vegetation, including moss, from road side, river side and top surface on both southbound and northbound parapets, access required (44m2). Vegetation, including moss, to be removed from southeast corner (7.5m2). **Repointing required at southeast wall at 1.5m from the box at downstream, at 0.5m to 1.5m in height adjacent to outlet, which forms part of private property (1m2), and on northwest wingwall throughout (16m2).** Vegetation, including moss, from northeast corner to be removed (2m2). **Concrete repair required on west abutment at 2m from north end (0.06m2).** Debris, including plastic waste and glass bottle to be removed (0.5m2). Vegetation downstream to be removed (2m2).	This bridge is over a disused mill race, adjacent to the SAC and 25m upstream of the SAC boundary. The mill race was dry at the time of the survey.	Slaney River Valley SAC [000781]	1029 Freshwater Pearl Mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the Slaney River Valley SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Slaney and its tributaries [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea Lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the Slaney River Valley SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Slaney in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook Lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the Slaney River Valley SAC		
						1099 River Lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the Slaney River Valley SAC		
						1106 Atlantic Salmon Salmo salar	To restore the favourable conservation condition of Salmon in the Slaney River Valley SAC		
						1103 Twaite Shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the Slaney River Valley SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the Slaney River Valley SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in the Slaney River Valley SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the Slaney River Valley SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1365 Harbour Seal Phoca vitulina	To maintain the favourable conservation condition of Harbour Seal in the Slaney River Valley SAC	The closest suitable habitat for Harbour Seal is >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the Slaney River Valley SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of old sessile oakwoods with Ilex and Blechnum in the Slaney River Valley SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion) in the Slaney River Valley SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion alboe*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Kildare	KE-N78-002.00	Augustus Bridge	Damaged section of kerb stones on south side to be replaced (5m long). Sweep and clean the entire bridge surface (100m2). Sweep and clean both footways (50m2). Remove vegetation growth from north (1m2), south (0.5m2), and southeast (2m2) parapets. Concrete repair required to southeast road facing side top of parapet (0.1m2). Seal crack in parapet with a suitable cementitious repair grout at south parapet (0.01m2) (2mm crack 300mm long). **Seal of crack with proper cementitious material at north parapet river face 0.5m2 (max height 4 m from water level).** Remove vegetation growth from southeast (20m2) and southwest (4m2) parapets. Remove vegetation growth from northeast (5m2) and northwest (4m2) training walls. **Masonry repointing required to southeast (15m2) and southwest (4m2) wingwalls. Masonry repointing required to northeast (5m2) and northwest (4m2) training walls.** Installation of 1 no. missing structure ID required on south parapet.	This bridge is 550m upstream of the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Barrow and its tributaries. [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Barrow and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Barrow in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. While there is no direct pathway for water quality impacts on the Nore Freshwater Pearl Mussel, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts and have the potential to be exposed to these types of impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Barrow, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Kildare	KE-N78-003.00	Athy Bridge	Repair required to kerb on southwest side (0.1m2). Sweep and clean the entire bridge surface (300m2). Sweep and clean both footways (180m2). **Masonry repointing required at north (5m2) and south (5m2) parapets.** Masonry repair required northwest corner of parapet (0.1m2). Patch-painting required to northeast side of parapet (1m2). Remove vegetation growth from north (5m2) and south (0.5m2) spandrel walls. **Masonry repointing required to north (5m2) and south (0.5m2) spandrel walls.** Remove vegetation growth from northeast pier breakwater (2m2) and southeast pier (2m2). Installation of 1 no. missing structure ID required on north parapet.	This bridge is within the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Barrow and its tributaries, [redacted]. Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage..	**Yes**
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Barrow and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Barrow in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage..	**Yes**
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. While there is no direct pathway for water quality impacts on the Nore Freshwater Pearl Mussel, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts and have the potential to be exposed to these types of impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terreistrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Barrow, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Salicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Kilkenny	KK-N76-002.00	Kilbride River Bridge	Sweep and clean the entire bridge surface (80m2). Sweep and clean both footways (80m2). Remove vegetation growth from northeast (1m2), northwest (1m2), southeast (1m2), southwest (2m2) embankments. Remove ivy growth from northeast spandrel wall (1.5m2). **Masonry repointing required at northeast (1.5m2) wing/spandrel/retaining walls. Masonry repair required at southeast (downstream) side (2m3).** Remove vegetation growth from northeast (2.5m2) and southeast (1.5m2) abutments. **Masonry repointing at northeast (2.5m2) and southeast corner (1.5m2) of abutments. Loose stonework to be repaired at northwest (1.5m3) and southwest (1.5m3) rock armour.** Polysulphide joints to be replace at southeast corner (0.5m) and northeast corner (0.5m). Remove vegetation growth from downstream breakwater (1.5m2). Watercourse to be cleared from branches/fallen trees/debris/overgrown vegetation upstream (5m2) and downstream (10m2). Installation of 1 no. missing structure ID required at east parapet.	This bridge is 2km upstream of the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Nore and its tributaries, [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Nore in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore and River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore and River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore and River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. Nore Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Nore, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Kilkenny	KK-N76-005.50	Moankeal Culvert	Sweep and clean the entire bridge surface (80m2). Installation of rubbing strip required at both sides of footway/median (16m2 each side). Remove vegetation growth from parapets (12m2). Remove vegetation growth from northeast (5m2), northwest (20m2), southeast (5m2) and southwest (5m2) embankments. **Local undermining to southwest retaining wall (2.5m3). Masonry repair to northeast (5m2), northwest (20m2), southeast (5m2) and southwest (5m2) spandrel walls. Masonry repair required at west side of deck/slab/arch barrel (1.5m2). Watercourse to be cleared of branches/debris/overgrown vegetation both upstream (10m2) and downstream (20m2).** Installation of 2 no. missing structure ID required on both parapets.	This culvert is 3.8km upstream of the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Nore and its tributaries, [redacted]. Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Nore in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. Nore Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Nore, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion alboe*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion alboe*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
			Potential pathways for impacts?	**Site name(s) and Code(s)**	**Qualifying Interest**	**Conservation Objective (NPWS, 2022a)**	**Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?**		**Adverse Effect / Mitigation Required?**
			This culvert is 3.9km upstream of the SPA.	River Nore SPA [004233]	A229 Kingfisher Alcedo atthis	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	The proposed works could give rise to water quality impacts in the event of a spillage of pollutants such as wet cementitious material into the river. These pollutants can have toxic effects on aquatic life, including on the migratory fish species that present within the river that Kingfisher depend on as a food source. This would lead to negative effects on the fish populations within the river where Kingfisher are known to feed, leading to indirect ex-situ impacts on this Qualifying Interest. Therefore, adverse effects arising from the proposed works on the integrity of the River Nore SPA in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.		Yes

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Kilkenny	KK-N76-006.00	Knockreagh Bridge	Sweep and clean the entire surface of carriageway (90m2). Maintenance of joint required at southwest corner (0.5m). Sweep and clean footways/median (60m2). Remove soft vegetation from both parapets (0.5m2). Remove soft vegetation from northwest safety barrier (5m2). Remove moss from north edge beam (0.5m2). **Repointing required on south parapet on river face (1.5m2), 4m from water level.** Remove soft vegetation from southwest (6m2), southeast (6m2), northeast (8m2), and northwest (4m2) wingwalls. Repointing required at northeast corner (8m2). **Removal of debris from upstream (10m2) and downstream (20m2).** Replace 1 no. missing ID plate from south parapet.	This bridge is 4.1km upstream of the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Nore and its tributaries, [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Nore in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. Nore Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Nore, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
			Potential pathways for impacts?	**Site name(s) and Code(s)**	**Qualifying Interest**	**Conservation Objective (NPWS, 2022a)**	**Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?**		**Adverse Effect / Mitigation Required?**
			This bridge is 4.2km upstream of the SPA.	River Nore SPA [004233]	A229 Kingfisher Alcedo atthis	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	The proposed works could give rise to water quality impacts in the event of a spillage of pollutants such as wet cementitious material into the river. These pollutants can have toxic effects on aquatic life, including on the migratory fish species that present within the river that Kingfisher depend on as a food source. This would lead to negative effects on the fish populations within the river where Kingfisher are known to feed, leading to indirect ex-situ impacts on this Qualifying Interest. Therefore, adverse effects arising from the proposed works on the integrity of the River Nore SPA in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.		Yes

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Kilkenny	KK-N76-009.00	Shellumsrath Bridge	Sweep and clean entire bridge surface (90m2). Clean all gullies (5 no.). Pavement cracks require sealing with hot poured bitumen at the west side of footway/median (15m). Sweep and clean both footways (38m2). Remove vegetation growth between safety barrier and timber fence at northeast corner (10m2). Remove vegetation from pillars at west side (1m2 each). Minor concrete repair required to parapet pillars at northwest (0.1m3) and southwest (0.1m3). Remove vegetation from northeast (7m2), northwest (2m2), southeast (3m2) and southwest (2m2) embankments. Polysulphide joints to be replaced at interface between arch and concrete slab (3.5m each span). **Watercourse to be cleared of branches/fallen debris/overgrown vegetation at upstream (15m2) and downstream (30m2) side. Undermining occurring at north abutment at the east end (2m long, 50mm deep) and southeast side of abutment and southside of pier.** Installation of 1 no. missing structure ID required on west parapet.	This bridge is 6km upstream of the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Nore and its tributaries [redacted]. Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Nore in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime-mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. Nore Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Nore, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
				Potential pathways for impacts?	**Site name(s) and Code(s)**	**Qualifying Interest**	**Conservation Objective (NPWS, 2022a)**	**Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?**	**Adverse Effect / Mitigation Required?**
				This bridge is 6km upstream of the SPA.	River Nore SPA [004233]	A229 Kingfisher Alcedo atthis	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	The proposed works could give rise to water quality impacts in the event of a spillage of pollutants such as wet cementitious material into the river. These pollutants can have toxic effects on aquatic life, including on the migratory fish species that present within the river that Kingfisher depend on as a food source. This would lead to negative effects on the fish populations within the river where Kingfisher are known to feed, leading to indirect ex-situ impacts on this Qualifying Interest. Therefore, adverse effects arising from the proposed works on the integrity of the River Nore SPA in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Kilkenny	KK-N77-001.00	Baun Bridge	Sweep and clean the entire bridge surface (70m2). Sweep and clean both footways (30m2). **Repair required at southeast footway at parapet upstand with appropriate mortar material (0.1m2).** Remove moss growth from southwest (20m2), northwest (20m2), and east (30m2) parapets. **Masonry repointing required at southwest (15m2), northwest (15m2), and east (10m2) parapets. Masonry repair required at southwest inner face (0.01m3), and northwest exterior face (0.01m3) of parapets.** Remove vegetation growth from northeast (1m2), southeast (1m2), and southwest (2m2) embankments. Remove moss and light vegetation grown at northwest (40m2), southwest (40m2), northeast (10m2), and southeast (15m2) retaining walls. **Repointing required at northwest (12m2), southwest (12m2), northeast (7m2), and southeast (4m2) retaining walls.** Watercourse to be cleared of branches/fallen trees/ debris/overgrown vegetation on downstream side (2m2) close to southwest wingwall. Installation of 1 no. missing structure ID required on east parapet.	This bridge is 650m upstream of the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Nore and its tributaries [redacted]. Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Nore in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. Nore Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Nore, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion alboe*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion alboe*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
			Potential pathways for impacts?	**Site name(s) and Code(s)**	**Qualifying Interest**	**Conservation Objective (NPWS, 2022a)**	**Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?**	**Adverse Effect / Mitigation Required?**	
			This bridge is 760m upstream of the SPA.	River Nore SPA [004233]	A229 Kingfisher Alcedo atthis	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	The proposed works could give rise to water quality impacts in the event of a spillage of pollutants such as wet cementitious material into the river. These pollutants can have toxic effects on aquatic life, including on the migratory fish species that present within the river that Kingfisher depend on as a food source. This would lead to negative effects on the fish populations within the river where Kingfisher are known to feed, leading to indirect ex-situ impacts on this Qualifying Interest. Therefore, adverse effects arising from the proposed works on the integrity of the River Nore SPA in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes	

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Kilkenny	KK-N77-002.00	Dinin Bridge	Sweep and clean the entire surface of carriageway (350m2). Removal of vegetation and moss from both parapets (60m2). **Repointing required at northwest coping stones and throughout both sides (12m2). Masonry repair required at southwest corner (0.02m3).** Removal of vegetation from northwest (8m2) and northeast (10m2) wingwalls. Removal of vegetation from north external face (15m2), and south external face (15m2) of spandrel walls. **Repointing required throughout north (15m2), and south (15m2) spandrel walls. Repointing required at northwest (5m2) and northeast (7m2) wingwalls.** Removal of vegetation from cutwaters at northwest (5m2), northeast (0.5m2) and southeast (1m2) sides. Removal of moss from each pier facing north (1m2 each). **Repointing required at each pier of north face (1m2 each).** Installation of 1 no. missing structure ID required at north parapet (1 no.).	This bridge is within the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Nore and its tributaries, [redacted]. Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Nore in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. Nore Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Nore, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
			Potential pathways for impacts?	**Site name(s) and Code(s)**	**Qualifying Interest**	**Conservation Objective (NPWS, 2022a)**	**Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?**		**Adverse Effect / Mitigation Required?**
			This bridge is 1.7km upstream of the SPA.	River Nore SPA [004233]	A229 Kingfisher Alcedo atthis	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	The proposed works could give rise to water quality impacts in the event of a spillage of pollutants such as wet cementitious material into the river. These pollutants can have toxic effects on aquatic life, including on the migratory fish species that present within the river that Kingfisher depend on as a food source. This would lead to negative effects on the fish populations within the river where Kingfisher are known to feed, leading to indirect ex-situ impacts on this Qualifying Interest. Therefore, adverse effects arising from the proposed works on the integrity of the River Nore SPA in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.		Yes

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Kilkenny	KK-N78-001.00	Douglas River Bridge	Sweep and clean the entire surface of carriageway (140m2). Clean all gullies (1 no.). Remove ivy/moss growth from north (0.5m2) and south (3m2) embankments. Masonry repointing required on north internal face (8m2) and south internal face (8m2) of parapets. **Masonry repair required at southeast corner (0.01m3) of parapet.** Remove vegetation growth from north (2m2) spandrel wall. Remove vegetation growth from northeast (7m2), northwest (7m2), southeast (6m2) and southwest (5m2) embankments. Remove vegetation growth from northeast (4m2), northwest (4m2), southeast (5m2), and southwest (5m2) training walls. Remove ivy from north wingwall (12m2). **Masonry repointing required at north spandrel wall (4m2). Repointing required at southeast (2m2), southwest (2.5m2), northeast (3.5m2), and northwest (3.5m2) wingwalls. Repointing required at training wall (2.2m2 each side). Masonry repair required at northeast abutment (0.3m3). Minor concrete repair required on northern side of deck/slab/arch barrel in two locations (0.2m2).** Installation of 1 no. missing structure ID required on south parapet.	This bridge is within the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Nore and its tributaries [redacted]. Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Nore in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. Nore Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Nore, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
			Potential pathways for impacts?	**Site name(s) and Code(s)**	**Qualifying Interest**	**Conservation Objective (NPWS, 2022a)**	**Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?**	**Adverse Effect / Mitigation Required?**	
			This bridge is 8.9km upstream of the SPA.	River Nore SPA [004233]	A229 Kingfisher Alcedo atthis	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	The proposed works could give rise to water quality impacts in the event of a spillage of pollutants such as wet cementitious material into the river. These pollutants can have toxic effects on aquatic life, including on the migratory fish species that present within the river that Kingfisher depend on as a food source. This would lead to negative effects on the fish populations within the river where Kingfisher are known to feed, leading to indirect ex-situ impacts on this Qualifying Interest. Therefore, adverse effects arising from the proposed works on the integrity of the River Nore SPA in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes	

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Kilkenny	KK-N78-002.00	Julianstown Bridge	Sweep and clean the entire surface of carriageway (90m2). Cleaning of drain gully (1 no.). Sweep and clean footways (30m2). Removal of soft vegetation, moss and ivy at west (1.5m2) and east (0.5m2) parapets. **Repointing required on west (0.5m2) and east (1m2) parapets. Repointing required on 25% of all wingwalls (4.75m2).** Removal of soft vegetation from northeast (5m2), northwest (2m2), southwest (6m2) and southeast (3m2) embankments/revetments. Removal of soft vegetation from northeast (2m2) and west (2m2) spandrel walls. **Repointing required on northeast (2m2) and west (2m2) spandrel walls. Repointing required at wingwalls (2m2 each side). Masonry repair required at various locations on arch barrel (1m3). Clearance of watercourse required from branches, debris and light vegetation obstructing the flow upstream (15m2).** Remove dumped pipe at northwest wingwall (0.5m). Remove dumped traffic sign from southwest wingwall (1 no.). Replace 1 no. missing ID plate on north parapet (1 no.).	This bridge is 200m upstream of the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Nore and its tributaries, [redacted]. Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Nore in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. Nore Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Nore, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion alboe*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
			Potential pathways for impacts?	**Site name(s) and Code(s)**	**Qualifying Interest**	**Conservation Objective (NPWS, 2022a)**	**Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?**		**Adverse Effect / Mitigation Required?**
			This bridge is 11.5km upstream of the SPA.	River Nore SPA [004233]	A229 Kingfisher Alcedo atthis	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	The proposed works could give rise to water quality impacts in the event of a spillage of pollutants such as wet cementitious material into the river. These pollutants can have toxic effects on aquatic life, including on the migratory fish species that present within the river that Kingfisher depend on as a food source. This would lead to negative effects on the fish populations within the river where Kingfisher are known to feed, leading to indirect ex-situ impacts on this Qualifying Interest. Therefore, adverse effects arising from the proposed works on the integrity of the River Nore SPA in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.		**Yes**

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Kilkenny	KK-N78-003.00	Lisnafunshin Bridge	Sweep and clean the entire surface of carriageway (160m2). Cleaning of both drain gully (2 no.). Sweep and clean footways (70m2). Removal of soft vegetation from northwest (4m2), southwest (30m2), northeast (2m2) and southeast (8m2) of safety barriers. Removal of soft vegetation from east parapets (6m2). Timber fence to be reinstated at northwest corner (3 no. rails and 2 posts). **Repointing required at east parapet (6m2), and west parapet (0.5m2).** Replace terminal at northeast corner (1m). Removal of soft vegetation from northwest (2m2), southwest (5m2), northeast (2m2), and southeast (15m2) embankments. Removal of vegetation, ivy and moss from spandrel wall external face (8m2). **Repointing required on 30% of all wingwalls (10.0m2).Repointing required on west spandrel wall (8m2). Undermining at south abutment on northeast side of abutment require repair with appropriate mortar material (7m2)**. Replace 1 no. missing ID plate on east parapet.	This bridge is 340m upstream of the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Nore and its tributaries, [redacted] freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Nore in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. Nore Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Nore, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
			Potential pathways for impacts?	**Site name(s) and Code(s)**	**Qualifying Interest**	**Conservation Objective (NPWS, 2022a)**	**Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?**	**Adverse Effect / Mitigation Required?**	
			This bridge is 11.8km upstream of the SPA.	River Nore SPA [004233]	A229 Kingfisher Alcedo atthis	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	The proposed works could give rise to water quality impacts in the event of a spillage of pollutants such as wet cementitious material into the river. These pollutants can have toxic effects on aquatic life, including on the migratory fish species that present within the river that Kingfisher depend on as a food source. This would lead to negative effects on the fish populations within the river where Kingfisher are known to feed, leading to indirect ex-situ impacts on this Qualifying Interest. Therefore, adverse effects arising from the proposed works on the integrity of the River Nore SPA in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes	

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Kilkenny	KK-N78-004.00	Dysart Bridge South	Pavement cracks required sealing with hot poured bitumen at a longitudinal crack on south side (12m), northwest side (2.5m) of bridge surface, on southbound lane (3m), and northbound lane (12m). Potholes to be filled with macadam material at northwest bridge surface (1m2). Sweep and clean the entire bridge surface (400m2). Hose drainage channels on both sides (80m). Clean expansion joints from debris, dirt and vegetation at south (12m) and centre (10m). Maintenance of expansion joints required at south (12m) and centre (1.5m). **Sealing of joints on edge beam (6 no., 0.5m each).** Remove vegetation growth from northeast (2m2), northwest (6m2), southeast (2m2), and southwest (2m2) parapets. **Masonry repointing required to northwest (5m2) parapet.** Tape to be removed from parapet rails (1 no.). 1 no. steel wire to be removed from west parapet rail at post. Remove vegetation growth from northeast (2m2), northwest (2m2), southeast (2m2), and southwest (8m2) wingwalls. **Minor crack injection required at north abutment with appropriate mortar material (0.1m2).** Remove vegetation growth from piers at top of crosshead beams (0.3m2) each side at each end (1.2m2 total)**. Concrete repair required at east side of crosshead (0.1m2).** Clean all bearings (84 no.). **Concrete repairs required at end of beams close to both abutments, eight spots on north side and eight spots on south side (0.2m2). Scour repair required at 700mm deep scour hole upstream and south of pier (10m2).** Installation of 1 no. missing structure ID required on south parapet.	This bridge is within the SAC, and 13.7km upstream of the SPA.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Nore and its tributaries, [redacted]. Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Nore in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. Nore Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Nore, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
			Potential pathways for impacts?	**Site name(s) and Code(s)**	**Qualifying Interest**	**Conservation Objective (NPWS, 2022a)**	**Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?**	**Adverse Effect / Mitigation Required?**	
			This bridge is 13.7km upstream of the SPA	River Nore SPA [004233]	A229 Kingfisher Alcedo atthis	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	The proposed works could give rise to water quality impacts in the event of a spillage of pollutants such as wet cementitious material into the river. These pollutants can have toxic effects on aquatic life, including on the migratory fish species that present within the river that Kingfisher depend on as a food source. This would lead to negative effects on the fish populations within the river where Kingfisher are known to feed, leading to indirect ex-situ impacts on this Qualifying Interest. Therefore, adverse effects arising from the proposed works on the integrity of the River Nore SPA in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes	

