FEHILY TIMONEY

CONSULTANTS IN ENGINEERING, ENVIRONMENTAL SCIENCE & PLANNING

TRIM MILLENNIUM PEDESTRIAN BRIDGE SCHEME

Ecological Impact Assessment

Prepared for:

Meath County Council

comhairle chontae na mí
meath county council

Date: **May 2024**

Core House, Pouladuff Road, Cork, T12 D773, Ireland

T: +353 21 496 4133 | E: info@ftco.ie

CORK | DUBLIN | CARLOW

www.fehilytimoney.ie

Ecological Impact Assessment for the Trim Millennium Pedestrian Bridge Scheme

REVISION CONTROL TABLE, CLIENT, KEYWORDS AND ABSTRACT

User is responsible for Checking the Revision Status of This Document

Rev. No.	Description of Changes	Prepared by:	Checked by:	Approved by:	Date:
P01	For Approval	CW/EBD	AT	BDH	07/03/2024
P02	Final	CW/KB	AT	BDH	31/05/2024

Client: Meath County Council

Keywords: Biodiversity, Ecological, Ecological Impact Assessment, EcIA, Trim Millennium Pedestrian Bridge Scheme

Abstract: Fehily Timoney are pleased to present this Ecological Impact Assessment to Meath County Council.

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

Fehily Timoney and Company (FT) were commissioned by Meath County Council to prepare an Ecological Impact Assessment (EcIA) for the proposed Trim Millennium Pedestrian Bridge Scheme (proposed project).

This EcIA considers the overall 'proposed project'. This terminology will be utilised throughout this report.

The key focus of the EcIA was to:

- Undertake a desktop review of available ecological data for both the receiving environment and greater area, including a review of European sites within the zone of influence of the proposed project (as part of a separate Appropriate Assessment Screening and Natura Impact Statement) and nationally designated sites;
- Undertake ecological field surveys of the receiving environment;
- Identify flora and fauna present within the footprint of all elements of the project;
- Evaluate the ecological significance of the receiving environment;
- Appraise the potential impacts of the project on the ecology of the receiving environment; and
- Consider measures to mitigate the potential negative impact(s) of the project on the ecology of the receiving environment.

2. PROPOSED DEVELOPMENT

The development consists of a prefabricated pedestrian bridge and associated works.

The proposed bridge structure is to be constructed at the same location as that of the demolished Trim Pedestrian Millennium Bridge and the existing foundations and abutments are to be reused subject to verifications. The bridge span is 30m and it will have a clear width of 3m. The bridge deck will be prefabricated off site and installed onto the existing foundations using a crane. As the bridge is to be set above the design flood levels of the River Boyne, the deck level is set above that of the adjacent river banks and therefore approach embankments will be constructed on each side of the bridge. The approach embankments are up to 1.5m above the existing ground level and shall be constructed using imported 6N/6P fill compacted into place. The approach ramps will allow for a 3m path and will have a gradient of 1:20. The length of these will be approximately 20m and they will tie in with the existing footpaths in the vicinity of the bridge. In order to construct the approaches there will be approximately 160m^3 of topsoil and surfacing excavated while 20m^3 of 6N/6P material and 115m^3 of Engineered Fill will be imported and compacted into place. Removed topsoil and surfacing will be reused for fill and landscaping as appropriate to minimise the volume of material to be removed from site.

2.1 Potential Interactions of the Proposed project the receiving environment

Given the ecological context and the development details set out above, the following sources for impacts are identified to have potential for interactions with the receiving environment (Table 2-1).

The potential impacts from the proposed project are identified to be noise from construction, siltation and dust from earthworks as well as concrete and hydrocarbon spills. During construction there will be temporary effects, while operation will be consistent with current land use, and decommissioning has the potential to cause minor temporary effects.

Table 2-1: Project features from the construction, operational and decommissioning phases of the proposed project which have been identified to have sources for potential interaction with the receiving environment.

Project Feature[1]	Spatial and temporal scale of project interactions
Land Use Change (Size / area / changes to the environment / long term functional use / intensity)	Construction: The proposed project is very small with works taking place on abutments on either side of the river and some works on ramps and minor footpaths. The temporary site compound is located in a grassed area adjacent to an existing parking lot to the south of the