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Kilkenny	KK-N78-005.50	Ballycomey Culvert	Sweep and clean the entire surface of carriageway (120m2). Clean gullies (2 no.). Sweep and clean the entire surface of footway (50m2). Removal of light vegetation and moss from northwest parapet (2m2). **Repair stonework at southeast parapet (2m2).** Removal of vegetation from southeast (4m2) and northeast (1m2) embankments. **Repointing required at east spandrel wall (1m2). Remove vegetation at northwest and southwest training walls (2m2 each). Repointing required at arch barrel throughout (4m2). Removal of fallen trees and branches downstream (4m2).** Removal of pedestrian barrier at upstream side on northeast wingwall (2m2). Replace 1 no. missing ID plate on north parapet.	This culvert is 150m upstream of the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Nore and its tributaries, [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Nore in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. Nore Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Nore, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
				This culvert is 14.7km upstream of the SPA.	River Nore SPA [004233]	A229 Kingfisher Alcedo atthis	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	The proposed works could give rise to water quality impacts in the event of a spillage of pollutants such as wet cementitious material into the river. These pollutants can have toxic effects on aquatic life, including on the migratory fish species that present within the river that Kingfisher depend on as a food source. This would lead to negative effects on the fish populations within the river where Kingfisher are known to feed, leading to indirect ex-situ impacts on this Qualifying Interest. Therefore, adverse effects arising from the proposed works on the integrity of the River Nore SPA in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Kilkenny	KK-N78-006.00	Clashduff Lower Bridge	Sweep and clean the entire surface of carriageway (220m2). Sweep and clean footways (80m2). Removal of soft vegetation from southeast (10m2), and east stonewall (8m2), and west steel parapet (5m2). Repointing from east stonewall (5m2). Removal of soft vegetation from northwest (1m2), southwest (2m2), northeast (4m2), southeast (3m2) embankments. Removal of vegetation from east spandrel wall. **Repointing required from east spandrel wall. Repointing on the northwest (1m2), southwest (2m2), northeast (4m2), and southeast (3m2) wingwalls.** Clearance of water course required under the bridge (4m2). **Scour repair required at west end of riverbed (1m2). Removal of debris from pipe (3m2).** Replace 1 no. missing ID plate on abutment.	This bridge is 60m upstream of the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Nore in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage..	Yes
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. Nore Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Nore. impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Kilkenny	KK-N78-007.00	Castlecomer Bridge	Concrete repairs required to kerbing (10m). Sweep and clean the entire bridge surface (500m2). Sweep and clean both footways (75m2). Remove vegetation growth from north (1.5m2), and south (1.5m2) parapets. **Masonry repointing required at north (5m2) and south (5m2) parapets. Masonry repair required: missing stones on southwest parapet (0.5m3). Sealing of cracks on northeast (0.5m) and southwest (0.5m) parapets.** Remove vegetation growth from north external face (3m2), and south external face (5m2) of spandrel walls. **Masonry repair required on northeast wingwall (2m2). Masonry repointing on north external face (30m2), and south external face (10m2) of spandrel walls. Masonry repair required at northeast wingwall (2m2).** Remove debris from piers on west side (3m2). Remove incorrect ID plate from northwest parapet and replace with correct numbering (1 no.).	This bridge is within the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Nore in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. Nore Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Nore, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
				This bridge is 17.1km upstream of the SPA	River Nore SPA [004233]	A229 Kingfisher Alcedo atthis	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	The proposed works could give rise to water quality impacts in the event of a spillage of pollutants such as wet cementitious material into the river. These pollutants can have toxic effects on aquatic life, including on the migratory fish species that present within the river that Kingfisher depend on as a food source. This would lead to negative effects on the fish populations within the river where Kingfisher are known to feed, leading to indirect ex-situ impacts on this Qualifying Interest. Therefore, adverse effects arising from the proposed works on the integrity of the River Nore SPA in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Kilkenny	KK-N78-008.00	Castlecomer Tributary Bridge	Sweep and clean the entire bridge surface (240m2). Sweep and clean both footways (37m2). Remove vegetation growth from north (8m2) and south (4m2) parapets. **Masonry repointing required at north (10m2) and south (2m2) parapets. Masonry repair required at south parapet in three locations (0.05m3 each).** Remove ivy growth from northeast (15m2), northwest (1m2), southeast (8m2), and southwest (8m2) wingwalls. **Masonry repointing required at northeast (15m2), northwest (1m2), southeast (8m2), southwest (8m2) wingwalls. Masonry repointing required at north (1m2), and south (10m2) spandrel walls.** Remove vegetation from pier (3m2). Install 1 no. missing structure ID plate at roadside.	This bridge is within the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Barrow and its tributaries. [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Barrow and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Barrow in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. While there is no direct pathway for water quality impacts on the Nore Freshwater Pearl Mussel, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts and have the potential to be exposed to these types of impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Barrow, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
				This bridge is 17.2km upstream of the SPA.	River Nore SPA [004233]	A229 Kingfisher Alcedo atthis	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	The proposed works could give rise to water quality impacts in the event of a spillage of pollutants such as wet cementitious material into the river. These pollutants can have toxic effects on aquatic life, including on the migratory fish species that present within the river that Kingfisher depend on as a food source. This would lead to negative effects on the fish populations within the river where Kingfisher are known to feed, leading to indirect ex-situ impacts on this Qualifying Interest. Therefore, adverse effects arising from the proposed works on the integrity of the River Nore SPA in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Kilkenny	KK-N78-009.00	Crettyard Bridge	Sweep and clean the entire surface of carriageway (160m2). Sweep and clean footways (60m2). Removal of vegetation from south parapet (6m2) and north parapet (3m2). **Repointing required at northeast parapet (3m2).** Removal of soft vegetation from northwest (10m2), southwest (5m2), and southeast (3m2) embankments. Removal of vegetation from north spandrel wall (2m2). Removal of vegetation at northeast retaining wall (5m2). Remove ivy grown at wingwalls throughout (16m2). **Repointing required northeast retaining wall (2m2). Repointing required on north spandrel wall (1m2). 20% of the area of all wingwalls to be repointed (10m2).** Removal of branches downstream in riverbed (2m2). Replace 1 no. missing ID plate on north parapet.	This bridge is 40m upstream of the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Slaney and its tributaries [redacted]. Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Nore in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime-mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. Nore Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects on the Conservation Objective for this Qualifying Interest cannot be ruled out.	Yes
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Nore, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion alboe*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
				This bridge is 26.8km upstream of the SPA.	River Nore SPA [004233]	A229 Kingfisher Alcedo atthis	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	The proposed works could give rise to water quality impacts in the event of a spillage of pollutants such as wet cementitious material into the river. These pollutants can have toxic effects on aquatic life, including on the migratory fish species that present within the river that Kingfisher depend on as a food source. This would lead to negative effects on the fish populations within the river where Kingfisher are known to feed, leading to indirect ex-situ impacts on this Qualifying Interest. Therefore, adverse effects arising from the proposed works on the integrity of the River Nore SPA in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2016a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Longford	LD-N05-000.10	Termonbarry Bridge	Pavement cracks require sealing with hot poured bitumen at the following locations: Along centreline (100m2). Potholes to be filled with macadam material at the following locations: West side centreline (0.5m2), before west expansion joint (6m2), after west expansion joint (1m2), and 20m from west elevation at centreline (1m2). Sweep and clean the entire bridge surface (600m2). Clean all gullies (9 no.). Hosing of 4 no. small gullies on lifting deck. Replace 10 no. missing cat eyes along centreline of carriageway. Clean footways from debris (180m2). Minor concrete repair of footway surface is required at the following locations: northeast side between first and second lighting posts (0.1m2), 2 no. spots on northeast (0.1m2 each). Patch painting required to parapets at following locations: Throughout baseplates (5m2) and rails (25m2). Replace 4 no. bolts on southeast and northeast safety barriers (2 no. each). Remove vegetation growth from parapets at following locations: North centre (2m2), south centre (12m2). Remove vegetation growth from piers at following locations: northwest (1m2), southwest (1m2). **Concrete repair required to deck at the following locations: Concrete nibs north side of river (22m2). Concrete repair required to deck at the following locations: edge beam throughout at north side (15m2), 4m from water level.** Installation of 1 no. missing structure ID required on south parapet.	This bridge is 12.2km upstream of the Lough Ree SAC.	Lough Ree SAC [000440]	3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	To restore the favourable conservation condition of Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation in Lough Ree SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Lough Ree SAC in view of the Conservation Objective for this Qualifying Interest.	No
						6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia)	To restore the favourable conservation condition of Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) in Lough Ree SAC	Semi-natural dry grasslands and scrubland facies on calcareous substrates are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Lough Ree SAC in view of the Conservation Objective for this Qualifying Interest.	No
						7120 Degraded raised bogs still capable of natural regeneration	To restore the favourable conservation condition of Degraded raised bogs still capable of natural regeneration in Lough Ree SAC	Degraded raised bogs still capable of natural regeneration are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Lough Ree SAC in view of the Conservation Objective for this Qualifying Interest.	No
						7230 Alkaline fens	To maintain the favourable conservation condition of Alkaline fens in Lough Ree SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Lough Ree SAC in view of the Conservation Objective for this Qualifying Interest.	No
						8240 Limestone pavements	To maintain the favourable conservation condition of Limestone pavements in Lough Ree SAC	Limestone pavements are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Lough Ree SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	The status of Old sessile oak woods with Ilex and Blechnum in the British Isles as a qualifying Annex I habitat for the Lough Ree SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this habitat	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Lough Ree SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91D0 Bog woodland	To restore the favourable conservation condition of Bog woodland in Lough Ree SAC	Bog woodland is a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Lough Ree SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To maintain the favourable conservation condition of Otter in Lough Ree SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Lough Ree SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes

				Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2022b)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
				This bridge is 12.2km upstream of the Lough Ree SPA.	Lough Ree SPA [004064]	A004 Little Grebe Tachybaptus ruficollis	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	This SPA is 12.2km downstream of the structure. Considering the distance between the proposed works and this European site as well as the nature and scale of the proposed works, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Lough Ree SPA in view of the Conservation Objectives for these Qualifying Interests.	No
						A038 Whooper Swan Cygnus cygnus	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA		
						A050 Wigeon Anas penelope	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA		
						A052 Teal Anas crecca	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA		
						A053 Mallard Anas platyrhynchos	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA		
						A056 Shoveler Anas clypeata	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA		
						A061 Tufted Duck Aythya fuligula	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA		
						A065 Common Scoter Melanitta nigra	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA		
						A067 Goldeneye Bucephala clangula	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA		
						A125 Coot Fulica atra	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA		
						A140 Golden Plover Pluvialis apricaria	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA		
						A142 Lapwing Vanellus vanellus	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA		
						A193 Common Tern Sterna hirundo	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA		
						A999 Wetlands and Waterbirds	To maintain or restore the favourable conservation condition of the wetland habitat at Lough Ree SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.	The Conservation Objective for Wetlands is defined by a single Attribute, namely "Habitat area". The proposed works do not provide for any reduction in the permanent area of this habitat within the site. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Lough Ree SPA in view of the Conservation Objective for this Qualifying Interest.	No

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Laois	LS-N77-001.00	Durrow Bridge	1m strip either side of carriageway to be swept and cleaned including the removal of vegetation at pavement edge (60m2). Clean combined kerb drainage systems in west footway (30m). Sweep and clean both footways (140m2). Maintenance of footway surface is required at the following locations: southeast corner (0.1m2); Minor spots throughout (2m2 total). Remove vegetation growth from parapets at following locations: West (0.1m2); At pillars (1.5m2 each pillar) (total 6.1m2). **Concrete repair required to parapets at the following locations: northwest side (0.1m2).** Remove vegetation growth from embankments at following locations: northeast (2m2);northwest (2m2); southeast (1m2). Remove vegetation growth from piers at following locations: Up and downstream breakwaters (0.5m2 each) (total 1m2). **Concrete repair required to piers at the following locations: North pier, upstream end (0.1m2).Concrete repair required to beams at the following locations: Rebar exposed on East side, close to North end near service duct (0.1m2).** Installation of 1 no. missing structure ID required on East parapet.	This bridge is located within the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Nore in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime-mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. Nore Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Nore, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
			Potential pathways for impacts?	**Site name(s) and Code(s)**	**Qualifying Interest**	**Conservation Objective (NPWS, 2022a)**	**Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?**		**Adverse Effect / Mitigation Required?**
			This bridge is located within the SPA.	River Nore SPA [004233]	A229 Kingfisher Alcedo atthis	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	The proposed works could give rise to water quality impacts in the event of a spillage of pollutants such as wet cementitious material into the river. These pollutants can have toxic effects on aquatic life, including on the migratory fish species that present within the river that Kingfisher depend on as a food source. This would lead to negative effects on the fish populations within the river where Kingfisher are known to feed, leading to indirect ex-situ impacts on this Qualifying Interest. Therefore, adverse effects arising from the proposed works on the integrity of the Nore SPA in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.		**Yes**

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Laois	LS-N77-002.00	New Bridge, River Nore	1m strip either side of carriageway to be swept and cleaned including the removal of vegetation at pavement edge (70m2). Sweep and clean both footways (150m2). Remove vegetation growth from parapets at following locations: North (8m2); South (9m2); northeast (5m2); northwest (10m2); southeast (3m2); southwest(5m2) (total 40m2). **Masonry repointing required to parapets at following locations: 4 m2 throughout both parapets.** Remove vegetation growth from embankments at following locations: northeast (30m2)northwest (8m2); southeast (10m2)southwest(10m2) (total 58m2). Remove vegetation growth from wingwalls at following locations: 4m2 each side. Remove vegetation growth from spandrel walls at following locations: East (10m2) West (10m2). Remove vegetation growth from training walls at following locations: northeast (30m2) (total 66m2). **Masonry repointing required to spandrel walls at following locations: East (1m2) West (1m2). Masonry repointing required to retaining walls at following locations: northeast (25m2) (total 27m2). Masonry repointing required to deck at the following locations: 0.5m2 each to 4 no. spans (total 2m2). Masonry repair required to deck at the following locations: East span (0.5m3).** Installation of 1 no. missing structure ID required on North parapet.	This bridge is located within the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Surveys undertaken by TII at this bridge in 2018 confirmed the presence of live mussels in the footprint of the bridge. Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Nore in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not have an adverse effect on the Conservation Objective for this Qualifying Interest.	No
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. Nore Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Nore, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
				Potential pathways for impacts?	**Site name(s) and Code(s)**	**Qualifying Interest**	**Conservation Objective (NPWS, 2022a)**	**Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?**	**Adverse Effect / Mitigation Required?**
				This bridge is located within the SPA.	River Nore SPA [004233]	A229 Kingfisher Alcedo atthis	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	The proposed works could give rise to water quality impacts in the event of a spillage of pollutants such as wet cementitious material into the river. These pollutants can have toxic effects on aquatic life, including on the migratory fish species that present within the river that Kingfisher depend on as a food source. This would lead to negative effects on the fish populations within the river where Kingfisher are known to feed, leading to indirect ex-situ impacts on this Qualifying Interest. Therefore, adverse effects arising from the proposed works on the integrity of the River Nore SPA in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Laois	LS-N78-001.00	Ormonde Bridge	1m strip either side of carriageway to be swept and cleaned including the removal of vegetation at pavement edge (24m2). Power hose drainage channel on northeast corner (6m). Sweep and clean both footways (25m2). Remove vegetation growth from parapets at following locations: northeast (2m2); southeast (2m2) (total 4m2). Reinstate timber fence at southwest corner (2m). **Masonry repointing required to parapets at following locations: East (3.5m2); West (3.5m2). Sealing of masonry crack required at northwest side (0.6m) (total 7.1m2).** Remove vegetation growth from embankments at following locations: northeast (1.5m2), southeast (0.5m2), southwest (1.5m2) (total 3.5m2). **Reshaping required at northeast wingwall (1m3).** Remove vegetation growth from spandrel walls at following locations: West (3m2)Remove vegetation growth from retaining walls at following locations: northwest (15m2) (total 18m2). **Masonry repointing required to spandrel walls at following locations: East (6m2); West (3m2). Masonry repointing required to retaining walls at following locations: northwest (15m2) (total 24m2). Masonry repair required at the following locations: northwest (2m3) section has collapsed; 2 no. spots (0.5m3 each) (1m3).** Remove vegetation growth from breakwaters at following locations: Upstream breakwaters, debris to be removed (2m2). **Minor repointing required at upstream pier concrete coping (0.1m2). Masonry repair required at the following locations: northwest arch facing, one stone missing (0.1m3). Masonry repair required at arch barrel, 3 no. spots between 1st and 2nd pier at north side (0.1m3) (total 0.4m3).** Installation of 1 no. missing structure ID required at north parapet.	This bridge is within the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Nore and its tributaries; [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Nore in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Nore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. Nore Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Nore, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Laois	LS-NB0-000.80	Coolanowle Culvert	Sweep and clean the entire bridge surface (120m2). Clean all gullies. Hosing of drainage channel on West, 10m long. Remove vegetation growth from parapets at following locations: East, 2m2. Remove vegetation growth from embankments at following locations: northeast, 2m2; northwest, 1m2; southeast, 2m2; southwest, 1m2. 3 No. steel fences and 1 no. barrel to be removed on East embankments. **Watercourse to be cleared at following locations: Under the Bridge, 50m2; Debris upstream, 10m2; Debris and branches downstream, 6m2 (total 66m2). Scour repair required at the following locations: At southeast wingwall, 0.5m3.** Installation of 3 no. missing structure ID required on both parapets.	This culvert is located 9.5km upstream of the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Barrow and its tributaries. [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Barrow and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Barrow in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. While there is no direct pathway for water quality impacts on the Nore Freshwater Pearl Mussel, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts and have the potential to be exposed to these types of impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Barrow, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Laois	LS-NB0-009.00	Mountmellick Bridge	1m strip either side of carriageway to be swept and cleaned including the removal of vegetation at pavement edge (40m2). Sweep and clean both footways (45m2). Maintenance of footway surface is required at the following locations: Concrete repair to southwest corner, 2m2. Remove moss growth from parapets at following locations: East and West, 0.5m2 each (total 1m2). **Concrete repair required to parapets at the following locations: northeast, northwest and southwest at parapet upstands, 0.1m2 each (total 0.3m2). Bedding mortar to be reinstated at following locations: 5 no. parapet posts.** Cleaning of 12 no. drip tubes in wingwalls. 36 no. bearings to be cleaned at following locations: 18 no. each side (total 36 no.). **Seal crack in beams with a suitable cementitious repair grout at the following locations: West edge beam, 0.1m2.** Installation of 2 no. missing structure ID required on West parapet.	This bridge is located within the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, the proposed works will not give rise to any likely significant effects on the conservation objectives of this qualifying interest within the River Barrow and River Nore SAC.	No
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Barrow and its tributaries. [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Barrow and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Barrow in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	Yes
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. While there is no direct pathway for water quality impacts on the Nore Freshwater Pearl Mussel, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts and have the potential to be exposed to these types of impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	Yes
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, It can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Barrow, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, It can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	No

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011a)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Laois	LS-NBO-010.00	Moll Rowe's Corner Bridge	1m strip either side of carriageway to be swept and cleaned including the removal of vegetation at pavement edge (24m2). Sweep and clean both footways (35m2). Remove vegetation growth from parapets at following locations: northwest 5m2; southeast, 10m2, southwest, 4m2 (total 19m2). **Masonry repointing required to parapets at following locations: northwest, 5m2; southeast, 10m2 southwest, 4m2 (19m2).** Remove vegetation growth from embankments at following locations: northeast, 2m2;northwest, 2m2; southeast, 1m2;southwest, 4m2 (total 9m2). Remove vegetation growth from spandrel walls at following locations: West, 3m2. **Masonry repointing required to spandrel walls at following locations: West, 1m2. Masonry repair required to retaining walls at following locations: northwest external face, 1.5m3. Concrete repair with appropriate mortar material required to abutments at the following locations: Both abutments, 0.04m2 each (total 0.08m2). Watercourse to be cleared at following locations: Upstream, 5 no. big stones to be removed, 5m2; Downstream, boulders to be removed, 4m2;** Rubbish to be removed from river, 0.5m2 (total 9.5m2). Installation of 1 no. missing structure ID required on Parapets	This bridge is 690m upstream of the SAC.	River Barrow and River Nore SAC [002162]	1016 Desmoulin's whorl snail Vertigo moulinsiana	To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC	Desmoulins Whorl snail is a semi-terrestrial species that potentially occurs in salt marsh habitat >10km downstream of the proposed works. Considering the distance between the proposed works and this habitat, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants will have dissipated by the time they have reached this habitat in the River Barrow and River Nore SAC. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1029 Freshwater pearl mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species. Please note that the Nore freshwater pearl mussel (Margaritifera durrovensis) remains a qualifying species for this SAC. This document contains a conservation objective for the latter species.	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Barrow and its tributaries. [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1092 White-clawed crayfish Austropotamobius pallipes	To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC	White-clawed Crayfish has a range extending along the length of the freshwater stretches of the River Barrow and its tributaries. This species is likely to be present at the location of the works and/or downstream of the works. White-clawed Crayfish is sensitive to the water quality impacts caused by the input of wet cementitious material and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Barrow in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
						1099 River lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
						1106 Atlantic salmon (Salmo salar)	To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
						1103 Twaite shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Barrow, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1310 Salicornia and other annuals colonizing mud and sand	To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	To restore the favourable conservation condition of Atlantic salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1410 Mediterranean salt meadows (Juncetalia maritimi)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1421 Killarney fern Trichomanes speciosum	To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC	Killarney fern is a strictly terrestrial based species and is not located within the vicinity of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1990 Nore freshwater pearl mussel Margaritifera durrovensis	To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC	Nore Freshwater Pearl Mussel has a range extending along the length of the freshwater stretches of the River Nore and its tributaries. While there is no direct pathway for water quality impacts on the Nore Freshwater Pearl Mussel, the migratory fish species that Nore Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts and have the potential to be exposed to these types of impacts. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						4030 European dry heaths	To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC	European dry heath is a strictly terrestrial based habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC	This habitat occurs >10km downstream of the proposed works. Considering the distance between the proposed works and this European site, as well as the assimilative capacity of the watercourses, potential indirect water quality impacts, such as accidental discharge of pollutants, will have dissipated by the time they have reached this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						7220 * Petrifying springs with tufa formation (Cratoneurion)	To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC	Field surveys ruled out the presence of this habitat within close proximity of the structure, therefore there will be no direct loss or damage to this habitat as a result of the proposed works. Furthermore, the proposed works have potential to give rise to water quality impacts that the vegetation composition of petrifying springs with tufa formation is sensitive to. However, considering the considering the scale and duration of the works, the distance between the proposed works and this habitat and the dilution capacity of the River Barrow, impacts could not be carried to this location or have any impact on this habitat. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and River Nore SAC	Old sessile oak woods, with Ilex and Blechnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior (alno-Padion, Alnion incanae, Salicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the River Barrow and River Nore SAC in view of the Conservation Objective for this Qualifying Interest.	**No**

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011b)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Wicklow	WW-N81-002.00	Eldon Bridge	Sweep and clean the entire surface of carriageway (250m2). Clean drainage outfall on northeast corner (1 no.). Clean footways (60m2). Removal of vegetation i.e. moss and ivy, on northbound and southbound masonry parapets throughout (10m2). **1 no. hole to be refilled at northbound masonry parapet at location above mid-arch and behind structure ID plate (1m2).** Repair of the impacted safety barrier where 2 no. lengths of rail and 1 no. Z post (laid in concrete) have to be replaced (10.6m).Impact damage to safety barriers on both the north and south sides of the carriageway which require repair (2m each). Vegetation to be removed above mid arch at upstream and north-eastern arch on the river side (40m2). Vegetation on riverside downstream above mid-arch on spandrel wall to be removed (45m2). Vegetation (ivy) to be removed from southeast wingwall (25m2). **20% of area on northeast wingwall at the river side requires repointing (5m2). Repointing is required on 10% of area on southwestern wingwall at the southwest corner (0.25m2). Missing stone at northwest corner on wingwall to be repaired located 1.5m from west arch (0.04m3). 30% of area of local mortar washout at bed level for both abutments with repointing to be undertaken at both abutments (22.5m2). Masonry repair at approx. 5mm depth on west pier at northwest end is required (0.5m3). 400mm deep scour at the northeast cutwater requires repair (1m3). Water ingress at the northeast corner of the structure. There is minor mortar loss throughout the arch barrels which requires masonry repointing, overall 20% of the deck throughout (80m2).**	This bridge is located within the SAC.	Slaney River Valley SAC [000781]	1029 Freshwater Pearl Mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the Slaney River Valley SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Slaney and its tributaries [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea Lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the Slaney River Valley SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Slaney in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook Lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the Slaney River Valley SAC		
						1099 River Lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the Slaney River Valley SAC		
						1106 Atlantic Salmon Salmo salar	To restore the favourable conservation condition of Salmon in the Slaney River Valley SAC		
						1103 Twaite Shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the Slaney River Valley SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the Slaney River Valley SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in the Slaney River Valley SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the Slaney River Valley SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1365 Harbour Seal Phoca vitulina	To maintain the favourable conservation condition of Harbour Seal in the Slaney River Valley SAC	The closest suitable habitat for Harbour Seal is >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the Slaney River Valley SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of old sessile oakwoods with Ilex and Blechnum in the Slaney River Valley SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion) in the Slaney River Valley SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion inconae, Alicion alboe*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
County	**Bridge ID**	**Bridge Name**	**Proposed works (bold indicates work items that have potential to cause adverse effects)**	**Potential pathways for impacts?**	**Site name(s) and Code(s)**	**Qualifying Interest**	**Conservation Objective (NPWS, 2011b)**	**Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?**	**Adverse Effect / Mitigation Required?**
Wicklow	WW-N81-004.00	Mattymount Bridge	4. no. potholes along the broken yellow road markings required to be repaired at northbound lane (2.5m2). Sweep and clean the entire surface of carriageway (80m2). Clean both sides of footways (45m2). All vegetation to be removed from parapet at both southbound and northbound lanes throughout, including road side, top surface and river side, 2-4m from water level (120m2). **10% of river side of southeastern parapet from the south end to the south arch to be repointed (1m2).** Vegetation to be removed from 1m strip at southwest and northwest corners (16m2). Vegetation to be removed from southwest corner (30m2). **Repointing required on wingwall at 2m south of southeastern inlet arch at southbound lane. Repointing required at spandrel wall above southeastern arch at inlet river side, 2-4m above water level (0.1m2). Isolated open joints to be repointed throughout both sides of abutments (6m2).** Vegetation to be removed from northeastern pier at inlet (2m2); vegetation to be removed throughout from the small arch at inlet (1m2). **Isolated open joints to be repointed throughout all sides on both piers (8m2). 20% of areas on both deck required repointing on open joints (4m3).**	This bridge is located within the SAC.	Slaney River Valley SAC [000781]	1029 Freshwater Pearl Mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the Slaney River Valley SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Slaney and its tributaries [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea Lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the Slaney River Valley SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Slaney in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook Lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the Slaney River Valley SAC		
						1099 River Lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the Slaney River Valley SAC		
						1106 Atlantic Salmon Salmo salar	To restore the favourable conservation condition of Salmon in the Slaney River Valley SAC		
						1103 Twaite Shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the Slaney River Valley SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the Slaney River Valley SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in the Slaney River Valley SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the Slaney River Valley SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage..	**Yes**
						1365 Harbour Seal Phoca vitulina	To maintain the favourable conservation condition of Harbour Seal in the Slaney River Valley SAC	The closest suitable habitat for Harbour Seal is >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the Slaney River Valley SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of old sessile oakwoods with Ilex and Blechnum in the Slaney River Valley SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion) in the Slaney River Valley SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion inconae, Alicion alboe*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011b)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Wicklow	WW-NB1-005.00	Waterloo Bridge	Sweep and clean the entire surface of carriageway (180m2). Clean both sides of footways (80m2). Removal of all vegetation from all sides of masonry parapets, including road side, top surface and river side, 4-6m from water level (35m2). 1m strip of vegetation at corners of the embankments to be removed. Overhanging trees at the northwest corner to be removed (40m2). Vegetation on north-west wingwall to be removed (16m2). **Open joints throughout abutments localised to the waterline should be repointed throughout (approx. 10% of both abutments) (6m2).**	This bridge is located within the SAC.	Slaney River Valley SAC [000781]	1029 Freshwater Pearl Mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the Slaney River Valley SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Slaney and its tributaries [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea Lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the Slaney River Valley SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Slaney in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook Lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the Slaney River Valley SAC		
						1099 River Lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the Slaney River Valley SAC		
						1106 Atlantic Salmon Salmo salar	To restore the favourable conservation condition of Salmon in the Slaney River Valley SAC		
						1103 Twaite Shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the Slaney River Valley SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the Slaney River Valley SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in the Slaney River Valley SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the Slaney River Valley SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1365 Harbour Seal Phoca vitulina	To maintain the favourable conservation condition of Harbour Seal in the Slaney River Valley SAC	The closest suitable habitat for Harbour Seal is >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the Slaney River Valley SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of old sessile oakwoods with Ilex and Blechnum in the Slaney River Valley SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion) in the Slaney River Valley SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
County	**Bridge ID**	**Bridge Name**	**Proposed works (bold indicates work items that have potential to cause adverse effects)**	**Potential pathways for impacts?**	**Site name(s) and Code(s)**	**Qualifying Interest**	**Conservation Objective (NPWS, 2011b)**	**Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?**	**Adverse Effect / Mitigation Required?**
Wicklow	WW-NB1-007.00	Whitestown Bridge	Sweep and clean entire bridge surface (80m2). Clean rubbing strips (30m2). 1m strip of vegetation at all 4 corners of the embankments to be removed (32m2). Removal of vegetation on southeast, northwest and southwest wingwalls including ivy and moss throughout (12m2). **Repointing required on southeast wingwall at 1m south from centreline of arch (0.25m2).** 1 no. missing structure ID plate on road level (1 no.).	This bridge is located within the SAC.	Slaney River Valley SAC [000781]	1029 Freshwater Pearl Mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the Slaney River Valley SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Slaney and its tributaries [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea Lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the Slaney River Valley SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Slaney in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook Lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the Slaney River Valley SAC		
						1099 River Lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the Slaney River Valley SAC		
						1106 Atlantic Salmon Salmo salar	To restore the favourable conservation condition of Salmon in the Slaney River Valley SAC		
						1103 Twaite Shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the Slaney River Valley SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the Slaney River Valley SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in the Slaney River Valley SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the Slaney River Valley SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1365 Harbour Seal Phoca vitulina	To maintain the favourable conservation condition of Harbour Seal in the Slaney River Valley SAC	The closest suitable habitat for Harbour Seal is >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the Slaney River Valley SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of old sessile oakwoods with Ilex and Blechnum in the Slaney River Valley SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion) in the Slaney River Valley SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011b)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Wicklow	WW-N81-008.00	Whitestown Stream Bridge	Sweep and clean entire bridge surface (60m2). 2 no. missing road studs to be reinstated on southbound lane. Isolated crack through a previous repair to be repaired on west footway (100mm) (2m), Sweep and clean rubbing strips from debris and vegetation (60m2). Vegetation on both sides of parapets to be removed (12m2). 1m strip of vegetation at all 4 no. corners of the embankments to be removed (32m2). Removal of vegetation from all 4 no. wingwalls (15m2). Vegetation to be removed on spandrel wall on west side on river side, 1-3m above ground level (2m2). **Vertical crack on northwest wingwall to be repointed (1m2).** Evidence of vegetation growth through minor open joints was found (4m2). **10% of area of both sides of abutments require repointing (4m2). Evidence of vegetation growth through minor open joints which require repointing on 10% of the deck throughout (6.5m2).** 1 no. structure ID plate missing on safety barrier (1 no.).	This bridge is located within the SAC.	Slaney River Valley SAC [000781]	1029 Freshwater Pearl Mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the Slaney River Valley SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Slaney and its tributaries [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea Lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the Slaney River Valley SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Slaney in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook Lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the Slaney River Valley SAC		
						1099 River Lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the Slaney River Valley SAC		
						1106 Atlantic Salmon Salmo salar	To restore the favourable conservation condition of Salmon in the Slaney River Valley SAC		
						1103 Twaite Shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the Slaney River Valley SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the Slaney River Valley SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in the Slaney River Valley SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the Slaney River Valley SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1365 Harbour Seal Phoca vitulina	To maintain the favourable conservation condition of Harbour Seal in the Slaney River Valley SAC	The closest suitable habitat for Harbour Seal is >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the Slaney River Valley SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of old sessile oakwoods with Ilex and Blechnum in the Slaney River Valley SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion) in the Slaney River Valley SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
County	**Bridge ID**	**Bridge Name**	**Proposed works (bold indicates work items that have potential to cause adverse effects)**	**Potential pathways for impacts?**	**Site name(s) and Code(s)**	**Qualifying Interest**	**Conservation Objective (NPWS, 2011b)**	**Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?**	**Adverse Effect / Mitigation Required?**
Wicklow	WW-N81-009.00	Carrigower Bridge	Sweep and clean the entire surface of carriageway (450m2). Removal of all soft vegetation on timber fencing above both inlet and outlet sides (40m2). 1m strip of vegetation on each corner of embankment to be removed (10m2) at northbound approach, 20m2 at northbound departure, 10m2 at both sides of southbound lane) (56m2). Remove vegetation from wingwalls and spandrel walls on both sides (70m2). **Repointing on wingwall at northbound departure corner on 10% of surface (2.5m2). 20% of the surface on southbound departure of wingwall to be repointed, typically at first 2.5m from the southeast corner, significant height above ground level, access equipment required (5m2). 0.2m of the masonry abutments above ground level was noted with mortar loss on both abutments near east side of the structure (0.5m2 each) (1.5m3).** 1 no. missing structure ID plate on safety barrier (1 no.).	This bridge is 20m upstream of the SAC.	Slaney River Valley SAC [000781]	1029 Freshwater Pearl Mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the Slaney River Valley SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Slaney and its tributaries [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea Lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the Slaney River Valley SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Slaney in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook Lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the Slaney River Valley SAC		
						1099 River Lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the Slaney River Valley SAC		
						1106 Atlantic Salmon Salmo salar	To restore the favourable conservation condition of Salmon in the Slaney River Valley SAC		
						1103 Twaite Shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the Slaney River Valley SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the Slaney River Valley SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in the Slaney River Valley SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the Slaney River Valley SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1365 Harbour Seal Phoca vitulina	To maintain the favourable conservation condition of Harbour Seal in the Slaney River Valley SAC	The closest suitable habitat for Harbour Seal is >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the Slaney River Valley SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of old sessile oakwoods with Ilex and Blechnum in the Slaney River Valley SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion) in the Slaney River Valley SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011b)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Wexford	WX-N30-004.00	Ballymackesy Bridge	Sweep and clean 3m strip of eastbound hard shoulder and 0.5m strip westbound hard shoulder of bridge adjacent to rubbing strip (60m2). Sweep and clean both rubbing strips from vegetation and debris (30m2). Removal of moss from the top of parapet 10m2 each side. Removal of vegetation at following locations: northeast (15m2), southeast (30m2), southwest (30m2), northwest (30m2). Minor masonry repointing required at southeast side 1m from edge (0.2m2) and at northeast corner close to ID plate (0.2m2). Infill required at northeast corner of parapet (material SA) (1m3). **Sealing of vertical crack with appropriate mortar material on southwest corner at riverside (2m).** Removal of vegetation from the following corners: northwest (10m2), northeast (5m2), southeast (8m2). **Seal of crack required at southwest wingwall (1m).** 2 no. bearing to be cleaned at each abutment. **Scour repair required at southwest wingwall (2m2).**	This bridge is located within the SAC.	Slaney River Valley SAC [000781]	1029 Freshwater Pearl Mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the Slaney River Valley SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Slaney and its tributaries [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea Lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the Slaney River Valley SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Slaney in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook Lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the Slaney River Valley SAC		
						1099 River Lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the Slaney River Valley SAC		
						1106 Atlantic Salmon Salmo salar	To restore the favourable conservation condition of Salmon in the Slaney River Valley SAC		
						1103 Twaite Shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the Slaney River Valley SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the Slaney River Valley SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in the Slaney River Valley SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the Slaney River Valley SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1365 Harbour Seal Phoca vitulina	To maintain the favourable conservation condition of Harbour Seal in the Slaney River Valley SAC	The closest suitable habitat for Harbour Seal is >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the Slaney River Valley SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of old sessile oakwoods with Ilex and Blechnum in the Slaney River Valley SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion) in the Slaney River Valley SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
				Potential pathways for impacts?	**Site name(s) and Code(s)**	**Qualifying Interest**	**Conservation Objective (NPWS, 2012)**	**Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?**	**Adverse Effect / Mitigation Required?**
				This bridge is located 15km upstream of the SPA.	Wexford Harbour and Slobs SPA [004076]	A004 Little Grebe Tachybaptus ruficollis	To maintain the favourable conservation condition of Little Grebe in Wexford Harbour and Slobs SPA	This SPA is 15km downstream of the structure. Considering the distance between the proposed works and this European site as well as the nature and scale of the proposed works, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Wexford Harbour and Slobs SPA in view of the Conservation Objectives for these Qualifying Interests.	**No**
						A005 Great Crested Grebe Podiceps cristatus	To maintain the favourable conservation condition of Great Crested Grebe in Wexford Harbour and Slobs SPA		
						A017 Cormorant Phalacrocorax carbo	To maintain the favourable conservation condition of Cormorant in Wexford Harbour and Slobs SPA		
						A028 Grey Heron Ardea cinerea	To maintain the favourable conservation condition of Grey Heron in Wexford Harbour and Slobs SPA		
						A037 Bewick's Swan Cygnus columbianus	To maintain the favourable conservation condition of Bewick's Swan in Wexford Harbour and Slobs SPA		
						A038 Whooper Swan Cygnus cygnus	To maintain the favourable conservation condition of Whooper Swan in Wexford Harbour and Slobs SPA		
						A046 Light-bellied Brent Goose Branta bernicla hrota	To maintain the favourable conservation condition of Light-bellied Brent Goose in Wexford Harbour and Slobs SPA		
						A048 Shelduck Tadorna tadorna	To maintain the favourable conservation condition of Shelduck in Wexford Harbour and Slobs SPA		
						A050 Wigeon Anas penelope	To maintain the favourable conservation condition of Wigeon in Wexford Harbour and Slobs SPA		
						A052 Teal Anas crecca	To maintain the favourable conservation condition of Teal in Wexford Harbour and Slobs SPA		
						A053 Mallard Anas platyrhynchos	To maintain the favourable conservation condition of Mallard in Wexford Harbour and Slobs SPA		
						A054 Pintail Anas acuta	To maintain the favourable conservation condition of Pintail in Wexford Harbour and Slobs SPA		
						A062 Scaup Aythya marila	To maintain the favourable conservation condition of Scaup in Wexford Harbour and Slobs SPA		
						A067 Goldeneye Bucephala clangula	To maintain the favourable conservation condition of Goldeneye in Wexford Harbour and Slobs SPA		
						A069 Red-breasted Merganser Mergus serrator	To maintain the favourable conservation condition of Red-breasted Merganser in Wexford Harbour and Slobs SPA		
						A082 Hen Harrier Circus cyaneus	To maintain the favourable conservation condition of Hen Harrier in Wexford Harbour and Slobs SPA		
						A125 Coot Fulica atra	To maintain the favourable conservation condition of Coot in Wexford Harbour and Slobs SPA		
						A130 Oystercatcher Haematopus ostralegus	To maintain the favourable conservation condition of Oystercatcher in Wexford Harbour and Slobs SPA		
						A140 Golden Plover Pluvialis apricaria	To maintain the favourable conservation condition of Golden Plover in Wexford Harbour and Slobs SPA		
						A141 Grey Plover Pluvialis squatarola	To maintain the favourable conservation condition of Grey Plover in Wexford Harbour and Slobs SPA		
						A142 Lapwing Vanellus vanellus	To maintain the favourable conservation condition of Lapwing in Wexford Harbour and Slobs SPA		
						A143 Knot Calidris canutus	To maintain the favourable conservation condition of Knot in Wexford Harbour and Slobs SPA		
						A144 Sanderling Calidris alba	To maintain the favourable conservation condition of Sanderling in Wexford Harbour and Slobs SPA		
						A149 Dunlin Calidris alpina	To maintain the favourable conservation condition of Dunlin in Wexford Harbour and Slobs SPA		
						A156 Black-tailed Godwit Limosa limosa	To maintain the favourable conservation condition of Black-tailed Godwit in Wexford Harbour and Slobs SPA		
						A157 Bar-tailed Godwit Limosa lapponica	To maintain the favourable conservation condition of Bar-tailed Godwit in Wexford Harbour and Slobs SPA		
						A160 Curlew Numenius arquata	To maintain the favourable conservation condition of Curlew in Wexford Harbour and Slobs SPA		
						A162 Redshank Tringa totanus	To maintain the favourable conservation condition of Redshank in Wexford Harbour and Slobs SPA		
						A179 Black-headed Gull Chroicocephalus ridibundus	To maintain the favourable conservation condition of Black-headed Gull in Wexford Harbour and Slobs SPA		
						A183 Lesser Black-backed Gull Larus fuscus	To maintain the favourable conservation condition of Lesser Black-backed Gull in Wexford Harbour and Slobs SPA		
						A195 Little Tern Sterna albifrons	To maintain the favourable conservation condition of Little Tern at Wexford Harbour and Slobs SPA		
						A395 Greenland White-fronted goose Anser albifrons flavirostris	To maintain the favourable conservation condition of Greenland White-fronted Goose in Wexford Harbour and Slobs SPA		
						A999 Wetlands	To maintain the favourable conservation condition of the wetland habitat in Wexford Harbour and Slobs SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.	The Conservation Objective for Wetlands is defined by a single Attribute, namely "Habitat area". The proposed works do not provide for any reduction in the permanent area of this habitat within the site. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Wexford Harbour and Slobs SPA in view of the Conservation Objective for this Qualifying Interest.	**No**

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011b)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Wexford	WX-NBD-001.00	Tomnakipeen Bridge	1m strip either side of carriageway to be swept and cleaned including the removal of vegetation at pavement edge (40m2). Installation of rubbing strips on east (30m2) and west (40m2). Remove moss/ivy growth from parapet at following locations: east (70m2), west (30m2). **Minor concrete repair required at the following location: Cracking at southwest 0.3m, 3m from south abutment.** Remove moss/ivy growth from embankment in following locations: east (30m), west (40m2), southeast (2m2), northeast (3m2), northwest (3m2). Remove vegetation from retaining walls (internal and external face) on west side throughout (40m2). **Concrete repair required at northeast interface of wingwall and abutment to seal crack present.** Repointing required at retaining walls (internal and external face) on west side throughout. **Masonry repointing required at the following locations: west spandrel wall over arch (2m2).** Masonry repair required at northwest retaining wall (2.5m3). Masonry repair required at the following locations: Minor stone repair to southwest wingwall. Masonry repointing required at the following locations: north end downstream end (6m2). Remove moss/ivy grown vegetation from west pier (2m2). **Masonry repointing required at the following locations: west pier (2m2). Minor concrete repair required at the following locations: Crack injection required to crack half way into arch barrel (3m2). Masonry repair required at the following locations: Missing stones in arch barrel (1.5m3).** Watercourse to be cleared from branches/fallen trees/debris/overgrown vegetation upstream (2m2). **Scour repair required at the, following locations: Downstream (1.2m deep, 9m long), 3m wide at southeast corner.** Remove 1 no. plastic grid from under the bridge close to downstream end (1m2). Remove 1 no. dumped car bumper from northwest retaining wall. Installation of 1 no. missing structure ID required at west parapet.	This bridge is 110m upstream of the SAC.	Slaney River Valley SAC [000781]	1029 Freshwater Pearl Mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the Slaney River Valley SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Slaney and its tributaries [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea Lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the Slaney River Valley SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Slaney in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook Lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the Slaney River Valley SAC		
						1099 River Lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the Slaney River Valley SAC		
						1106 Atlantic Salmon Salmo salar	To restore the favourable conservation condition of Salmon in the Slaney River Valley SAC		
						1103 Twaite Shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the Slaney River Valley SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the Slaney River Valley SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in the Slaney River Valley SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the Slaney River Valley SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1365 Harbour Seal Phoca vitulina	To maintain the favourable conservation condition of Harbour Seal in the Slaney River Valley SAC	The closest suitable habitat for Harbour Seal is >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the Slaney River Valley SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of old sessile oakwoods with Ilex and Blechnum in the Slaney River Valley SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion) in the Slaney River Valley SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
				Potential pathways for impacts?	**Site name(s) and Code(s)**	**Qualifying Interest**	**Conservation Objective (NPWS, 2012)**	**Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?**	**Adverse Effect / Mitigation Required?**
				This bridge is 9.4km upstream of the SPA	Wexford Harbour and Slobs SPA [004076]	A004 Little Grebe Tachybaptus ruficollis	To maintain the favourable conservation condition of Little Grebe in Wexford Harbour and Slobs SPA	This SPA is 9.4 km downstream of the structure. Considering the distance between the proposed works and this European site as well as the nature and scale of the proposed works, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Wexford Harbour and Slobs SPA in view of the Conservation Objectives for these Qualifying Interests.	**No**
						A005 Great Crested Grebe Podiceps cristatus	To maintain the favourable conservation condition of Great Crested Grebe in Wexford Harbour and Slobs SPA		
						A017 Cormorant Phalacrocorax carbo	To maintain the favourable conservation condition of Cormorant in Wexford Harbour and Slobs SPA		
						A028 Grey Heron Ardea cinerea	To maintain the favourable conservation condition of Grey Heron in Wexford Harbour and Slobs SPA		
						A037 Bewick's Swan Cygnus columbianus	To maintain the favourable conservation condition of Bewick's Swan in Wexford Harbour and Slobs SPA		
						A038 Whooper Swan Cygnus cygnus	To maintain the favourable conservation condition of Whooper Swan in Wexford Harbour and Slobs SPA		
						A046 Light-bellied Brent Goose Branta bernicla hrota	To maintain the favourable conservation condition of Light-bellied Brent Goose in Wexford Harbour and Slobs SPA		
						A048 Shelduck Tadorna tadorna	To maintain the favourable conservation condition of Shelduck in Wexford Harbour and Slobs SPA		
						A050 Wigeon Anas penelope	To maintain the favourable conservation condition of Wigeon in Wexford Harbour and Slobs SPA		
						A052 Teal Anas crecca	To maintain the favourable conservation condition of Teal in Wexford Harbour and Slobs SPA		
						A053 Mallard Anas platyrhynchos	To maintain the favourable conservation condition of Mallard in Wexford Harbour and Slobs SPA		
						A054 Pintail Anas acuta	To maintain the favourable conservation condition of Pintail in Wexford Harbour and Slobs SPA		
						A062 Scaup Aythya marila	To maintain the favourable conservation condition of Scaup in Wexford Harbour and Slobs SPA		
						A067 Goldeneye Bucephala clangula	To maintain the favourable conservation condition of Goldeneye in Wexford Harbour and Slobs SPA		
						A069 Red-breasted Merganser Mergus serrator	To maintain the favourable conservation condition of Red-breasted Merganser in Wexford Harbour and Slobs SPA		
						A082 Hen Harrier Circus cyaneus	To maintain the favourable conservation condition of Hen Harrier in Wexford Harbour and Slobs SPA		
						A125 Coot Fulica atra	To maintain the favourable conservation condition of Coot in Wexford Harbour and Slobs SPA		
						A130 Oystercatcher Haematopus ostralegus	To maintain the favourable conservation condition of Oystercatcher in Wexford Harbour and Slobs SPA		
						A140 Golden Plover Pluvialis apricaria	To maintain the favourable conservation condition of Golden Plover in Wexford Harbour and Slobs SPA		
						A141 Grey Plover Pluvialis squatarola	To maintain the favourable conservation condition of Grey Plover in Wexford Harbour and Slobs SPA		
						A142 Lapwing Vanellus vanellus	To maintain the favourable conservation condition of Lapwing in Wexford Harbour and Slobs SPA		
						A143 Knot Calidris canutus	To maintain the favourable conservation condition of Knot in Wexford Harbour and Slobs SPA		
						A144 Sanderling Calidris alba	To maintain the favourable conservation condition of Sanderling in Wexford Harbour and Slobs SPA		
						A149 Dunlin Calidris alpina	To maintain the favourable conservation condition of Dunlin in Wexford Harbour and Slobs SPA		
						A156 Black-tailed Godwit Limosa limosa	To maintain the favourable conservation condition of Black-tailed Godwit in Wexford Harbour and Slobs SPA		
						A157 Bar-tailed Godwit Limosa lapponica	To maintain the favourable conservation condition of Bar-tailed Godwit in Wexford Harbour and Slobs SPA		
						A160 Curlew Numenius arquata	To maintain the favourable conservation condition of Curlew in Wexford Harbour and Slobs SPA		
						A162 Redshank Tringa totanus	To maintain the favourable conservation condition of Redshank in Wexford Harbour and Slobs SPA		
						A179 Black-headed Gull Chroicocephalus ridibundus	To maintain the favourable conservation condition of Black-headed Gull in Wexford Harbour and Slobs SPA		
						A183 Lesser Black-backed Gull Larus fuscus	To maintain the favourable conservation condition of Lesser Black-backed Gull in Wexford Harbour and Slobs SPA		
						A195 Little Tern Sterna albifrons	To maintain the favourable conservation condition of Little Tern at Wexford Harbour and Slobs SPA		
						A395 Greenland White-fronted goose Anser albifrons flavirostris	To maintain the favourable conservation condition of Greenland White-fronted Goose in Wexford Harbour and Slobs SPA		
						A999 Wetlands	To maintain the favourable conservation condition of the wetland habitat in Wexford Harbour and Slobs SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.	The Conservation Objective for Wetlands is defined by a single Attribute, namely "Habitat area". The proposed works do not provide for any reduction in the permanent area of this habitat within the site. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Wexford Harbour and Slobs SPA in view of the Conservation Objective for this Qualifying Interest.	**No**

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011b)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Wexford	WX-NBD-002.00	Tomagarrow Bridge	Pavement cracks require to be sealed with hot poured bitumen at the following locations: 10m north and 10m south. 1m strip either side of carriageway to be swept and cleaned including the removal of vegetation at pavement edge (20m2). Installation of rubbing strip on east side (15m2). Sweep and clean both footways (12m2). Remove moss/ivy growth from parapet/safety barrier at: west (35m2), east (8m2). **Masonry repointing required at east and west parapets (43m2).** Remove moss/ivy growth from embankment at: east (20m2), northeast (2m2), southeast (2m2). Remove moss/ivy growth from retaining wall at west side: northwest (70m2), southwest (170m2). **Masonry repointing required to retaining wall at the following locations: west (80m2). Masonry repair required at the following locations: southeast corner (0.5m3). Masonry repointing required at the following location: spots of repair required 1.5m to mouth on east side. Masonry repointing required at the following locations: Minor spots of repointing required in both pipes ends on arch barrel (1m total west side). Watercourse to be cleared from branches/fallen trees/debris/overgrown vegetation downstream (10m2). Remove branches obstructing to the north pipe upstream inlet 1m long 150mm dia.** Installation of 1 no. missing structure ID required at south parapet.	This bridge is 10m upstream of the SAC.	Slaney River Valley SAC [000781]	1029 Freshwater Pearl Mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the Slaney River Valley SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Slaney and its tributaries [redacted] Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea Lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the Slaney River Valley SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Slaney in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook Lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the Slaney River Valley SAC		
						1099 River Lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the Slaney River Valley SAC		
						1106 Atlantic Salmon Salmo salar	To restore the favourable conservation condition of Salmon in the Slaney River Valley SAC		
						1103 Twaite Shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the Slaney River Valley SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the Slaney River Valley SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in the Slaney River Valley SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the Slaney River Valley SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage..	**Yes**
						1365 Harbour Seal Phoca vitulina	To maintain the favourable conservation condition of Harbour Seal in the Slaney River Valley SAC	The closest suitable habitat for Harbour Seal is >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the Slaney River Valley SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of old sessile oakwoods with Ilex and Blechnum in the Slaney River Valley SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion) in the Slaney River Valley SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
				Potential pathways for impacts?	**Site name(s) and Code(s)**	**Qualifying Interest**	**Conservation Objective (NPWS, 2012)**	**Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?**	**Adverse Effect / Mitigation Required?**
				This bridge is 11.9km upstream of the SPA.	Wexford Harbour and Slobs SPA [004076]	A004 Little Grebe Tachybaptus ruficollis	To maintain the favourable conservation condition of Little Grebe in Wexford Harbour and Slobs SPA	This SPA is 11.9km downstream of the structure. Considering the distance between the proposed works and this European site as well as the nature and scale of the proposed works, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Wexford Harbour and Slobs SPA in view of the Conservation Objectives for these Qualifying Interests.	**No**
						A005 Great Crested Grebe Podiceps cristatus	To maintain the favourable conservation condition of Great Crested Grebe in Wexford Harbour and Slobs SPA		
						A017 Cormorant Phalacrocorax carbo	To maintain the favourable conservation condition of Cormorant in Wexford Harbour and Slobs SPA		
						A028 Grey Heron Ardea cinerea	To maintain the favourable conservation condition of Grey Heron in Wexford Harbour and Slobs SPA		
						A037 Bewick's Swan Cygnus columbianus	To maintain the favourable conservation condition of Bewick's Swan in Wexford Harbour and Slobs SPA		
						A038 Whooper Swan Cygnus cygnus	To maintain the favourable conservation condition of Whooper Swan in Wexford Harbour and Slobs SPA		
						A046 Light-bellied Brent Goose Branta bernicla hrota	To maintain the favourable conservation condition of Light-bellied Brent Goose in Wexford Harbour and Slobs SPA		
						A048 Shelduck Tadorna tadorna	To maintain the favourable conservation condition of Shelduck in Wexford Harbour and Slobs SPA		
						A050 Wigeon Anas penelope	To maintain the favourable conservation condition of Wigeon in Wexford Harbour and Slobs SPA		
						A052 Teal Anas crecca	To maintain the favourable conservation condition of Teal in Wexford Harbour and Slobs SPA		
						A053 Mallard Anas platyrhynchos	To maintain the favourable conservation condition of Mallard in Wexford Harbour and Slobs SPA		
						A054 Pintail Anas acuta	To maintain the favourable conservation condition of Pintail in Wexford Harbour and Slobs SPA		
						A062 Scaup Aythya marila	To maintain the favourable conservation condition of Scaup in Wexford Harbour and Slobs SPA		
						A067 Goldeneye Bucephala clangula	To maintain the favourable conservation condition of Goldeneye in Wexford Harbour and Slobs SPA		
						A069 Red-breasted Merganser Mergus serrator	To maintain the favourable conservation condition of Red-breasted Merganser in Wexford Harbour and Slobs SPA		
						A082 Hen Harrier Circus cyaneus	To maintain the favourable conservation condition of Hen Harrier in Wexford Harbour and Slobs SPA		
						A125 Coot Fulica atra	To maintain the favourable conservation condition of Coot in Wexford Harbour and Slobs SPA		
						A130 Oystercatcher Haematopus ostralegus	To maintain the favourable conservation condition of Oystercatcher in Wexford Harbour and Slobs SPA		
						A140 Golden Plover Pluvialis apricaria	To maintain the favourable conservation condition of Golden Plover in Wexford Harbour and Slobs SPA		
						A141 Grey Plover Pluvialis squatarola	To maintain the favourable conservation condition of Grey Plover in Wexford Harbour and Slobs SPA		
						A142 Lapwing Vanellus vanellus	To maintain the favourable conservation condition of Lapwing in Wexford Harbour and Slobs SPA		
						A143 Knot Calidris canutus	To maintain the favourable conservation condition of Knot in Wexford Harbour and Slobs SPA		
						A144 Sanderling Calidris alba	To maintain the favourable conservation condition of Sanderling in Wexford Harbour and Slobs SPA		
						A149 Dunlin Calidris alpina	To maintain the favourable conservation condition of Dunlin in Wexford Harbour and Slobs SPA		
						A156 Black-tailed Godwit Limosa limosa	To maintain the favourable conservation condition of Black-tailed Godwit in Wexford Harbour and Slobs SPA		
						A157 Bar-tailed Godwit Limosa lapponica	To maintain the favourable conservation condition of Bar-tailed Godwit in Wexford Harbour and Slobs SPA		
						A160 Curlew Numenius arquata	To maintain the favourable conservation condition of Curlew in Wexford Harbour and Slobs SPA		
						A162 Redshank Tringa totanus	To maintain the favourable conservation condition of Redshank in Wexford Harbour and Slobs SPA		
						A179 Black-headed Gull Chroicocephalus ridibundus	To maintain the favourable conservation condition of Black-headed Gull in Wexford Harbour and Slobs SPA		
						A183 Lesser Black-backed Gull Larus fuscus	To maintain the favourable conservation condition of Lesser Black-backed Gull in Wexford Harbour and Slobs SPA		
						A195 Little Tern Sterna albifrons	To maintain the favourable conservation condition of Little Tern at Wexford Harbour and Slobs SPA		
						A395 Greenland White-fronted goose Anser albifrons flavirostris	To maintain the favourable conservation condition of Greenland White-fronted Goose in Wexford Harbour and Slobs SPA		
						A999 Wetlands	To maintain the favourable conservation condition of the wetland habitat in Wexford Harbour and Slobs SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.	The Conservation Objective for Wetlands is defined by a single Attribute, namely "Habitat area". The proposed works do not provide for any reduction in the permanent area of this habitat within the site. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Wexford Harbour and Slobs SPA in view of the Conservation Objective for this Qualifying Interest.	**No**

County	Bridge ID	Bridge Name	Proposed works (bold indicates work items that have potential to cause adverse effects)	Potential pathways for impacts?	Site name(s) and Code(s)	Qualifying Interest	Conservation Objective (NPWS, 2011b)	Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?	Adverse Effect / Mitigation Required?
Wexford	WX-NBD-004.00	Clody Bridge	Maintenance at northeast corner, repair and reset mastic asphalt fire hydrant surround (0.3m2). 1m strip either side of carriageway to be swept and cleaned including the removal of vegetation at pavement edge (50m2). Clean all gullies (5 no.). Sweep and clean both footways (80m2). Remove moss/ivy growth & vegetation from parapet/safety barrier at northeast, northwest pillars (20m2), northwest (30m2) northeast, southwest (5m2), and southeast (1m2). Graffiti to be removed from top rail of parapet in northwest corner (0.01m2). Remove light vegetation from embankments at all corners (44m2). Remove moss/ivy growth from retaining wall at: northeast (50m2), and northwest (15m2). **Masonry repointing required at north spandrel wall. Masonry repointing required at wingwalls at the following locations: southwest (5m2), southeast (1m2), northwest (20m2), northeast (30m2). Masonry repair required at the following locations: northeast corner close to abutment (0.5m3). Masonry repointing required at the following locations: northeast corner 0.5m from water level (0.5m2)**. 16 no. bearings to be cleaned on both sides of structure. Remove litter from under the bridge (1m2).	This bridge is located within the SAC.	Slaney River Valley SAC [000781]	1029 Freshwater Pearl Mussel Margaritifera margaritifera	The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the Slaney River Valley SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species	Records for Freshwater Pearl Mussel show that this species has a range extending along the length of the freshwater stretches of the River Slaney and its tributaries [redacted]. Freshwater Pearl Mussel is sensitive to the water quality impacts caused by the input of wet cementitious material, sediment and other pollutants to the river systems they inhabit. Furthermore, the migratory fish species that Freshwater Pearl Mussel relies upon for its reproductive cycle are also sensitive to these types of water quality impacts. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1095 Sea Lamprey Petromyzon marinus	To restore the favourable conservation condition of Sea lamprey in the Slaney River Valley SAC	Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon are all known to migrate up the River Slaney in order to spawn. These species are sensitive to the water quality impacts caused by the input of sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objectives for these Qualifying Interests cannot be ruled out at this stage.	**Yes**
						1096 Brook Lamprey Lampetra planeri	To restore the favourable conservation condition of Brook lamprey in the Slaney River Valley SAC		
						1099 River Lamprey Lampetra fluviatilis	To restore the favourable conservation condition of River lamprey in the Slaney River Valley SAC		
						1106 Atlantic Salmon Salmo salar	To restore the favourable conservation condition of Salmon in the Slaney River Valley SAC		
						1103 Twaite Shad Alosa fallax	To restore the favourable conservation condition of Twaite shad in the Slaney River Valley SAC	The natural range of Twaite Shad only extends to the tidal limit within the river. Therefore, they can only be located >10 km downstream of the proposed works at a minimum. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1130 Estuaries	To maintain the favourable conservation condition of Estuaries in the Slaney River Valley SAC	Estuaries occur >10 km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1140 Mudflats and sandflats not covered by seawater at low tide	To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in the Slaney River Valley SAC	Intertidal mudflats occur at least >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						1355 Otter Lutra lutra	To restore the favourable conservation condition of Otter in the Slaney River Valley SAC	No evidence of Otter was found within close proximity of the proposed works, although Otters are likely to be present in the vicinity of the proposed works. The fish species that Otters rely on as a food source are sensitive to the water quality impacts caused by the input of lime mortar-material, sediment and other pollutants to the river systems they inhabit. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						1365 Harbour Seal Phoca vitulina	To maintain the favourable conservation condition of Harbour Seal in the Slaney River Valley SAC	The closest suitable habitat for Harbour Seal is >10km downstream of the proposed works. Due to the nature and location of the proposed works in relation to this Qualifying Interest, and the assimilative capacity of the River Slaney, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the Slaney River Valley SAC	The description of this habitat is broad, and includes fast flowing upland rivers with a high bryophyte component, as well as slow flowing lowland river with higher plants, such as water-crowfoot. This habitat is considered to be present at the location of the structure. Therefore, adverse effects arising from the proposed works on the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest cannot be ruled out at this stage.	**Yes**
						91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	To restore the favourable conservation condition of old sessile oakwoods with Ilex and Blechnum in the Slaney River Valley SAC	Old sessile oak woods, with Ilex and Belchnum in the British Isles, are a strictly terrestrial habitat and is not sensitive to the types of impacts that the proposed works could give rise to. Additionally, this habitat is not located within the footprint of the proposed works. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
						91E0 * Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion) in the Slaney River Valley SAC	There will be no development or land-take occurring within Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*alno-Padion, Alnion incanae, Alicion albae*). Furthermore, this is a terrestrial based habitat that is subject to periodic flooding and is not sensitive to any water quality impacts that may occur within the river. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Slaney River Valley SAC in view of the Conservation Objective for this Qualifying Interest.	**No**
				Potential pathways for impacts?	**Site name(s) and Code(s)**	**Qualifying Interest**	**Conservation Objective (NPWS, 2012)**	**Do the proposed works provide any potential to undermine the Conservation Objectives, as defined by its Attributes and Targets?**	**Adverse Effect / Mitigation Required?**
				This bridge is 25.1km upstream of the SPA.	Wexford Harbour and Slobs SPA [004076]	A004 Little Grebe Tachybaptus ruficollis	To maintain the favourable conservation condition of Little Grebe in Wexford Harbour and Slobs SPA	This SPA is 25.1km downstream of the structure. Considering the distance between the proposed works and this European site as well as the nature and scale of the proposed works, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Wexford Harbour and Slobs SPA in view of the Conservation Objective for these Qualifying Interests.	**No**
						A005 Great Crested Grebe Podiceps cristatus	To maintain the favourable conservation condition of Great Crested Grebe in Wexford Harbour and Slobs SPA		
						A017 Cormorant Phalacrocorax carbo	To maintain the favourable conservation condition of Cormorant in Wexford Harbour and Slobs SPA		
						A028 Grey Heron Ardea cinerea	To maintain the favourable conservation condition of Grey Heron in Wexford Harbour and Slobs SPA		
						A037 Bewick's Swan Cygnus columbianus	To maintain the favourable conservation condition of Bewick's Swan in Wexford Harbour and Slobs SPA		
						A038 Whooper Swan Cygnus cygnus	To maintain the favourable conservation condition of Whooper Swan in Wexford Harbour and Slobs SPA		
						A046 Light-bellied Brent Goose Branta bernicla hrota	To maintain the favourable conservation condition of Light-bellied Brent Goose in Wexford Harbour and Slobs SPA		
						A048 Shelduck Tadorna tadorna	To maintain the favourable conservation condition of Shelduck in Wexford Harbour and Slobs SPA		
						A050 Wigeon Anas penelope	To maintain the favourable conservation condition of Wigeon in Wexford Harbour and Slobs SPA		
						A052 Teal Anas crecca	To maintain the favourable conservation condition of Teal in Wexford Harbour and Slobs SPA		
						A053 Mallard Anas platyrhynchos	To maintain the favourable conservation condition of Mallard in Wexford Harbour and Slobs SPA		
						A054 Pintail Anas acuta	To maintain the favourable conservation condition of Pintail in Wexford Harbour and Slobs SPA		
						A062 Scaup Aythya marila	To maintain the favourable conservation condition of Scaup in Wexford Harbour and Slobs SPA		
						A067 Goldeneye Bucephala clangula	To maintain the favourable conservation condition of Goldeneye in Wexford Harbour and Slobs SPA		
						A069 Red-breasted Merganser Mergus serrator	To maintain the favourable conservation condition of Red-breasted Merganser in Wexford Harbour and Slobs SPA		
						A082 Hen Harrier Circus cyaneus	To maintain the favourable conservation condition of Hen Harrier in Wexford Harbour and Slobs SPA		
						A125 Coot Fulica atra	To maintain the favourable conservation condition of Coot in Wexford Harbour and Slobs SPA		
						A130 Oystercatcher Haematopus ostralegus	To maintain the favourable conservation condition of Oystercatcher in Wexford Harbour and Slobs SPA		
						A140 Golden Plover Pluvialis apricaria	To maintain the favourable conservation condition of Golden Plover in Wexford Harbour and Slobs SPA		
						A141 Grey Plover Pluvialis squatarola	To maintain the favourable conservation condition of Grey Plover in Wexford Harbour and Slobs SPA		
						A142 Lapwing Vanellus vanellus	To maintain the favourable conservation condition of Lapwing in Wexford Harbour and Slobs SPA		
						A143 Knot Calidris canutus	To maintain the favourable conservation condition of Knot in Wexford Harbour and Slobs SPA		
						A144 Sanderling Calidris alba	To maintain the favourable conservation condition of Sanderling in Wexford Harbour and Slobs SPA		
						A149 Dunlin Calidris alpina	To maintain the favourable conservation condition of Dunlin in Wexford Harbour and Slobs SPA		
						A156 Black-tailed Godwit Limosa limosa	To maintain the favourable conservation condition of Black-tailed Godwit in Wexford Harbour and Slobs SPA		
						A157 Bar-tailed Godwit Limosa lapponica	To maintain the favourable conservation condition of Bar-tailed Godwit in Wexford Harbour and Slobs SPA		
						A160 Curlew Numenius arquata	To maintain the favourable conservation condition of Curlew in Wexford Harbour and Slobs SPA		
						A162 Redshank Tringa totanus	To maintain the favourable conservation condition of Redshank in Wexford Harbour and Slobs SPA		
						A179 Black-headed Gull Chroicocephalus ridibundus	To maintain the favourable conservation condition of Black-headed Gull in Wexford Harbour and Slobs SPA		
						A183 Lesser Black-backed Gull Larus fuscus	To maintain the favourable conservation condition of Lesser Black-backed Gull in Wexford Harbour and Slobs SPA		
						A195 Little Tern Sterna albifrons	To maintain the favourable conservation condition of Little Tern at Wexford Harbour and Slobs SPA		
						A395 Greenland White-fronted goose Anser albifrons flavirostris	To maintain the favourable conservation condition of Greenland White-fronted Goose in Wexford Harbour and Slobs SPA		
						A999 Wetlands	To maintain the favourable conservation condition of the wetland habitat in Wexford Harbour and Slobs SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.	The Conservation Objective for Wetlands is defined by a single Attribute, namely "Habitat area". The proposed works do not provide for any reduction in the permanent area of this habitat within the site. Therefore, it can be concluded beyond reasonable scientific doubt that the proposed works will not adversely affect the integrity of the Wexford Harbour and Slobs SPA in view of the Conservation Objective for this Qualifying Interest.	**No**

3.1 Summary of Potential Adverse Effects

In Table 3.1 above, it was established that six European sites, namely the Slaney River Valley SAC, the River Barrow and River Nore SAC, Lough Ree SAC, the Wexford Harbour and Slobs SPA, the Lough Ree SPA and the River Nore SPA occur within the zone of influence. Table 3.1 established that, in the absence of appropriate mitigation, the proposed works is likely to have adverse effects on these European sites, in view of their Conservation Objectives. The type of works that have potential to adversely effect one or more of the European sites listed above are:

- Application of wet cementitious materials directly over water.
- The removal of large debris and sediment from the riverbed.
- In-stream works i.e. repairing scour, undermining and rock armour.

3.2 European Sites

Section 3.2.3 of DEHLG (2010) outlines the procedure for selecting the European sites to be considered in AA. It states that European sites potentially affected should be identified and listed, bearing in mind the potential for direct, indirect and in-combination effects. It also states that the specific approach in each case is likely to differ depending on the scale and likely effects of the plan or project. In the case of the works subject to AA in this NIS, the likely zone of influence included all European sites within 500 m of the works, and European sites that are hydrologically connected to the works. There are six European sites within the likely zone of influence:

- Slaney River Valley SAC [000781]
- River Barrow and River Nore SAC [002162]
- Lough Ree SAC [000440]
- Wexford Harbour and Slobs SPA [004076]
- Lough Ree SPA [004064]
- River Nore SPA [004233]

The pathways for effects between each structure and European sites are described in Table 3.1 above. Descriptions of the European sites where adverse effects could not be excluded are presented in Appendix A.

4. MITIGATION

4.1 Principles and Approach

Section 3.0 of this NIS identified adverse effects on the integrity of six European sites likely to arise from the proposed works. This section prescribes measures aimed at mitigating these adverse effects, thereby protecting the integrity of the relevant European sites.

The mitigation measures prescribed in this NIS have been designed according to the principle of a mitigation hierarchy, as outlined in the European Commission's guidance document *Assessment of plans and projects significantly affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (EC, 2001). According to this hierarchy, the following mitigation approaches were adopted, in order of decreasing preference:

(1) Avoiding impacts at their source;

(2) Reducing impacts at their source;

(3) Abating impacts on site; and,

(4) Abating impacts at their receptor.

As mitigation measures are related directly to impacts and only indirectly to receptors and as, in this case, all of the affected receptors have been identified as being affected by the same set of impacts, to describe mitigation measures under the headings of the relevant receptors would lead to undue repetition. Therefore, the measures prescribed in this NIS are described under the potential adverse effects of the single work item that the measures are intended to mitigate.

4.2 Mitigation Measures

4.2.1 General Mitigation Measures

In order to avoid adverse effects on the integrity of the European sites as listed in Section 3.2, as a result of the proposed works, the following mitigation measures will be implemented for the duration of the proposed works:

- The Contractor will be required to appoint an Ecologist (**'the Contractor's Ecologist'**) to oversee the works and provide advice in relation to the works and impacts, and to ensure that the mitigation measures outlined are implemented effectively. The Contractor's Ecologist must possess training, experience and knowledge appropriate to the role, including:
    - An NFQ Level 8 qualification or equivalent in ecology or environmental biology; and,
    - At least three years' experience as an ECoW.
    - The necessary licences for undertaking any surveys, if required e.g. FWPM

    The Contractor's Ecologist will be required to fulfil the following tasks:
    - Review of engineering & ecological documentation including method statements / ongoing liaison with Contractor / ROD / TII.
    - Preconstruction ecology visit.
    - The scope of the visit will be informed by the characteristics of the site (as set out in the NIS and subsequent correspondence) and will at a minimum include a check for Otter, nesting birds and invasive plant species.
    - The preconstruction survey must occur prior to the Contractor mobilising on site, but also as close to the mobilisation date as is practical. The

Contractor's Ecologist will prepare a technical memo on the findings which will be provided to the Contractor and TII.

- Presentation of Toolbox Talk to site staff prior to commencement of works on site.
- The Contractor's Ecologist will be required to attend site during the installation of the catch nets, and during the mobilisation of any 'in-stream' elements. The Contractor's Ecologist will oversee the works and provide advice in relation to the works, impacts and compliance with the mitigation measures.

- A method statement will be produced by the Contractor and approved by the Employers Representative and the Contractor's Ecologist. It will also be submitted to IFI for approval. The method statement will contain the following measures to protect water quality:
  - Cementitious material will not be allowed to enter the watercourse.
  - Plant is not permitted to enter the watercourse.
  - Stockpiling of materials and/or storage of fuels shall not be permitted at the site.
  - refuelling shall not be permitted within 50 m of the watercourse.
  - Spill kits shall be available on-site.
- All equipment including PPE which comes into contact with watercourses will be clean and will be disinfected prior to arrival and before leaving site each day using Virkon Aquatic or similar. Equipment will be disinfected at least 20m from the watercourse. Refer to the Biosecurity Protocol in Section 4.2.2 below.
- In-stream works will only be undertaken during the period beginning 1st July and ending 30th September, unless subject to agreement with IFI. Scaffolding footings and ladders are not subject to seasonal restrictions for in-stream works.

4.2.2 Biosecurity Protocol

The Contractor's Ecologist will ensure that the Biosecurity Protocol will be implemented at each location. The purpose of the Biosecurity Protocol is to prevent the introduction and spread of invasive species listed on the third schedule of the EC (Birds and Natural Habitats) Regulations 2011 and aphanomycosis (Crayfish Plague). The protocol is based on the Check, Clean and Dry protocol described on the National Biodiversity Data Centre Website Check-Clean-Dry – National Biodiversity Data Centre (biodiversityireland.ie).

- All equipment intended to be used at the site shall be dry, clean, and free from debris prior to being brought to site.
- If drying out of equipment is not feasible, equipment should be either:
  - Power steam washed at a suitably high temperature or at least 65 degrees, or
  - Disinfected with an approved disinfectant, e.g., Virkon or an iodine-based product. It is important that the manufacturer's instructions are followed and if required, the correct contact times are allowed for during the disinfection process. Items that are difficult to soak should be sprayed or wiped down with disinfectant.
- For the duration of the proposed works, if equipment is removed off-site to be used elsewhere, the said equipment shall be cleaned and disinfected prior to being brought back to the works area.

- Appropriate facilities shall be used for the containment, collection, and disposal of material and/or water resulting from washing facilities of vehicles, equipment and personnel.
- Due to the current prevalence of crayfish plague, it must be assumed that all watercourses are potential sources of plague and appropriate biosecurity as above must be implemented in all catchments.

4.2.3 Repointing and Conctete Repair

The following mitigation measures will apply to all works involving the application of wet cementitious materials including masonry repointing and concrete repairs, where there is a risk of accidental spillage of wet cementitious materials into a watercourse:

- Repointing and concrete repairs will be undertaken on foot, from a ladder, using scaffolding or using a bridge inspection unit.
- A catch net will be placed flush with the bridge to catch any spilled mortar or concrete. The catch net will be made of Visqueen heavy duty plastic sheeting or similar and will cover the entire area underneath the works.
- The effectiveness of the catch net will be approved by the Employer's Representative and the Contractor's Ecologist.
- Repointing and concrete repairs will take place in dry weather and will not take place if rain is forecast in the following 12 hours. The commencement of the works will be approved by the Employer's Representative.
- Mortar and concrete will be mixed in a watertight container at least 20m from the watercourse.
- Only one bucket of wet mortar or concrete will be brought to the work site at any time by each person carrying out the repointing.

4.2.4 Debris Removal

The following mitigation measures will apply to all works involving the removal of large debris and sediment from the riverbed:

- The Contractor's Ecologist will oversee the works and provide advice in relation to the works, impacts and mitigation measures.
- In-stream works will comply with IFI (2016) *Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters*.
- If pieces of debris are small enough to be removed by hand, the contractor will enter the river on foot and remove the debris. Debris will be carried to the bank and taken off site.
- Larger pieces of debris, such a tree trunks, will either be cut into smaller pieces using a chainsaw and removed by hand, or removed by a machine using a sling or similar. Care will be taken to minimise disturbance to the river bed.
- No Floating River Vegetation or other living plants will be removed from the river channel. If accessed on foot, the areas of floating river vegetation or other living plants will be avoided. The Contractor's Ecologist will supervise the debris removal to ensure that access and debris removal do not damage the Floating River Vegetation or other living plants in the river channel.
- Should any branches be stuck in the riverbed, they will be cut as low as possible, with the upper section removed by hand and the lower section left in the riverbed.

4.2.5 Scour Repair, Underminging and Rock Armour

The following mitigation measures will apply to all works involving works in the river channel i.e. repairing scour, undermining and rock armour:

- In-stream works will only be undertaken during the period beginning 1st July and ending 30th September, unless agreed with IFI.
- In-stream works will comply with IFI (2016) *Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters*.
- All equipment, including PPE, which comes into contact with the watercourse will be clean prior to use and will be disinfected prior to leaving each site using Virkon Aquatic or similar. The Biosecurity Protocol described in Section 4.2.2 will be implemented for all works which involve contact with the aquatic environment.

Dewatering

- A dam will be constructed around the area requiring repair from the upstream end, which will allow water to escape naturally. The dam will be constructed of sandbags or similar and approved by the Employer's Representative and the Contractor's Ecologist.
- Any remaining water will be removed using a pump. All water being pumped out will pass through a silt trap to prevent silt entering the water downstream. The silt trap will be approved by the Employer's Representative and the Contractor's Ecologist.
- The dewatering of the area will be supervised by Contractor's Ecologist, and any fish or crayfish will be removed by hand and placed in the a suitable location close to the works.
- The pump will be supervised at all times to ensure is it operating correctly.
- Following dewatering, any silt, gravel or other debris in the damaged area will be removed and disposed of in a suitable facility off-site.

Applying wet cementitious materials below the waterline

- When wet cementitious materials are being used below the waterline, they must only be applied when rain is not forecast for the 24 hours before after the works begin. This will be approved by the Employer's Representative.
- Cementitious materials will be mixed at least 20 m from the watercourse.
- Only one bucket of wet cementitious materials will be brought to the works area at any time.
- The cementitious materials will be checked by the Employer's Representative prior to removal of the dam to ensure that it is dry.

4.2.6 New Bridge (LS-N77-002.00)

New Bridge (LS-N77-002.00) spans the River Nore, [redacted] works at this structure are particularly sensitive. The following works have been called up as part of the routine maintenance. The work items that are highlighted with **bold text** indicates that adverse effects as a result of the particular work item could not be ruled out, and where mitigation measures have been provided to avoid adverse effects on the River Barrow and River Nore SAC.

- 1m strip either side of carriageway to be swept and cleaned including the removal of vegetation at pavement edge (70m^2).
- Sweep and clean both footways (150m^2).
- Remove vegetation growth from parapets at following locations: North (8m^2); South (9m^2); northeast (5m^2); northwest (10m^2); southeast (3m^2); southwest(5m^2) (total 40m^2).

- **Masonry repointing required to parapets at following locations: 4 m^2 throughout both parapets.**
- Remove vegetation growth from embankments at following locations: northeast ($30m^2$); northwest ($8m^2$); southeast ($10m^2$); southwest($10m^2$) (total $58m^2$).
- Remove vegetation growth from wingwalls at following locations: 4m2 each side.
- Remove vegetation growth from spandrel walls at following locations: East ($10m^2$) West ($10m^2$).
- Remove vegetation growth from training walls at following locations: northeast ($30m^2$) (total $66m^2$).
- **Masonry repointing required to spandrel walls at following locations: East ($1m^2$) West ($1m^2$).**
- **Masonry repointing required to retaining walls at following locations: northeast ($25m^2$) (total $27m^2$).**
- **Masonry repointing required to deck at the following locations: $0.5m^2$ each to 4 no. spans (total $2m^2$).**
- **Masonry repair required to deck at the following locations: East span ($0.5m^3$).**
- Installation of 1 no. missing structure ID required on North parapet.

Masonry repointing, both over water and close to the riverbank, has the potential to lead to water quality impacts. These impacts could result in adverse effects on the integrity of the River Barrow and River Nore SAC and the River Nore SPA. Measures to mitigate the risk of water quality impacts are presented in the Section 4.2. In addition to these measures, [redacted] access to the river is prohibited. This includes access on foot and the use of ladders and the placement of scaffolding footings. All repointing must be carried out using a bridge inspection unit or similar.

4.3 Summary of Mitigation Measures

Table 3.1 contain the assessment of the proposed works and their potential to affect the integrity of European sites. In total, 39 no. bridges were identified where adverse effects could not be excluded and mitigation measures were required to avoid adverse effects on the integrity of European sites. Table 4-1 presents a breakdown of the structures which are the subject of this NIS and the mitigation measures (described in Sections 4.3.1-4.2.6) that are applicable to the structure.

Table 4-1 Mitigation Measures proposed at each structure.

Bridge ID	Bridge Name	General Measures (4.2.1)	Biosecurity Protocol (4.2.2)	Repointing / Concrete repair (4.2.3)	Debris from Riverbed (4.2.4)	Instream works (4.2.5)	New Bridge (4.2.6)
CW-N80-001.00	Raheen Culvert	✓	✓	✓	✓		
CW-N80-005.00	Ballykealey Bridge	✓	✓	✓	✓	✓	
CW-N80-007.00	Fighting Cocks Bridge	✓	✓	✓	✓	✓	
CW-N80-009.00	Bollinocarrig Bridge	✓	✓	✓	✓		

Bridge ID	Bridge Name	General Measures (4.2.1)	Biosecurity Protocol (4.2.2)	Repointing / Concrete repair (4.2.3)	Debris from Riverbed (4.2.4)	Instream works (4.2.5)	New Bridge (4.2.6)
CW-N81-007.00	New Mill Leat	✓	✓	✓			
KE-N78-002.00	Augustus Bridge	✓	✓	✓			
KE-N78-003.00	Athy Bridge	✓	✓	✓			
KK-N76-002.00	Kilbride River Bridge	✓	✓	✓		✓	
KK-N76-005.50	Moankeal Culvert	✓	✓	✓	✓	✓	
KK-N76-006.00	Knockreagh Bridge	✓	✓	✓	✓		
KK-N76-009.00	Shellumsrath Bridge	✓	✓		✓	✓	
KK-N77-001.00	Baun Bridge	✓	✓	✓			
KK-N77-002.00	Dinin Bridge	✓	✓	✓			
KK-N78-001.00	Douglas River Bridge	✓	✓	✓			
KK-N78-002.00	Julianstown Bridge	✓	✓	✓	✓		
KK-N78-003.00	Lisnafunshin Bridge	✓	✓	✓		✓	
KK-N78-004.00	Dysart Bridge South	✓	✓	✓		✓	
KK-N78-005.50	Ballycomey Culvert	✓	✓	✓	✓		
KK-N78-006.00	Clashduff Lower Bridge	✓	✓	✓	✓	✓	
KK-N78-007.00	Castlecomer Bridge	✓	✓	✓			
KK-N78-008.00	Castlecomer Tributary Bridge	✓	✓	✓			
KK-N78-009.00	Crettyard Bridge	✓	✓	✓			
LD-N05-000.10	Termonbarry Bridge	✓	✓	✓			
LS-N77-001.00	Durrow Bridge	✓	✓	✓			
LS-N77-002.00	New Bridge, River Nore	✓	✓	✓			✓

Bridge ID	Bridge Name	General Measures (4.2.1)	Biosecurity Protocol (4.2.2)	Repointing / Concrete repair (4.2.3)	Debris from Riverbed (4.2.4)	Instream works (4.2.5)	New Bridge (4.2.6)
LS-N78-001.00	Ormonde Bridge	✓	✓	✓			
LS-N80-000.80	Coolanowle Culvert	✓	✓		✓	✓	
LS-N80-009.00	Mountmellick Bridge	✓	✓	✓			
LS-N80-010.00	Moll Rowe's Corner Bridge	✓	✓	✓	✓		
WW-N81-002.00	Eldon Bridge	✓	✓	✓		✓	
WW-N81-004.00	Mattymount Bridge	✓	✓	✓			
WW-N81-005.00	Waterloo Bridge	✓	✓	✓		✓	
WW-N81-007.00	Whitestown Bridge	✓	✓	✓			
WW-N81-008.00	Whitestown Stream Bridge	✓	✓	✓			
WW-N81-009.00	Carrigower Bridge	✓	✓	✓			
WX-N30-004.00	Ballymackesy Bridge	✓	✓	✓		✓	
WX-N80-001.00	Tomnakipeen Bridge	✓	✓	✓		✓	
WX-N80-002.00	Tomagarrow Bridge	✓	✓	✓	✓		
WX-N80-004.00	Clody Bridge	✓	✓	✓			

5. RESIDUAL EFFECTS

It is considered that the mitigation prescribed in Section 4 will reduce all negative impacts on water quality to imperceptible levels. Any residual effects on water quality will not adversely affect the integrity of the Slaney River Valley SAC, the River Barrow and River Nore SAC, Lough Ree SAC, Lough Ree SPA, Wexford Harbour and Slobs SPA, the River Nore SPA or any other European site. Therefore, given the full and proper implementation of the mitigation prescribed in this NIS, it can be concluded beyond all reasonable scientific doubt that the proposed works on the structures as listed in Table 3.1 will not adversely affect the integrity the Slaney River Valley SAC, the River Barrow and River Nore SAC, Lough Ree SAC, Lough Ree SPA, Wexford Harbour and Slobs SPA, the River Nore SPA or any other European sites in view of their Conservation Objectives.

6. IN-COMBINATION EFFECTS

6.1 Introduction

Article 6(3) of the Habitats Directive requires that AA be carried out in respect of plans and projects that are likely to have adverse effects on European sites, "either individually or in combination with other plans or projects". Therefore, the combined effects of the plan or project under assessment and other past, present or foreseeable future plans or projects must also be examined, analysed and evaluated.

6.2 Methodology

The potential combination of effects on European sites arising from the routine maintenance works at all structures in Leinster was also taken into account and considered in the assessment of in-combination effects.

Due to the small scale, location and temporary nature of the proposed works and provided the mitigation measures described above are followed, there is no potential for in-combination effects within other plans and projects.

6.3 Outcome

The Office of Public Works (OPW) has 14 arterial drainage schemes in the Leinster Region which are listed below:

- Ballyteigue Kilmore
- Boyne
- Broadmeadow and Ward
- Brosna
- Duleek (Nanny)
- Glyde and Dee
- Hazelhatch (Shinkeen)
- Inny
- Kilkenny
- Matt
- Mornington FRS
- Nenagh
- Owenvorragh
- Rye Water

The OPW has carried out a Strategic Environmental Assessment and NIS of the draft Arterial Drainage Maintenance Activities for 2022-2027. Maintenance activities will be subject to the AA process to ensure no adverse impacts to European sites and their designated habitats and species. Mitigation measures are set out in the SEA and NIS, which require further project-specific assessments to be carried out. Thus, given the nature and scale of the proposed routine maintenance bridge works, in-combination impacts with the OPW drainage programme are not anticipated.

A number of road schemes are proposed in the Leinster Region. Examples of these infrastructure projects include are listed in Table 6-1 below. These road projects are all at different stages of design and planning. As the proposed works will be carried

out during 2024, and due to their scale and temporary nature, in-combination impacts are not anticipated.

Table 6-1 TII Road Schemes in the Leinster Region

Project Name	Local Authority	Project Stage
N3 Virginia Bypass	Cavan / Meath	Options Selection
N4 Mullingar to Longford (Roosky)	Westmeath / Longford	Options Selection
N24 Waterford to Cahir	Kilkenny / Tipperary	Options Selection
N2 Ardee to Castleblaney	Louth / Monoghan	Design & Evaluation
N2 Rath Roundabout to Kilmoon Cross (Transportation Corridor)	Meath	Design & Evaluation
N2 Slane Bypass and Public Realm Enhancement Scheme	Meath	Design & Evaluation
N3 M50 to Clonee (Transportation Corridor)	Dublin (Fingal) / Meath	Design & Evaluation
N11/N25 Oilgate to Rosslare Harbour	Wexford	Design & Evaluation
N52 Ardee Bypass	Louth	Design & Evaluation
M4 Maynooth to Leixlip (Transportation Corridor)	Kildare / Dublin (South Dublin)	Options Selection (on hold)
N11/M11 Junction 4 to Junction 14	Wicklow / Dublin (Dun Laoghaire Rathdown)	Emerging Preferred Option (on hold)
N24 Tullamore to Kilbeggan	Offaly	Emerging Preferred Option (on hold)
N25 Waterford to Glenmore	Kilkenny	Design & Evaluation (on hold)

Table 6-2 below contains a list of EIA projects, sourced from the EIA Portal, that fall within 100m of a watercourse, within a catchments where works are proposed, that have the potential to give rise to in-combination adverse effects on European sites. These projects have been subject to their own environmental assessments, including EIA. Considering this, and the temporary scale and nature of the proposed works, in-combination adverse effects are not anticipated.

Table 6-2 Project with potential to give rise to in-combination effects

EIA Portal Ref. No.	Date of Application	Location	Description
2023066	01/05/23	Ballyhale, County Kilkenny	Flood Relief Scheme to protect the Village from flooding up to the 1% AEP flood event. Scheme consists of hard defences in addition to a range of interventions along the watercourse reach to provide additional capacity and environmental improvements.
2022237	12/12/22	Ridge, Knocknabranagh and Knockbaun, Baunreagh, and Agharue, Co. Carlow; and Coolcullen, Cloneen and Coan East, Co. Kilkenny	Construction and operation of a 7 turbine wind farm and all associated ancillary infrastructure and developments.
2022154	14/08/22	Graiguenahown, Knockardagur, Boleybawn, and Ironmills (Kilrush), County Laois	Amendments to the permitted Pinewoods Wind Farm to include amendments to wind turbine component dimensions and minor re-siting of 3 no. turbines.
2022116	22/06/22	Graiguenahown, Knockardagur, Boleybawn, and Ironmills (Kilrush), County Laois	Amendments to the permitted Pinewoods Wind Farm to include amendments to wind turbine component dimensions and minor re-siting of 3 no. turbines.
2022050	27/03/22	The 13.1 Ha site known as 'Lough Ree Power (LRP) Station' located in Lanesborough (Lanesboro), in the townlands of Aghamore and Lanesborough, Eircode N37 E180; in County Longford	75 MW Battery Energy Storage System (BESS) and a 200 MVA Synchronous Condenser
2021233	03/11/21	Coolanshinnagh, Ardragh, Bolakeale & Gortfree, Co Tipperary	The installation of 2250 metres of 38KV underground grid connection comprising cable ducting and associated electrical cabling and all other ancillary works including joint bays, culverts, maker posts and all associated development
2021213	06/10/21	Coolanshinnagh, Ardragh, Bolakeale & Gortfree, Co Tipperary	The installation of 2250 metres of 38KV underground grid connection comprising cable ducting and associated electrical cabling and all other ancillary works including joint bays, culverts, maker posts and all associated development
2021199	29/09/21	Knockbaun, Spink, County Laois	Continued use and operation of existing quarry including deepening of the quarry. Extraction will be confined to the existing permitted quarry area (P.A. Ref. 10/383) comprising an extraction area of c. 14.5 ha within the full landholding of c. 19.6 ha.

EIA Portal Ref. No.	Date of Application	Location	Description
2021154	26/07/21	Coolanshinnagh, Ardragh, Bolakeale & Gortfree, Co Tipperary	The installation of 2250 metres of 38KV underground grid connection comprising cable ducting and associated electrical cabling and all other ancillary works including joint bays, culverts, maker posts and all associated development
2021143	15/07/21	Coolanshinnagh, Ardragh, Bolakeale & Gortfree, Co Tipperary.	The installation of 2250 metres of 38KV underground grid connection comprising cable ducting and associated electrical cabling and all other ancillary works including joint bays, culverts, maker posts and all associated development
2021145	15/07/21	Killeen, Rathmacan, Gortnagap Kyleballyoughter, Courtstown, Raheen, Lates, Curraghscarteen, Canvarstown, Trenchardstown, Lisnalea, Hillend, Coldharbour, Killahy, Greenhill, Lughinny, Craddockstown, Tubbrid Lower, Clomantagh Lower, Barna, Newtown,	The installation of 31.489 km of 38 KV cable ducting and associated electrical cabling and all other ancillary works including joint bays, culverts, maker posts and all associated development.
2021133	07/07/21	Galmoy, Co. Kilkenny	Recommencement of underground mining at the former Galmoy Zinc and Lead Mine incl. the refurbishment of a number of surface structures, two new wells and associated ancillary infrastructure for the supply of supplementary water to GRPWS.
2021073	18/04/21	Ballykean, Geashill, Tullamore, Co. Offaly	Permission for a pig finishing unit, 2 No. Meal Bins and associated site works. Following a further information request from the planning authority,an EIAR and a NIS are being submitted.
2021041	03/03/21	Townlands of Ballykilleen, Cloncreen and Ballinowlart North, Co. Offaly. Grid Ref. (ITM) Easting = 660810, Northing = 726820.	The proposed development is a 110kV substation with a 400m 110kV overhead line grid connection. It includes one site entrance off the R401, a temporary construction site compound and all associated site development works.
2021024	02/02/21	Bracknagh, Ardra, Moanvane, Garrymona and Ballychristal, in Co. Offaly	The development will consist of road/junction accommodation works in Co. Offaly to facilitate turbine deliveries associated with a proposed wind farm development (Ummeras Wind Farm) in Co.Kildare.

EIA Portal Ref. No.	Date of Application	Location	Description
2021017	21/01/21	Bracknagh, Ardra, Moanvane, Garrymona and Ballychristal, in Co. Offaly	The development will consist of road/junction accommodation works in Co. Offaly to facilitate turbine deliveries associated with a proposed wind farm development (Ummeras Wind Farm) in Co.Kildare.
2021013	19/01/21	Within the townlands or Rossacurra, Cranemore, Kilbrannish North, Bealalaw, Raheenliegh, Aclare, Co. Carlow	Construction for up to 7 no wind turbines (up to 178m tip height), construction of 38kv substation, compound, borrow pit, underground cabling, met mast (100m) and all associated development works. a 10 year planning permission and 35 year operational life.
2021011	19/01/21	Ummeras Beg, Coolatogher, Mullaghroe Lower, Ummeras More and Coolsickin/Quinsborough in County Kildare	The development will consist of 5 no. wind turbines with a tip height of up to 169 meters and all associated foundations and hardstanding areas, 1 no. on-site electrical substation, 1 no. met mast and ancillary works and equipment.
2021001	04/01/21	Within the townlands or Rossacurra, Cranemore, Kilbrannish North, Bealalaw, Raheenliegh, Aclare, Co. Carlow	Construction for up to 7 no wind turbines (up to 178m tip height), construction of 38kv substation, compound, borrow pit, underground cabling, met mast (100m) and all associated development works. a 10 year planning permission and 35 year operational life.
2020167	08/10/20	Knockardagur, Co. Laois	Construction and operation of a 110kV electrical substation and all ancillary infrastructure to facilitate the connection of the extant permitted Pinewoods Wind Farm to the national electricity network.
2020140	23/08/20	The development for which planning permission is being sought from Tipperary County Council is located in the townlands of Farranrory Upper, Farranrory Lower, Coolnashinnagh & Gortnasmuttaun, Co Tipperary.	A renewable energy development with a 40-year operational life (from the date of commissioning of the renewable energy development). The entirety of the development constitutes the provision of a 9-turbine wind farm and all associated works.
2020126	04/08/20	Kyletalesha, Portlaoise, County Laois R32 W978	The development will consist of the deletion of Condition 3 of permission 15/403 to allow the continuance of use of the site and premises after the 31st December 2020.
2020123	29/07/20	"Enniscorthy, Co Wexford"	Construction of new roadbridge downstream of town centre, new footbridge in Abbey Quay area, removal of Seamus Rafter Bridge, construction of flood defence walls and embankments along with associated drainage works

EIA Portal Ref. No.	Date of Application	Location	Description
2020118	26/07/20	Abbey Quarter in Kilkenny City (former Smithwicks Brewery site). The Urban Park is located on the northern part of the site, centred around the remains of St Francis Abbey. The Street will run from Bateman Quay to St. Canice's Place.	The proposed Urban Park and Street will cover an area of c.1.44ha. The Park will comprise of a variety of grassed areas, trees, paved surfaces, water feature and meeting points. The Street will be a pedestrian and cyclist dominated space.
2020106	15/07/20	The development for which planning permission is being sought from Tipperary County Council is located in the townlands of Farranrory Upper, Farranrory Lower, Coolnashinnagh & Gortnasmuttaun, Co Tipperary.	A renewable energy development with a 30-year operational life (from the date of commissioning of the renewable energy development). The entirety of the development constitutes the provision of a 9-turbine wind farm and all associated works.
2020085	07/06/20	Within the townlands of Ballykean, Rathfeston, Ballyduff, Raheenbeg, Kilcooney, Ballintogher, Gorteenkeel and Ballynakill, Co. Offaly	Permission for a grid connection between the permitted Moanvane Wind Farm (Reg. Ref. 17/335) and the existing Mountlucas Substation; upgrades to the existing Mountlucas substation and the permitted Moanvane substation to facilitate the cable route
2020084	03/06/20	"Land in the townlands of Boolyvannanan, Coolnakisha, Boolyrathornan, Ballinabranagh, Tomard Upper, Tomard Lower, Craanlusky and Clogrennan, Co. Carlow"	Installation of up to 38 kV underground cable to connect the consented Bilboa Wind Farm to the electricity grid, upgrading of a forestry track, construction of two onsite access tracks, and re-orientation of crane hardstanding.
2020052	20/04/20	Within the townlands of Ballykean, Rathfeston, Ballyduff, Raheenbeg, Kilcooney, Ballintogher, Gorteenkeel and Ballynakill, Co. Offaly	Permission for a grid connection between the permitted Moanvane Wind Farm (Reg. Ref. 17/335) and the existing Mountlucas Substation; upgrades to the existing Mountlucas substation and the permitted Moanvane substation to facilitate the cable route
2020037	03/03/20	Various townlands between four separate windfarms Ballycadden, Ballynancoran, Gibbet Hill & Knocknalour Wind Farms (collectively referred to as the Crory Wind Farm Group) and the Crory ESB substation	Substitute consent for the as-constructed electricity grid connection elements, consisting of c. 26km of underground cable (UGC) and c.2km of 20 kV overhead line (OHL).
2020017	31/01/20	Dernacart, Forest Upper and Forest Lower, Co. Laois	Proposed wind farm with up to 8 no. wind turbines with a tip height of up to 185 meters and all associated site development works including a substation, met mast, compound, electrical cabling, access tracks.

EIA Portal Ref. No.	Date of Application	Location	Description
2019217	12/12/19	Dernacart, Forest Upper and Forest Lower, Co. Laois	Proposed wind farm with up to 8 no. wind turbines with a tip height of up to 185 meters and all associated site development works including a substation, met mast, compound, electrical cabling, access tracks.
2019209	28/11/19	Ballykilleen, Shean, Kilcumber, Cloncant and Cushaling, Edenderry, Co. Offaly	The development will consist of up to 8 wind turbines with a tip height of up to 187m and all associated development including foundations, hardstands, access roads, cabling, substation, battery storage facility and grid connection, on an area of 60.674 h
2019124	07/08/19	Kiltillahan, Askamore, Gorey, Co. Wexford	Erect a finishing house for the rearing of pigs at our pig unit such that the capacity of the pig unit is 1956 finisher pigs at our existing pig unit and all associated site alterations and development works.

7. CONCLUSION

This NIS has been prepared in accordance with the relevant provisions of the Habitats Directive and the Habitats Regulations as well as the relevant case law and current guidance. It has demonstrated that, in the absence of appropriate mitigation, the proposed routine maintenance works, individually or in combination with other plans or projects, would adversely affect the integrity of six European sites, namely the Slaney River Valley SAC, the River Barrow and River Nore SAC, Lough Ree SAC, Lough Ree SPA, Wexford Harbour and Slobs SPA and the River Nore SPA. In light of this finding, this NIS has prescribed appropriate mitigation to eliminate or minimise such effects. Any residual effects, either individually or in combination with other plans or projects, have been assessed as not constituting adverse effects on the integrity of any European site. This assessment has been undertaken on the basis of the best scientific knowledge in the field and the Precautionary Principle and no reasonable scientific doubt remains as to the absence of such effects.

It is the considered opinion of ROD, as the author of this NIS, that, in making its AA in respect of the proposed routine maintenance works, Transport Infrastructure Ireland, as the Competent Authority in this case, should determine that, given the full and proper implementation of the mitigation prescribed in this NIS, the proposed works, either individually or in combination with other plans or projects, will not adversely affect the integrity of the Slaney River Valley SAC, the River Barrow and River Nore SAC, Lough Ree SAC, Lough Ree SPA, Wexford Harbour and Slobs SPA, the River Nore SPA or any other European site.

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APPENDIX A

European Site Descriptions

Slaney River Valley SAC

The description of the Slaney River Valley SAC provided here is based on the Site Synopsis (NPWS, 2015a) and Conservation Objectives (NPWS, 2011b) for the site.

Qualifying Interests of the Site

[1130] Estuaries

[1140] Mudflats and sandflats not covered by seawater at low tide

[1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

[1410] Mediterranean salt meadows (*Juncetalia maritimi*)

[3260] Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation

[91A0] Old sessile oak woods with Ilex and Blechnum in the British Isles

[91E0] *Alluvial forests with *Alnus glutinosa* and Fraxinus excelsior (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)

[1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*)

[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*)

[1355] Otter (*Lutra lutra*)

[1365] Common (Harbour) Seal (*Phoca vitulina*)

Site Overview

The Slaney River Valley comprises the freshwater stretches of the River Slaney (a major river that drains much of the south-east region) as far as the Wicklow Mountains; a number of tributaries, the larger of which include the Bann, Boro, Glasha, Clody, Derry, Derreen, Douglas and Carrigower Rivers; the estuary at Ferrycarrig; and Wexford Harbour. The site flows through the Counties of Wicklow, Wexford and Carlow. Towns along the site but not within it include Baltinglass, Hacketstown, Tinahely, Tullow, Bunclody, Camolin, Enniscorthy and Wexford. The river is up to 100m wide in places and is tidal at the southern end from Edermine Bridge below Enniscorthy. In the upper and central regions almost as far as the confluence with the Derry River the geology consists of granite. Above Kilcarry Bridge, the Slaney has cut a gorge into the granite plain. The Derry and Bann Rivers are bounded by a narrow line of uplands which corresponds to schist outcrops. Where these tributaries cut through this belt of hard rocks they have carved deep gorges, more than two miles long at Tinahely and Shillelagh. South of Kildavin the Slaney flows through an area of Ordovician slates and grits. The site supports populations of several species listed on Annex II to the Habitats Directive, and habitats listed on Annex I of this Directive, as well as important numbers of wintering wildfowl including some species listed on Annex I to the Birds Directive. The presence of wet and broadleaved woodlands increases the overall habitat diversity and the occurrence of a number of Red Data Book plant and animal species adds further importance to the site. Overall it is of considerable conservation significance.

The greatest pressures/threats to the integrity of the Slaney River Valley SAC come from agriculture, fishing, and industrial activities. The spreading of slurry and fertiliser poses a threat to the water quality of this salmonid river and to the populations of Habitats Directive Annex II animal species within it. The spread of exotic species is reducing the quality of the woodlands within the site.

River Barrow and River Nore SAC

The description of the River Barrow and River Nore SAC provided here is based on the Site Synopsis (NPWS, 2016b) and Conservation Objectives (NPWS, 2011a) for the site.

Qualifying Interests of the Site

[1130] Estuaries

[1140] Mudflats and sandflats not covered by seawater at low tide

[1170] Reefs

[1310] Salicornia and other annuals colonising mud and sand

[1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

[1410] Mediterranean salt meadows (*Juncetalia maritimi*)

[3260] Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation

[4030] European dry heaths

[6430] Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels

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

[91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

[91E0] *Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)

[1016] Desmoulin's Whorl Snail (*Vertigo moulinsiana*)

[1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*)

[1092] White-clawed Crayfish (*Austropotamobius pallipes*)

[1095] Sea Lamprey (*Petromyzon marinus*)

[1096] Brook Lamprey (*Lampetra planeri*)

[1099] River Lamprey (*Lampetra fluviatilis*)

[1103] Twaite Shad (*Alosa fallax*)

[1106] Atlantic Salmon (*Salmo salar*)

[1355] European Otter (*Lutra lutra*)

[1421] Killarney Fern (*Trichomanes speciosum*)

[1990] Nore Freshwater Pearl Mussel (*Margaritifera durrovensis*)

Site Overview

This site consists of the freshwater stretches of the Barrow and Nore River catchments as far upstream as the Slieve Bloom Mountains, and it also includes the tidal elements and estuary as far downstream as Creadan Head. The site passes through eight counties: Offaly, Kildare, Laois, Carlow, Kilkenny, Tipperary, Wexford and Waterford. Towns along the edge of the site include Mountmellick, Portarlington, Monasterevin, Stradbally, Athy, Carlow, Leighlinbridge, Graiguenamanagh, New Ross, Inistioge, Thomastown, Callan, Bennettsbridge, Kilkenny and Durrow. The larger of the many tributaries include the Lerr, Fushoge, Mountain, Aughavaud, Owenass, Boherbaun and Stradbally Rivers of the Barrow, and the Delour, Dinin, Erkina, Owveg, Munster, Arrigle and King's Rivers on the Nore.

Overall, the River Barrow and River Nore SAC is of considerable conservation significance for the occurrence of good examples of habitats and of populations of plant and animal species that are listed on Annexes I and II to the Habitats Directive. Furthermore, it is of high conservation value for the populations of bird species that use it. The occurrence of several

plant species listed in *Ireland Red List No. 10: Vascular Plants* (Wyse Jackson et al., 2016), including three rare plants in the salt meadows [redacted], add further interest to this site.

'Estuaries' (1130) and the other Annex I habitats within it form a large component of the site. Extensive areas of 'Mudflats and sandflats not covered by seawater at low tide' (1140), comprised of substrates ranging from fine, silty mud to coarse sand with pebbles/stones are present. Good quality intertidal sand and mudflats have developed on a linear shelf on the western side of Waterford Harbour, extending for over 6km from north to south between Passage East and Creadan Head and are over 1km wide in places. The sediments are mostly firm sands, though grade into muddy sands towards the upper shore. They have a typical macro-invertebrate fauna, characterised by polychaetes and bivalves. Common species include *Arenicola marina*, *Nephtys hombergii*, *Scoloplos armiger*, *Lanice conchilega* and *Cerastoderma edule*. An extensive area of Honeycomb Worm biogenic reef, i.e., 'Reefs' (1170), occurs adjacent to Duncannon, on the eastern shore of the estuary.

'*Salicornia* and other annuals colonising mud and sand' (1310) are found in the creeks of the saltmarshes and at their seaward edges. The habitat also occurs in small amounts on some stretches of the shore free of stones.

'Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)' (1330) and 'Mediterranean salt meadows (*Juncetalia maritimi*)' (1410) occur at the southern section of the site in old meadows where the embankment has been breached, along the tidal stretches of in-flowing rivers below Stokestown House, in a narrow band on the channel side of Common Reed beds and in narrow fragmented strips along the open shoreline. In the larger areas of salt meadow, notably at Carrickcloney, Ballinlaw Ferry and Rochestown on the west bank, and Fisherstown, Alderton and Great Island to Dunbrody on the east bank, the Atlantic and Mediterranean sub-types are generally intermixed. At the upper edge of the salt meadow, in the narrow ecotonal areas bordering the grasslands where there is significant percolation of salt water, the legally protected Borrer's Saltmarsh-grass and Meadow Barley are found. The very rare and also legally protected Divided Sedge is also found. Sea Rush is also present. Other plants recorded and associated with salt meadows include Sea Aster, Thrift, Sea Couch, Spear-leaved Orache, Lesser Sea-spurrey, Sea Arrowgrass and Sea Plantain.

'Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation' (3260) are well represented in the River Barrow and in the many tributaries of the site. In the River Barrow, the species found include water-starworts, Canadian Pondweed, Bulbous Rush, water-milfoils, the pondweed Potamogeton × nitens, Broad-leaved Pondweed, Fennel Pondweed, Perfoliate Pondweed and crowfoots. The water quality of the River Barrow has improved since the vegetation survey was carried out in 1996.

'European dry heaths' (4030) occurs in pockets along the steep valley sides of the rivers, especially in the Barrow Valley and along the Barrow tributaries where they occur in the foothills of the Blackstairs Mountains. The dry heath vegetation along the slopes of the riverbank consists of Bracken and Gorse, with patches of acidic grassland vegetation. Additional typical species include Heath Bedstraw, Foxglove, Common Sorrel and Creeping Bent. On rocky outcrops, Bilberry and Great Wood-rush are present. At Ballyhack, a small area of dry heath is interspersed with patches of lowland dry grassland. Dry heath at the site generally grades into wet woodland or wet swamp vegetation lower down the slopes on the riverbank.

'Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels' (6430) occurs in association with the various areas of alluvial forest and elsewhere where the floodplain of the river is intact. Characteristic species of the habitat include Meadowsweet,

Purple Loosestrife, Marsh Ragwort, Ground Ivy and Hedge Bindweed. Himalayan Balsam, an alien invasive species, is abundant in places.

A good example of '*Petrifying springs with tufa formation (*Cratoneurion*)' (7220) occurs at Dysart Wood along the River Nore. This is a rare habitat in Ireland, and one listed with priority status on Annex I of the Habitats Directive. These hard-water springs are characterised by lime encrustations, often associated with small waterfalls. A rich bryophyte flora is typical of the habitat and two diagnostic species, *Palustriella commutata* and *Eucladium verticillatum*, have been recorded.

The best examples of 'Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles' (91A0) are seen in the ancient Park Hill woodland in Abbeyleix Estate, at Kyleadohir on the Delour, Forest Wood House, Kylecorragh and Brownstown Woods along the River Nore, and at Cloghristic Wood, Drummond Wood and Borris Demesne along the River Barrow, though other patches occur throughout the site.

Good examples of '*Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)' (91E0) occur at Rathsnagadan, Murphy's of the River, Abbeyleix Estate and along other shorter stretches of both the tidal and freshwater elements of the site. Typical species seen include Almond Willow, White Willow, Rusty Willow, Crack Willow and Osier, along with Yellow Iris, Hemlock Water-dropwort, Wild Angelica, Thin-spiked Wood-sedge, Pendulous Sedge, Meadowsweet, Common Valerian and the Red Data Book species Nettle-leaved Bellflower.

Other habitats found throughout the site include wet grassland, marsh, reed swamp, improved grassland, arable land, quarries, coniferous plantations, deciduous woodland, scrub and ponds.

Seventeen Irish Red List plant species have been recorded within the site: Killarney Fern, Divided Sedge, Clustered Clover, Basil Thyme, Red Hemp-nettle, Borrer's Saltmarsh-grass, Meadow Barley, Opposite-leaved Pondweed, Meadow Saffron/Autumn Crocus, Wild Clary/Sage, Nettle-leaved Bellflower, Saw-wort, Bird Cherry, Blue Fleabane, Fly Orchid, Ivy Broomrape and Greater Broomrape. Of these, the first nine are protected under the Flora (Protection) Order, 2015. Other plants that do not have a wide distribution in the country are found in the site, including Thin-spiked Wood-sedge, Field Garlic and Summer Snowflake. Six rare lichens, indicators of ancient woodland, are found including *Lobaria laetevirens* and *L. pulmonaria*. The rare moss *Leucodon sciuroides* also occurs.

The site is very important for the presence of a number of Annex II species, including [redacted] White-clawed Crayfish, Atlantic Salmon, Twaite Shad, Sea Lamprey, Brook Lamprey, River Lamprey, Desmoulin's Whorl Snail and European Otter. This is [redacted] one of only a handful of spawning grounds in the country for Twaite Shad. The freshwater stretches of the River Nore (main channel) is a designated salmonid river. The River Barrow/ River Nore is mainly a grilse fishery though spring salmon fishing is good in the vicinity of Thomastown and Inistioge on the River Nore. The upper stretches of the River Barrow and River Nore, particularly the Owenass River, are very important for spawning.

The site supports many other important animal species. Those which are listed in the Irish Red Lists include Daubenton's Bat, Badger, Irish Hare and Common Frog. The rare Red List fish species Smelt occurs in estuarine stretches of the site. [redacted] the site also supports two other freshwater mussel species, *Anodonta anatina* and *A. cygnea*.

The site is of ornithological importance for a number of Annex I (Birds Directive) species, including Greenland White-fronted Goose, Whooper Swan, Bewick's Swan, Bar-tailed Godwit, Peregrine and Kingfisher. Nationally important numbers of Golden Plover and Bar-tailed Godwit are found during the winter. Wintering flocks of migratory birds are seen in Waterford Harbour. There is also an extensive autumnal roosting site in the reedbeds of the Barrow Estuary used by Swallows before they leave the country. The reedbed at Woodstown supports populations of typical waterbirds including Mallard, Snipe, Sedge Warbler and Water Rail.

Land use within the SAC consists mainly of agricultural activities, mostly intensive and principally grazing and silage production. Slurry is spread over much of the area. Arable crops are also grown. The spreading of slurry and fertiliser poses a threat to water quality and populations of Annex II species within the site. Many of the woodlands along the rivers belong to old estates and support many non-native species. Fishing is a main tourist attraction along stretches of the main rivers and their tributaries and there are a number of angling clubs, some with a number of beats. Both commercial and leisure fishing takes place on the rivers. There is net fishing and a mussel bed in the estuary. Other recreational activities such as boating, golfing and walking, particularly along the Barrow towpath, are also popular. There is a golf course on the banks of the River Nore at Mount Juliet and sports pitches at Inistioge and Thomastown. There are active and disused sand and gravel pits throughout the site. Several industrial developments, which discharge into the river, border the site. New Ross is an important shipping port and shipping to and from Waterford and Belview ports also passes through the estuary.

The main threats to the SAC and current damaging activities include high inputs of nutrients into the river system from agricultural run-off and several sewage plants, over-grazing in the woodland areas, and invasion by non-native species, e.g., Cherry Laurel and Rhododendron. Water quality remains vulnerable. Good quality water is necessary to maintain the populations of Annex II species and is dependent on controlling fertilisation of the grasslands, particularly along the River Nore. It also requires that sewage be properly treated before discharge. Drainage activities in the catchment can lead to flash floods which can damage the many Annex II species present. Capital and maintenance dredging within the lower reaches of the system pose a threat to migrating fish species such as Lamprey and Shad. Land reclamation also poses a threat to the salt meadows and the protected species therein.

Lough Ree SAC

The description of the Lough Ree SAC provided here is based on the Conservation Objectives (NPWS, 2019) and Site Synopsis (NPWS, 2016a) for the site.

Qualifying Interests of the Site

[3150] Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition* - type vegetation

[6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites)

[7110] Active raised bogs

[7120] Degraded raised bogs still capable of natural regeneration

[7230] Alkaline fens

[8240] *Limestone pavements

[91D0] *Bog woodland

[91E0] *Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*)

[1355] Otter (*Lutra lutra*)

Site Overview

Lough Ree is the third largest lake in Ireland and is situated in an ice-deepened depression in Carboniferous limestone on the River Shannon system between Lanesborough and Athlone. The site spans Counties Longford, Roscommon and Westmeath. Some of its features (including the islands) are based on glacial drift. It has a very long, indented shoreline and hence has many sheltered bays. Although the main habitat, by area, is the lake itself, interesting shoreline, terrestrial and semi- aquatic habitats also occur.

The greater part of Lough Ree is less than 10m in depth, but there are six deep troughs running from north to south, reaching a maximum depth of about 36m just west of Inchmore. The lake has been classified as mesotrophic in quality, but the size of the system means that a range of conditions prevail depending upon, for example, rock type. This gives rise to local variations in nutrient status and pH, which in turn results in variations in the phytoplankton and macrophyte flora. Therefore, species indicative of oligotrophic, mesotrophic, eutrophic and base-rich situations occur. The water of Lough Ree tends to be strongly peat-stained, restricting macrophytes to depths of less than 2m, and as a consequence, macrophytes are restricted to sheltered bays, where a typical Shannon flora occurs. Species present include Intermediate Bladderwort (*Utricularia intermedia*), pondweeds (*Potamogeton spp*.), Quillwort (*Isoetes lacustris*), Greater Duckweed (*Spirodela polyrhiza*), stoneworts (*Chara spp., including C. pedunculata*) and Arrowhead (*Sagittaria sagittifolia*). The latter is a scarce species which is almost confined in its occurrence to the Shannon Basin.

Reedbeds of Common Reed (Phragmites australis) are an extensive habitat in a number of more sheltered places around the lake, but single-species 'swamps' consisting of such species as Common Club-rush (*Scirpus lacustris*), Slender Sedge (*Carex lasiocarpa*), Great Fen-sedge (*Cladium mariscus*) and two scarce species of sedge (*Carex appropinquata* and *C. elata*) also occur in suitable places. Some of these grade up into species-rich alkaline fen with Black Bog-rush (*Schoenus nigricans*) and Whorl-grass (*Catabrosa aquatica*), or freshwater marsh with abundant Water Dock (*Rumex hydrolapathum*) and Hemp-agrimony (*Eupatorium cannabinum*).

Lowland wet grassland is found in abundance around the shore and occurs in two types. One is 'callowland', grassland which floods in winter. This provides feeding for winter waterfowl and breeding waders. The other is an unusual community on stony wet lake shore which is found in many places around the lake, and is characterized by Water Germander (*Teucrium scordium*), a scarce plant species almost confined to this lake and Lough Derg.

Dry calcareous grassland occurs scattered around the lake shore. This supports typical species such as Yellow-wort (*Blackstonia perfoliata*), Carline Thistle (*Carlina vulgaris*) and Quaking-grass (*Briza media*). Orchids also feature in this habitat e.g. Bee Orchid (*Ophrys apifera*) and Common Spotted-orchid (*Dactylorhiza fuchsii*).

Limestone pavement occurs occasionally around the lake shore. The most substantial area is at Rathcline in the extreme north-east. While this has been planted with commercial forestry since the 1950s, it still displays a diverse representation of pavement types, from the typical clint-gryke system to large blocky pavements and scattered boulders. In all cases the pavement is covered by a bryophyte-rich flora, with abundant Ivy (*Hedera helix*), and a scrub layer dominated by Ash (*Fraxinus excelsior*), Hazel (*Corylus avellana*) and some Spindle (*Euonymus europaeus*). The ground flora is variable, though in places it is species-rich.

Dry broadleaved semi-natural woodland occurs in several places around the lake, most notably at St John's Wood and on Hare Island. St John's Wood is recognised as the largest and most natural woodland in the Midlands. Its canopy is dominated by Hazel, Pedunculate Oak (*Quercus robur*), Holly (*Ilex aquifolium*) and Ash, but a range of other trees and shrubs

occur, including Wych Elm (*Ulmus glabra*), Yew (*Taxus baccata*), Wild Cherry (*Prunus avium*) and Irish Whitebeam (*Sorbus hibernica*). The ground flora of St John's Wood is species-rich, and is remarkable for the presence of two species, Toothwort (*Lathraea squamaria*) and Bird's-nest Orchid (*Neottia nidus-avis*), which tend to occur in sites with a long history of uninterrupted woodland cover. The tree species composition on Hare Island is similar to that in St John's Wood, with additional non-native species such as Sycamore (*Acer pseudoplatanus*) and Beech (*Fagus sylvatica*). This wood also has an exceptionally rich ground flora. Some of the smaller areas of woodland around Lough Ree are mixed woodland with a high percentage of exotics such as Beech. Some areas of well-developed Hazel scrub also occur.

At St John's Wood, patches of wet alluvial woodland are present along the lakeshore. They are dominated by Ash, Grey Willow (*Salix cinerea*), Alder (*Alnus glutinosa*) and, in places, Downy Birch (*Betula pubescens*). The ground flora includes Creeping Bent (*Agrostis stolonifera*), Wild Angelica (*Angelica sylvestris*), Meadowsweet (*Filipendula ulmaria*), Common Marsh-bedstraw (*Galium palustre*), Yellow Iris (*Iris pseudacorus*), Gipsywort (*Lycopus europaeus*), Water Mint (*Mentha aquatica*), Reed Canary-grass (*Phalaris arundinacea*), Creeping Buttercup (*Ranunculus repens*) and Wood Dock (*Rumex sanguineus*). Pockets of wet woodland occur elsewhere around the lake. Most of these are dominated by willows (*Salix spp*.), Alder and Downy Birch. In one such wood, at Ross Lough, the terrestrial alga, *Trentopohlia sp.,* has a specialised niche on the willow trunks. The ground layer has a rich bryophyte flora (*Calliergon spp*. and *Sphagnum spp*.), scattered clumps of Greater Tussock-sedge (*Carex paniculata*) and a good diversity of herb species, including Water Dock and Fen Bedstraw (*Galium uliginosum*).

Small examples of raised bog occur, which are of interest in that they show a natural transition through wet woodland and/or swamp to lakeshore habitats. Active Raised Bog (ARB) habitat comprises areas of high bog that are wet and actively peat-forming, where the percentage cover of bog mosses (*Sphagnum spp*.) is high, and where some or all of the following features occur: hummocks, pools, wet flats, Sphagnum lawns, flushes and soaks. Results from surveys of the raised bog habitat in 2003 indicate the presence of 5.9 ha of Active Raised Bog (ARB). Also present are examples of Degraded Raised Bog (DRB) capable of regeneration. In general the vegetation of these degraded areas is dominated by typical raised bog species such as Cross-leaved Heath (*Erica tetralix*), Heather (*Calluna vulgaris*), Hare's-tail Cottongrass (*Eriophorum vaginatum*), Bog Asphodel (*Narthecium ossifragum*) and Deergrass (*Scirpus cespitosus*). Typically, the degraded bog areas have a low cover of peat-forming bog mosses (*Sphagnum spp*.). The current extent of DRB as estimated using a recently developed hydrological modelling technique, based largely on Light Detection and Ranging (LiDAR) data, is 44.7 ha.

Associated with the extensive raised bog system at Clooncraff/Clonlarge are areas of bog woodland. At least two small areas of woodland occur on the raised bog domes. However, it would appear that this habitat is in the early stages of development. The largest area is dominated by low trees of Downy Birch and Lodgepole Pine (*Pinus contorta*). Occasional trees of Scots Pine (*Pinus sylvestris*) also occur. The ground layer is wet and quaking with a lush carpet of mosses present, including various species of *Sphagnum, Pleurozium schreberi* and *Aulacomium palustre*. The main vascular plant species in the ground flora are Bog-rosemary (*Andromeda polifolia*), Cranberry (*Vaccinium oxycoccos*), Bog-myrtle (*Vaccinium myrtillus*), Hare's-tail Cottongrass and Deergrass. Bog Woodland is of particular conservation importance and is listed with priority status on the E.U. Habitats Directive.

At St John's Wood, there is an interesting area of woodland that grows on cut-away peat. This is dominated by Downy Birch and Alder Buckthorn (*Frangula alnus*). The occurrence of the latter species in such abundance is unusual in Ireland.

Smaller lakes occur around the lake shore, especially on the east side, and these often have the full range of wetland habitats contained within and around them. A number of small rivers also pass through the site.

The site supports a number of rare plant species which are listed in the Irish Red Data Book. Alder Buckthorn and Bird Cherry (*Prunus padus*) are woodland components at St John's Wood and elsewhere. Narrow-leaved Helleborine (*Cephalanthera longifolia*) and Betony (*Stachys officinalis*), both of which are also legally protected under the Flora (Protection) Order, 1999, occur among the ground flora of Hare Island (where the former occurs in notable abundance). They also occur in a number of other woods. The stonewort Chara tomentosa is present in shallow water around the lake. The rare, though not legally protected, Marsh Pea (*Lathyrus palustris*) occurs on some of the callowland and in alluvial woodland at St John's Wood. The rare Myxomycete fungus, *Echinostelium colliculosum*, has been recorded from St John's Wood.

The lake itself contains one of only two populations in Ireland of the endangered fish species, Pollan (*Coregonus autumnalis*), which is genetically different from Continental European stock. The shrimp Mysis relicta (Class Crustacea) occurs in this lake and is a relict of the glacial period in Ireland.

Small flocks of Greenland White-fronted Goose, an Annex I species on the E.U. Birds Directive, use several areas of callowland around the lake in winter. An average spring count of 92 individuals was obtained for this species over the six seasons 1988/89 to 1993/94, indicating that Lough Ree is a nationally important site for the species. The following bird counts are derived from 6 counts during the period 1984/85 to 1986/87: nationally important populations of Golden Plover (1,350), an Annex I species; Wigeon (1,306); Teal (584); Tufted Duck (1,317) and Coot (798). Other winter visitors are Whooper Swan (32), an Annex I species, Mute Swan (91), Little Grebe (48), Cormorant (91), Mallard (362), Shoveler (40), Pochard (179), Goldeneye (97), Curlew (178), Lapwing (1,751) and Dunlin (48). The callowland is also used by Black-tailed Godwit and other species on migration.

Some of the lake islands provide nesting sites for Common Tern, a species listed on Annex I of the E.U. Birds Directive. The Lough Ree colony, 86 pairs in 1995, is estimated as one of the largest of this species on midland lakes. The lake also provides excellent breeding habitat for wildfowl, including Common Scoter (30-40 pairs), a rare breeding species listed as "Endangered" in the Red Data Book, and Tufted Duck (>200 pairs). The woodlands and scrub around the lake and on the islands are a stronghold of the Garden Warbler (74 territories in 1997), a bird species mainly confined to the Shannon lakes in Ireland.

There is a population of Otter around the lake. This species is listed in the Red Data Book as being threatened in Europe and is protected under Annex II of the E.U. Habitats Directive.

Land uses within the site include recreation in the form of cruiser hire, angling, camping, picnicking and shooting. Chalet accommodation occurs at a few locations around the lake. Low-intensity grazing occurs on dry and wet grassland around the shore, and some hay is made within the site. Some of these activities are damaging, but in a very localised way, and require careful planning. The main threat to the aquatic life in the lake comes from artificial enrichment of the waters by agricultural and domestic waste, and also by peat silt in suspension which is increasingly limiting the light penetration, and thus restricting aquatic flora to shallower waters.

At present, Lough Ree is less affected by eutrophication than Lough Derg. Lough Ree and its adjacent habitats are of major ecological significance. Some of the woodlands around the lake are of excellent. St John's Wood is particularly important; it is one of the very few remaining ancient woodlands in Ireland. The lake itself is an excellent example of a mesotrophic to

moderate-eutrophic system, supporting a rare fish species and a good diversity of breeding and wintering birds.

Wexford Harbour and Slobs SPA

The description of the Wexford Harbour and Slobs SPA provided here is based on the Site Synopsis (NPWS, 2014) and Conservation Objectives (NPWS, 2012) for the site.

Qualifying Interests of the Site

[A004] Little Grebe (*Tachybaptus ruficollis*)
[A005] Great Crested Grebe (*Podiceps cristatus*)
[A017] Cormorant (*Phalacrocorax carbo*)
[A028] Grey Heron (*Ardea cinerea*)
[A037] Bewick's Swan (*Cygnus columbianus*)
[A038] Whooper Swa (*Cygnus cygnus*)
[A046] Light-bellied Brent Goose (*Branta bernicla hrota*)
[A048] Shelduck (*Tadorna tadorna*)
[A050] Wigeon (*Anas Penelope*)
[A052] Teal (*Anas crecca*)
[A053] Mallard (*Anas platyrhynchos*)
[A054] Pintail (*Anas acuta*)
[A062] Scaup (*Aythya marila*)
[A067] Goldeneye (*Bucephala clangula*)
[A069] Red-breasted Merganser (*Mergus serrator*)
[A082] Hen Harrier (*Circus cyaneus*)
[A125] Coot (*Fulica atra*)
[A130] Oystercatcher (*Haematopus ostralegus*)
[A140] Golden Plover (*Pluvialis apricaria*)
[A141] Grey Plover (*Pluvialis squatarola*)
[A142] Lapwing (*Vanellus vanellus*)
[A143] Knot (*Calidris canutus*)
[A144] Sanderling (*Calidris alba*)
[A149] Dunlin (*Calidris alpina*)
[A156] Black-tailed Godwit (*Limosa limosa*)
[A157] Bar-tailed Godwit (*Limosa lapponica*)
[A160] Curlew (*Numenius arquata*)
[A162] Redshank (*Tringa tetanus*)
[A179] Black-headed Gull (*Chroicocephalus ridibundus*)
[A183] Lesser Black-backed Gull (*Larus fuscus*)
[A195] Little Tern (*Sterna albifrons*)
[A395] Greenland White-fronted goose (*Anser albifrons flavirostris*)
[A999] Wetlands

Site Overview

Wexford Harbour is the lowermost part of the estuary of the River Slaney, a major river that drains much of the south-east region. The site is divided between the natural estuarine habitats of Wexford Harbour, the reclaimed polders known as the North and South 'Slobs', and the tidal section of the River Slaney. The seaward boundary extends from the Rosslare peninsula in the south to the area just west of The Raven Point in the north. Shallow marine water is a principal habitat, but at low tide extensive areas of intertidal flats are exposed. These vary from rippled sands in exposed areas to sandy-muds in the more sheltered areas, especially at Hopeland and the inner estuary to the west of Wexford bridge. The flats support a rich macroinvertebrate fauna, including the bivalves Cockle (*Cerastoderma edule*), Baltic Tellin (*Macoma balthica*) and Peppery Furrow-shell (Scrobicularia plana), the polychaetes Lugworm (*Arenicola marina*), Catworm (*Nepthys hombergi*) and Ragworm (*Hediste diversicolor*) and the crustacean *Corophium volutator*. Beds of mussels (*Mytilus edulis*) also occur. Salt marshes fringe the intertidal flats, especially in the sheltered areas such as Hopeland and towards Castlebridge. The Slobs are two flat areas of farmland, mainly arable and pasture grassland, empoldered behind 19th century seawalls. The lands are drained by a network of channels which flow into two central channels, in parts several hundred metres in width. Water from the channels is pumped into the sea with electric pumps. The channels often support swamp vegetation. The river section of the site is extensive, extending to Enniscorthy, a distance of almost 20km from Wexford town. It is noticeably tidal as far as Edermine Bridge but with tidal influence right up to Enniscorthy. In places, such as the Macmine marshes, it is several hundreds metres wide and here reedswamp is well developed.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Little Grebe, Great Crested Grebe, Cormorant, Grey Heron, Bewick's Swan, Whooper Swan, Greenland White-fronted Goose, Light-bellied Brent Goose, Shelduck, Wigeon, Teal, Mallard, Pintail, Scaup, Goldeneye, Red-breasted Merganser, Hen Harrier, Coot, Oystercatcher, Golden Plover, Grey Plover, Lapwing, Knot, Sanderling, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Black-headed Gull, Lesser Black-backed Gull and Little Tern. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands, and as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The site is of international importance for several species of waterbirds but also because it regularly supports well in excess of 20,000 waterbirds (average peak of 49,030 for the 5 winters 1996/97-2000/01). Wexford Harbour and Slobs is one of the top three sites in the country for numbers and diversity of wintering birds. The combination of estuarine habitats, including shallow waters for grebes, diving duck and seaduck, and the farmland of the polders, which include freshwater drainage channels, provides optimum feeding and roost areas for a wide range of species. Of particular importance is that it is one of the two most important sites in the world for Greenland White-fronted Goose (9,353) (all given figures for species are average peaks for the 5 winters 1995/96-1999/00). The geese feed almost entirely within the Slobs and roost at The Raven (a separate SPA). The site also has internationally important populations of Mute Swan (543), Light-bellied Brent Goose (1,469), Bar-tailed Godwit (1,696) and Black-tailed Godwit (790).

There are at least a further 26 species of wintering waterbirds which occur in numbers of national importance, i.e. Great Crested Grebe (117), Little Grebe (82), Cormorant (495), Grey Heron (52), Whooper Swan (100), Bewick's Swan (191), Shelduck (753), Wigeon (2,752), Teal (1,538), Mallard (3,290), Pintail (66), Scaup (339), Goldeneye (182), Red-breasted Merganser (209), Coot (351), Oystercatcher (1,493), Golden Plover (5,013), Grey Plover (1,279), Lapwing (11,826), Knot (453), Sanderling (210), Dunlin (2,485), Curlew (1,771), Redshank (555), Black-headed Gull (5,977) and Lesser Black-backed Gull (1,086). Other species that use the

site include Ringed Plover (69), Turnstone (41), Greenshank (12), Shoveler (24), Tufted Duck (114), Pochard (218), Common Gull (100+) and Little Egret. Several of the above populations represent substantial proportions of the national totals, especially Shelduck (5.2%), Scaup (5.3%), Red-breasted Merganser (5.7%) and Grey Plover (19.9% and the top site in the country). The Slobs is the most important and indeed one of the few sites in the country which supports a regular flock of Bewick's Swan. Numbers of wintering birds are often swelled by hard-weather movements from Britain and Europe, notably Golden Plover and Lapwing.

The site is a regular location for scarce passage waders such as Ruff, Spotted Redshank and Green Sandpiper, as well as Curlew Sandpiper in varying numbers. The rare Wood Sandpiper is seen each year, mainly in autumn.

Short-eared Owl and Hen Harrier are regular visitors to the Slobs during winter. Of particular note is the presence of a Hen Harrier communal roost site with a five year mean peak count of 5 birds (2005/06 to 2009/10).

The site is important for Little Tern as it has can hold a nationally important breeding colony (12 pairs in 1995 and 30 pairs in 2000). The Slobs support a nesting colony of Tree Sparrow, a very localised species in Ireland that is listed in the Irish Red Data Book. Another very localised breeding species, Reed Warbler, is well established within the swamp vegetation along the River Slaney and on the South Slob (estimated as at least 10 pairs).

A range of duck species breed, including Teal, Tufted Duck and, probably in most years, Shoveler.

Wexford Harbour and Slobs SPA is one of the most important ornithological sites in the country supporting internationally important populations of Greenland White-fronted Goose, Light-bellied Brent Goose, Black-tailed Godwit and Bar-tailed Godwit. In addition, it has 26 species of wintering waterbirds with populations of national importance and nationally important numbers of breeding Little Tern. Also of significance is that several of the species which occur regularly are listed on Annex I of the E.U. Birds Directive, i.e. Little Egret, Whooper Swan, Bewick's Swan, Greenland White-fronted Goose, Hen Harrier, Golden Plover, Bar-tailed Godwit, Ruff, Wood Sandpiper, Little Tern and Short-eared Owl. The site is an important centre for research, education and tourism. Wexford Wildfowl Reserve, located within Wexford Harbour and Slobs SPA, is a Ramsar Convention site, a Biogenetic Reserve and a Statutory Nature Reserve. Parts of the Wexford Harbour and Slobs SPA are also designated as Wildfowl Sanctuaries.

Lough Ree SPA

The description of the Lough Ree SPA provided here is based on the Site Synopsis (NPWS, 2015b) and Generic Conservation Objectives (NPWS, 2022b) for the site.

Qualifying Interests of the Site

[A004] Little Grebe (*Tachybaptus ruficollis*)

[A038] Whooper Swan (*Cygnus cygnus*)

[A050] Wigeon (*Anas Penelope*)

[A052] Teal (*Anas crecca*)

[A053] Mallard (*Anas platyrhynchos*)

[A056] Shoveler (*Anas clypeata*)

[A061] Tufted Duck (*Aythya fuligula*)

[A065] Common Scoter (*Melanitta nigra*)

[A067] Goldeneye (*Bucephala clangula*)

[A125] Coot (*Fulica atra*)

[A140] Golden Plover (*Pluvialis apricaria*)

[A142] Lapwing (*Vanellus vanellus*)

[A193] Common Tern (*Sterna hirundo*)

Site Overview

Situated on the River Shannon between Lanesborough and Athlone, Lough Ree is the third largest lake in the Republic of Ireland. It lies in an ice-deepened depression in Carboniferous Limestone. Some of its features (including the islands) are based on glacial drift. The main inflowing rivers are the Shannon, Inny and Hind, and the main outflowing river is the Shannon. The greater part of Lough Ree is less than 10m in depth, but there are six deep troughs running from north to south, reaching a maximum depth of about 36m just west of Inchmore. The lake has a very long, indented shoreline and hence has many sheltered bays. It also has a good scattering of islands, most of which are included in the site.

Beds of Common Reed (*Phragmites australis*) are an extensive habitat in a number of the more sheltered places around the lake; monodominant stands of Common Clubrush (*Scirpus lacustris*), Slender Sedge (*Carex lasiocarpa*) and Saw Sedge (*Cladium mariscus*) also occur as swamps in suitable places. Some of these grade into species rich calcareous fen or freshwater marsh. Lowland wet grassland, some of which floods in winter, occurs frequently around the shore.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Whooper Swan, Wigeon, Teal, Mallard, Shoveler, Tufted Duck, Common Scoter, Goldeneye, Little Grebe, Coot, Golden Plover, Lapwing and Common Tern. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

Lough Ree is one of the most important Midland sites for wintering waterfowl, with nationally important populations of Little Grebe (52), Whooper Swan (139), Wigeon (2,070), Teal (1,474), Mallard (1,087), Shoveler (54), Tufted Duck (1,012), Goldeneye (205), Coot (338), Golden Plover (3,058) and Lapwing (5,793) – all figures are three year mean peaks for the period 1997/98 to 1999/2000. Other species which occur in winter include Great Crested Grebe (29), Cormorant (99), Curlew (254) and Black-headed Gull (307) as well as the resident Mute Swan (85). Greenland White-fronted Goose has been recorded on occasion on the flooded margins of the site.

The site supports a nationally important population of Common Tern (90 pairs in 1995). It is a traditional breeding site for Black-headed Gull and whilst a full survey has not been carried out in recent years, substantial numbers of nesting birds were present on at least one island in 2003. Lesser Black-backed Gull and Common Gull have bred in the past and may still breed. Lough Ree is a noted site for breeding duck and grebes: Tufted Duck (202 pairs) and Great Crested Grebe (32 pairs) – records from 1995. Of particular note is that Lough Ree is one of the two main sites in the country for breeding Common Scoter, a Red Data Book species. Surveys have recorded 39 pairs and 32 pairs in 1995 and 1999 respectively. Cormorant also breeds on some of the islands within the site – 86 nests were recorded in 2010. The woodland around the lake is a stronghold for Garden Warbler and this scarce species probably occurs on some of the islands within the site.

Lough Ree SPA is of high ornithological importance for both wintering and breeding birds. It supports nationally important populations of eleven wintering waterfowl species. The site has

a range of breeding waterfowl species, notably nationally important populations of Common Scoter and Common Tern. Of particular note is the regular presence of three species, Whooper Swan, Golden Plover and Common Tern, which are listed on Annex I of the E.U. Birds Directive. Parts of Lough Ree SPA are Wildfowl Sanctuaries.

River Nore SPA

The description of the River Nore SPA provided here is based on the Site Synopsis (NPWS, 2011c), Generic Conservation Objectives (NPWS, 2022a) for the site.

Qualifying Interests of the Site

[A229] Kingfisher (*Alcedo atthis*)

Site Overview

The River Nore SPA is a long, linear site that includes the following river sections: the River Nore from the bridge at Townparks, (north-west of Borris in Ossory) to Coolnamuck (approximately 3km south of Inistioge) in Co. Kilkenny; the Delour River from its junction with the River Nore to Derrynaseera bridge (west of Castletown) in Co. Laois; the Erkina River from its junction with the River Nore at Durrow Mills to Boston Bridge in Co. Laois; a 1.5km stretch of the River Goul upstream of its junction with the Erkina River; the Kings River from its junction with the River Nore to a bridge at Mill Island, Co. Kilkenny. The site includes the river channel and marginal vegetation.

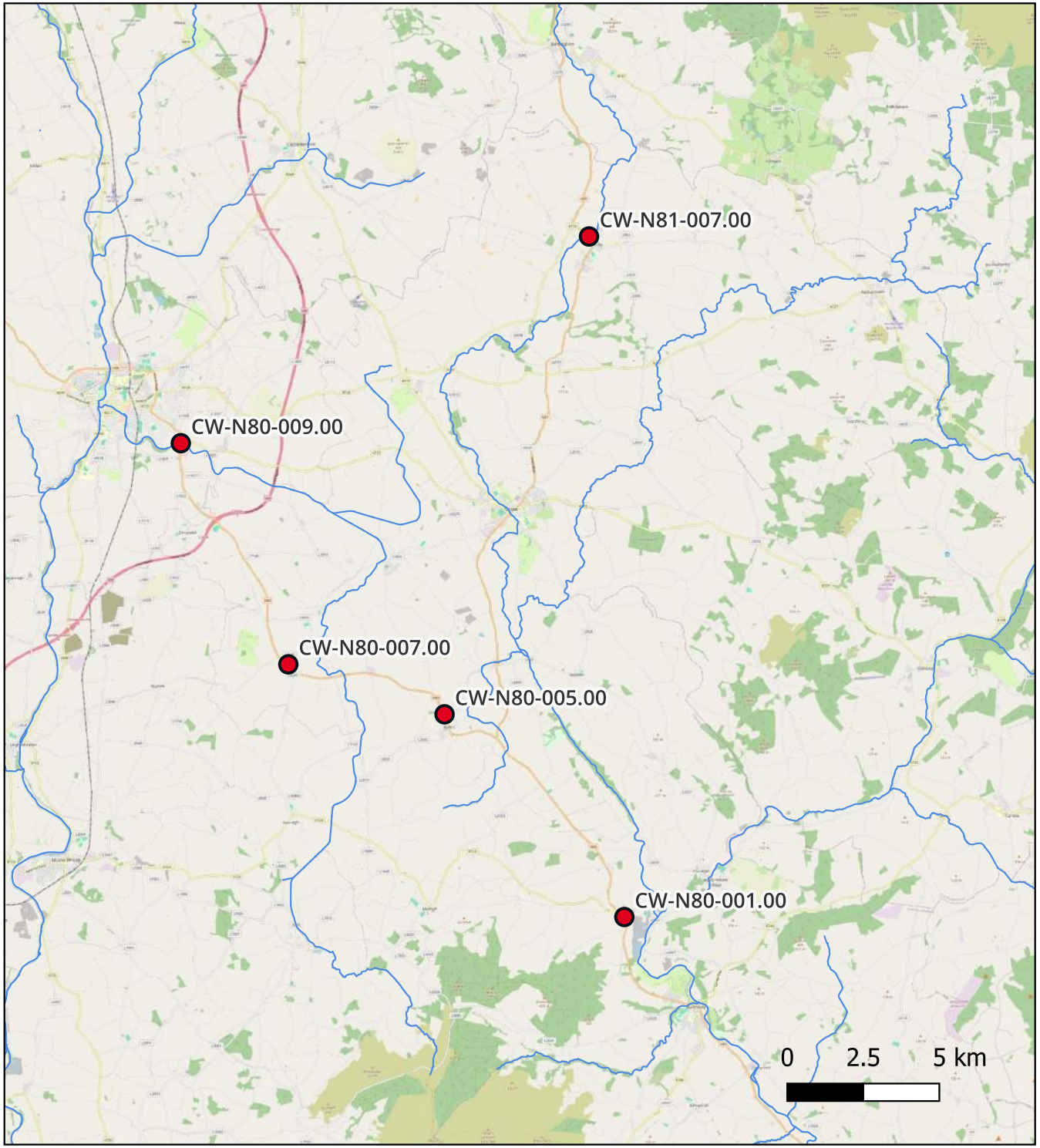
For a large part of its course the River Nore traverses Carboniferous limestone plains; it passes over a narrow band of Old Red Sandstone rocks below Thomastown. The site is a Special Protection Area (SPA) under the E.U. Birds Directive of special conservation interest for the following species: Kingfisher. A survey in 2010 recorded 22 pairs of Kingfisher (based on 16 probable and 6 possible territories) within the SPA. Other species which occur within the site include Mute Swan (35), Mallard (267), Cormorant (14), Grey Heron (45), Moorhen (14), Snipe (17) and Sand Martin (1,029) – all figures are peak counts recorded during the 2010 survey.

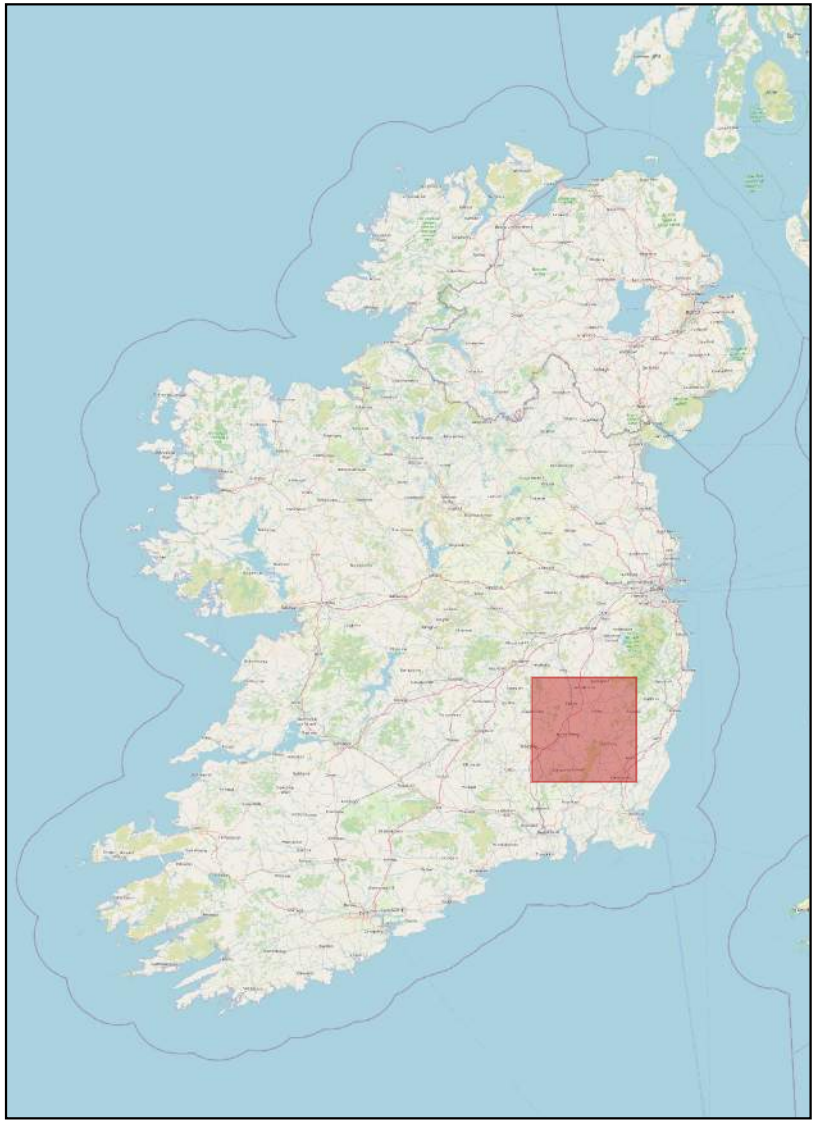
The River Nore SPA is of high ornithological importance as it supports a nationally important population of Kingfisher, a species that is listed on Annex I of the E.U. Birds Directive.

This site is particularly sensitive to natural system modifications such as landfill, land reclamation and drying out, general transportation and service corridors such as port area.

APPENDIX A

Locations of the Proposed Works





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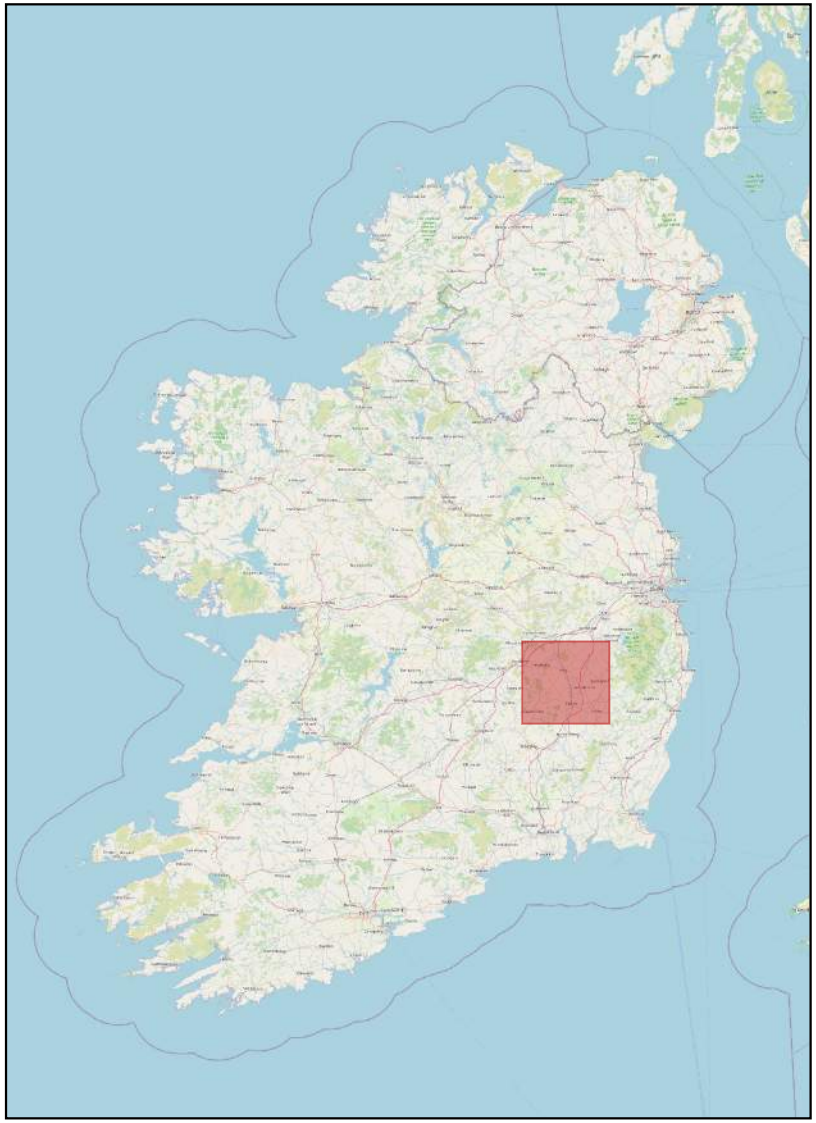
County Carlow Bridges
Natura Impact Statement 2024



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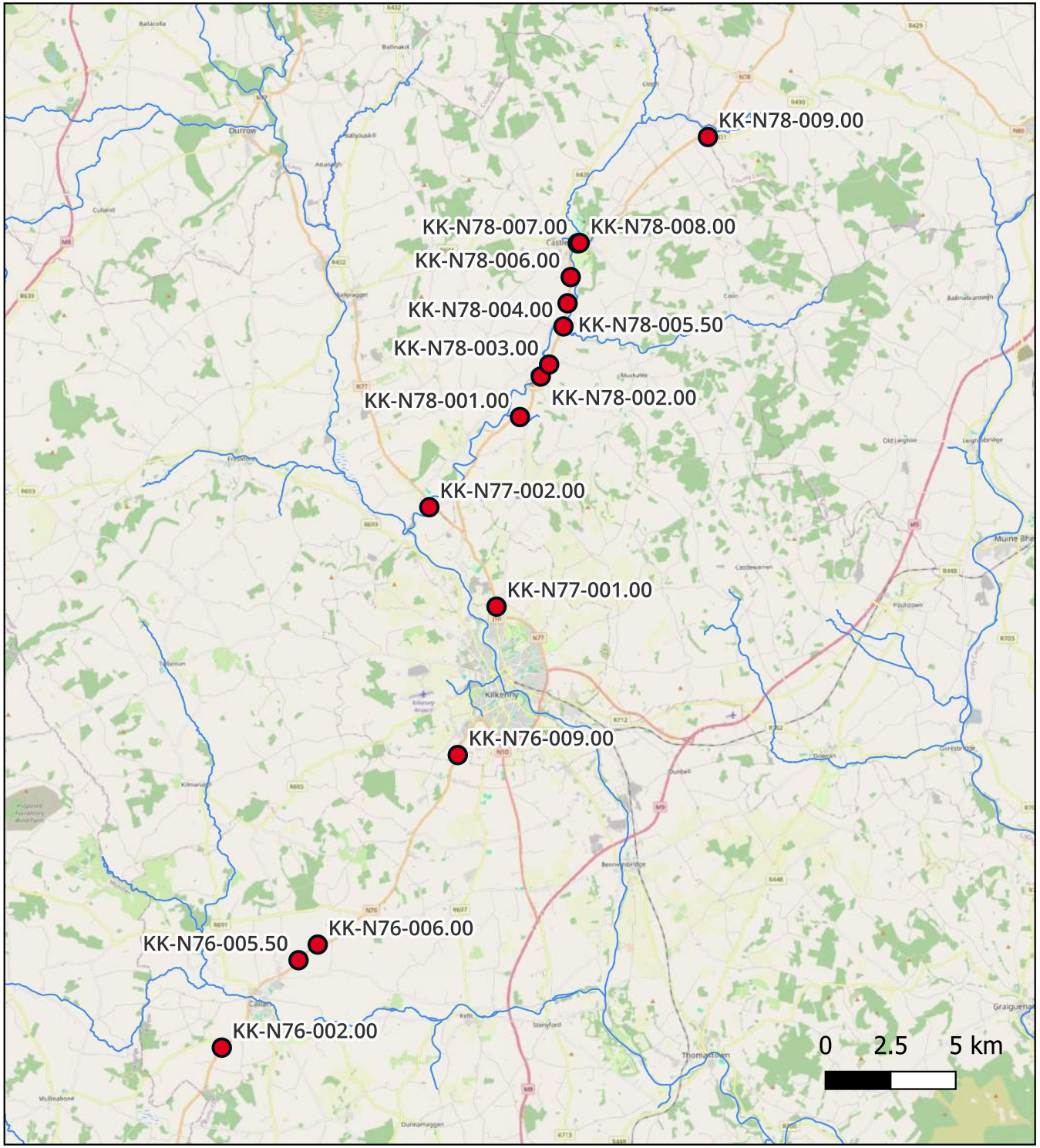

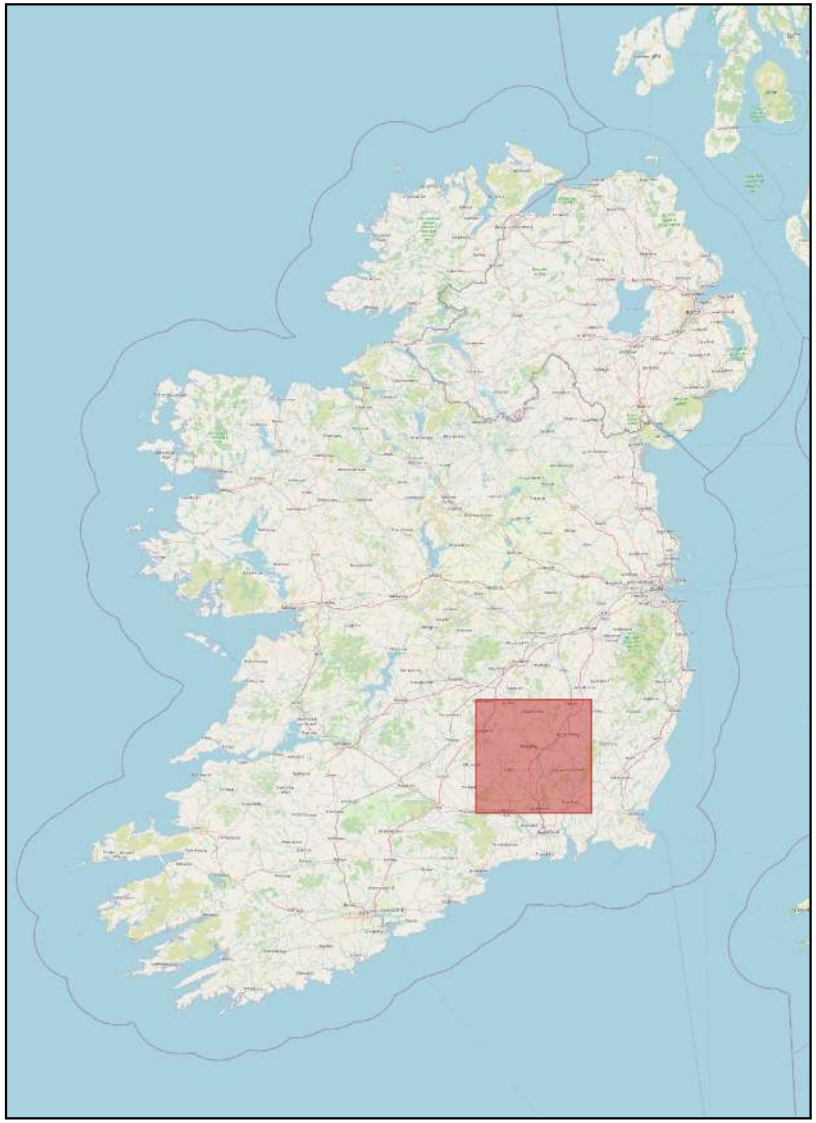

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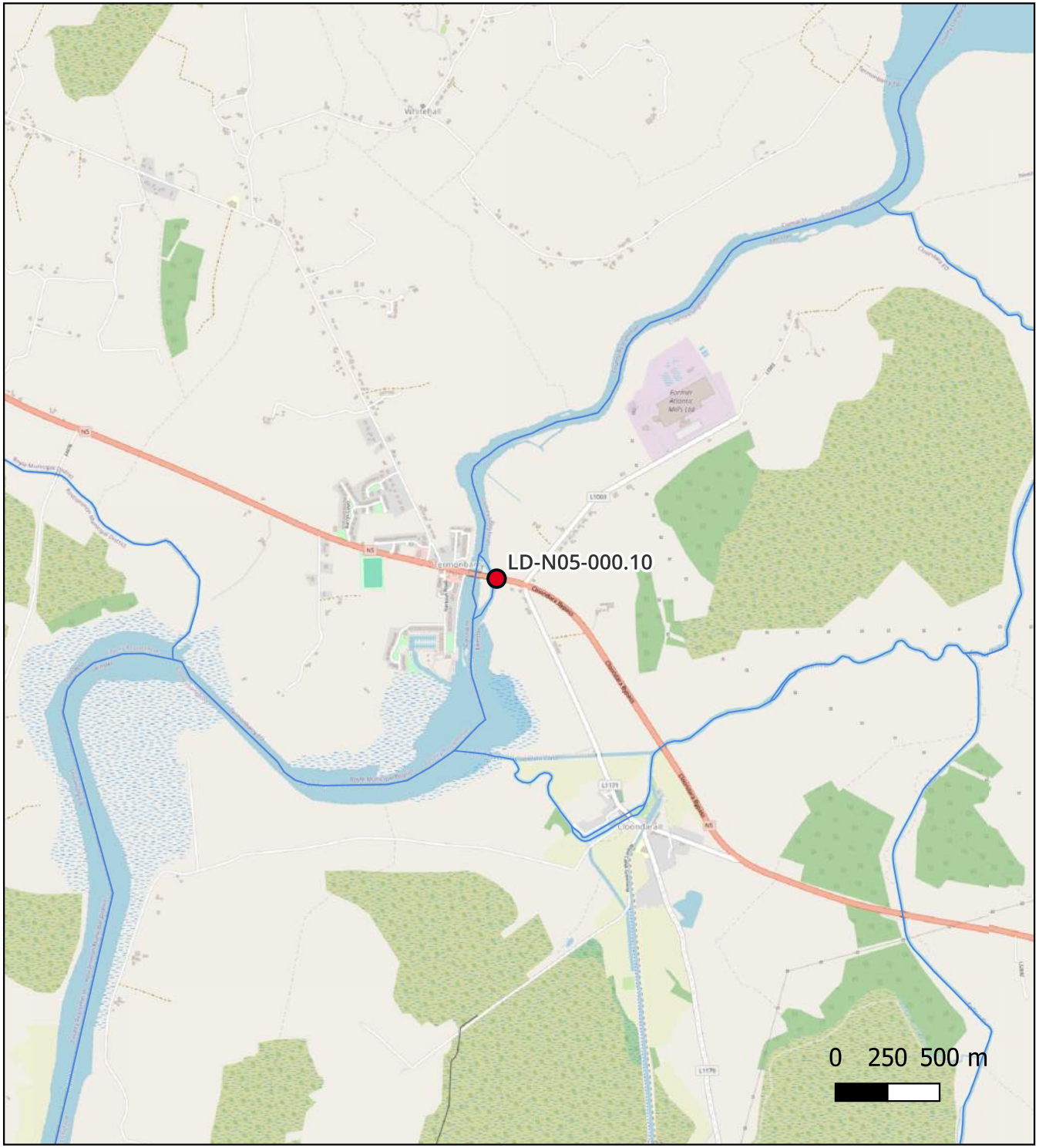
Leinster Bridges Term Maintenance Contract No. 4.
County Kilkenny Bridges
Natura Impact Statement 2024



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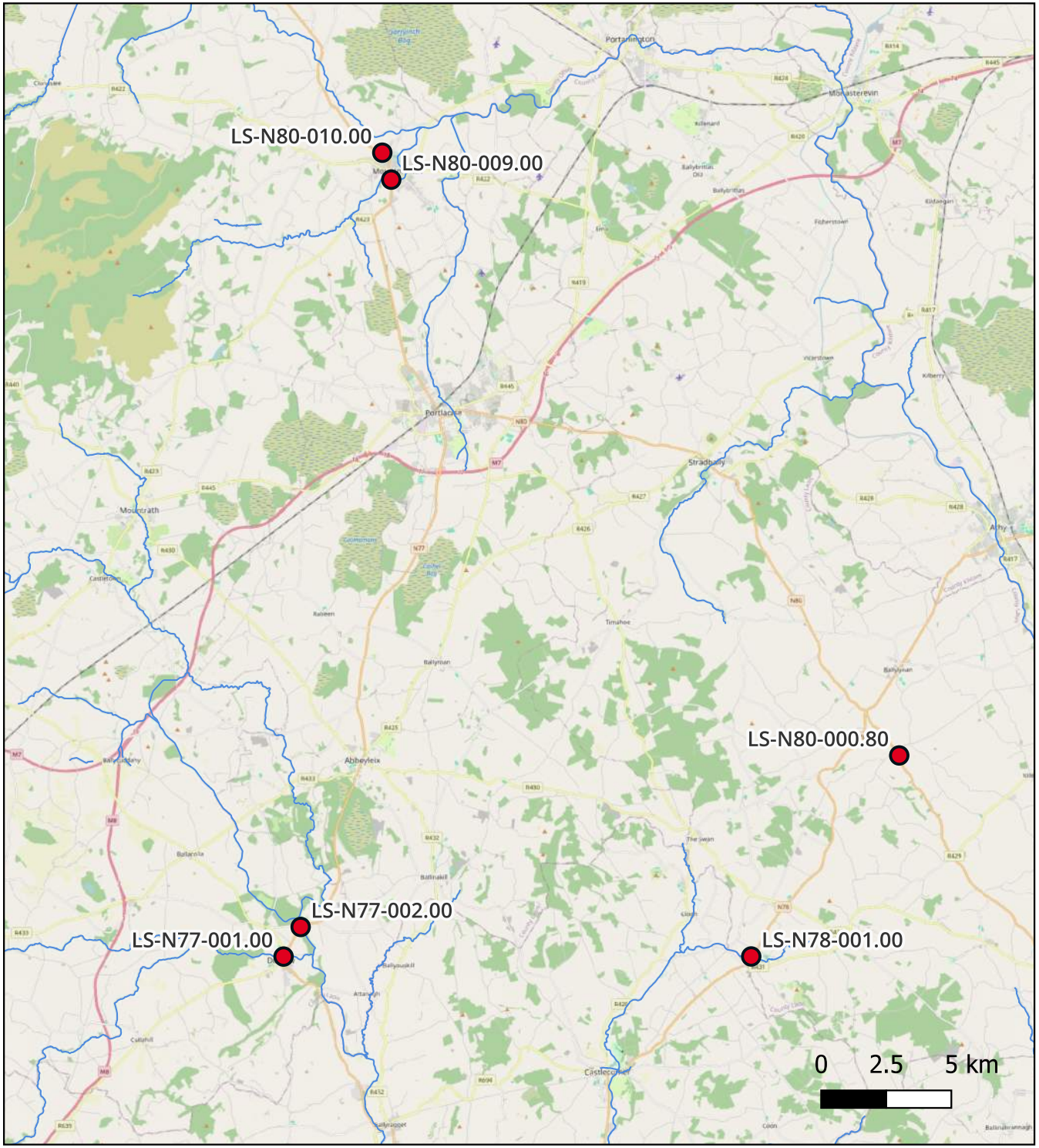
Leinster Bridges Term Maintenance Contract No. 4.
County Longford Bridges
Natura Impact Statement 2024



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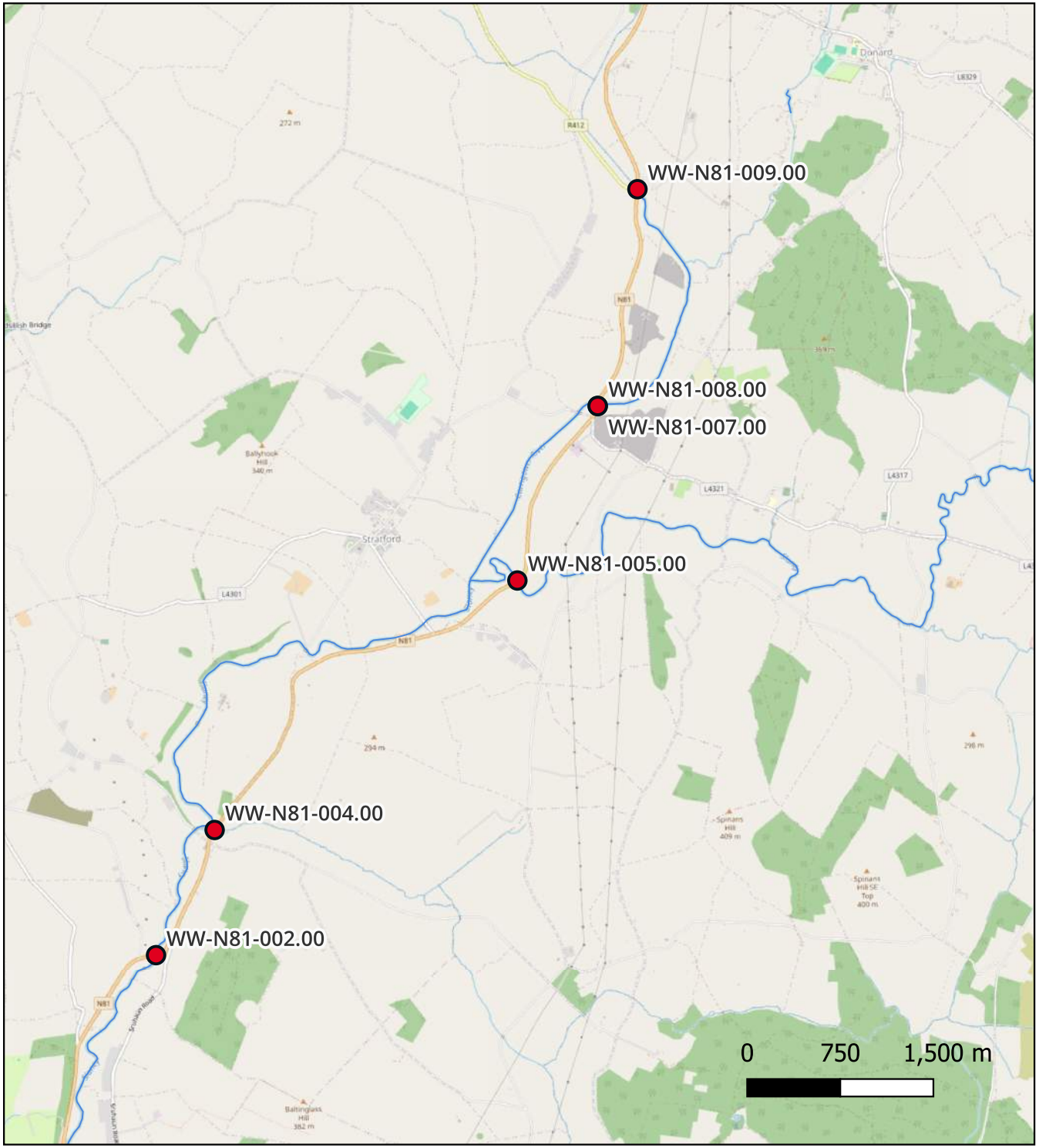
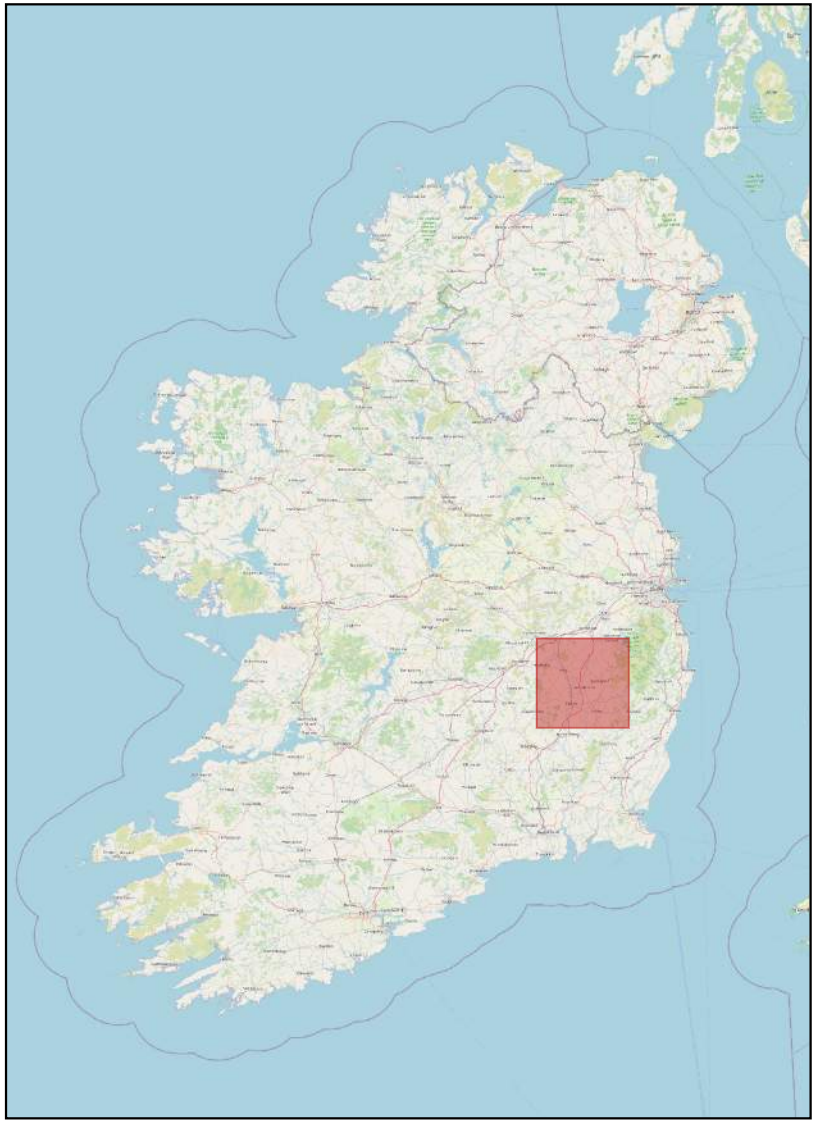
County Laois Bridges
Natura Impact Statement 2024

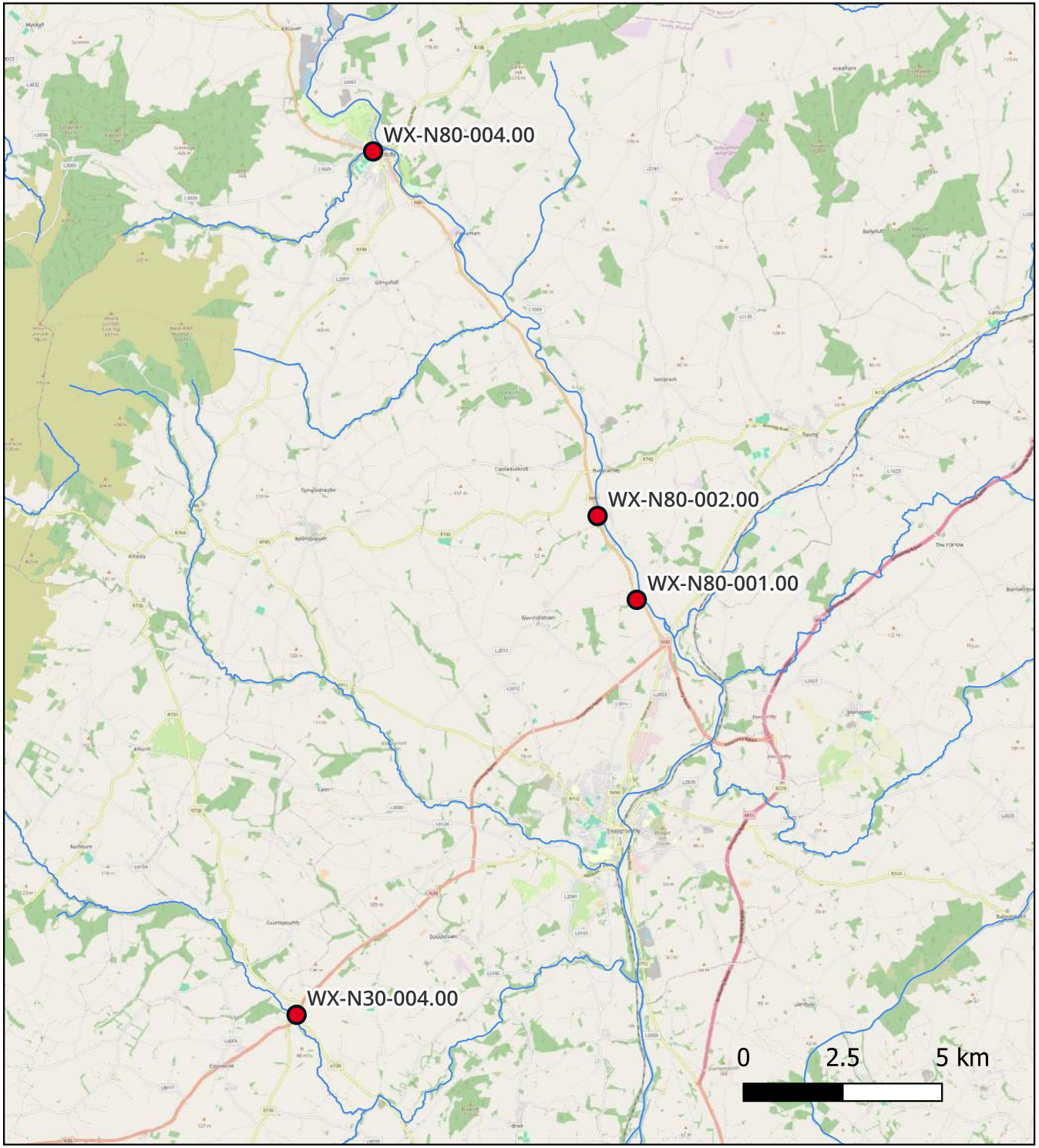


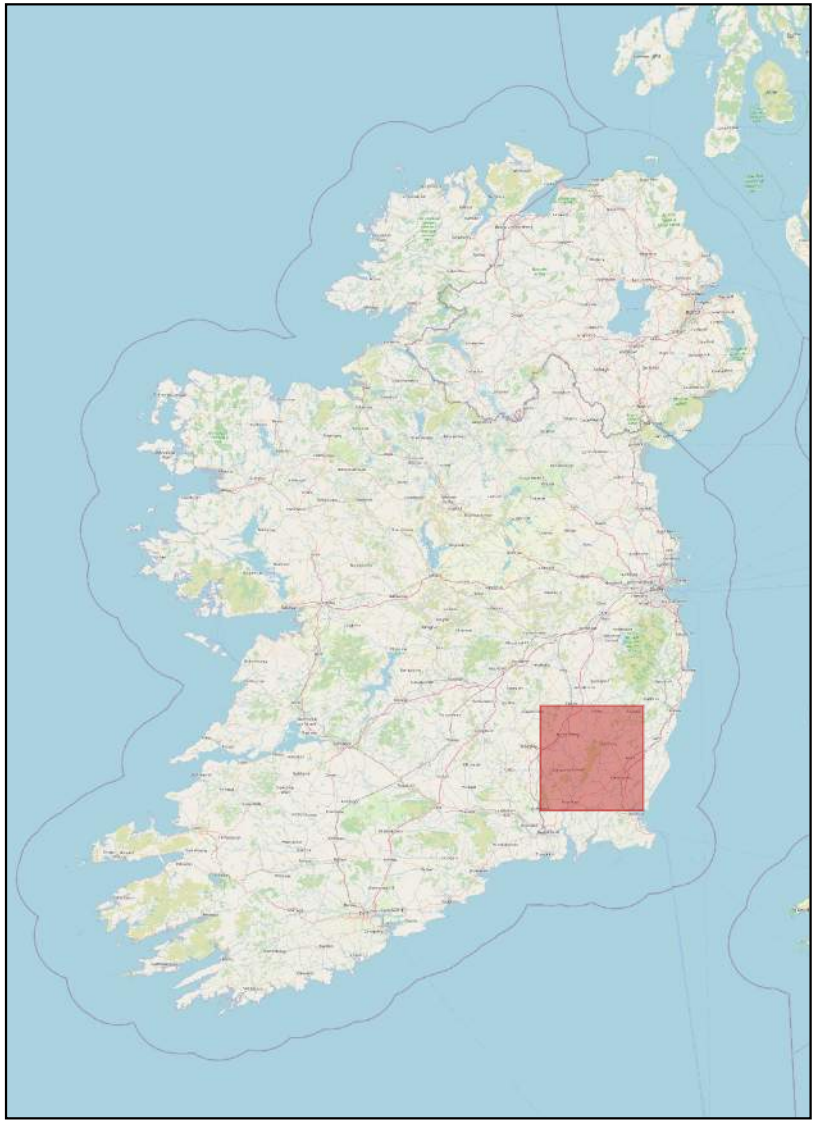


Legend

- NIS Bridges

Leinster Bridges Term Maintenance Contract No. 4.
County Wicklow Bridges
Natura Impact Statement 2024





Legend

- NIS Bridges

Leinster Bridges Term Maintenance Contract No. 4.
County Wexford Bridges
Natura Impact Statement 2024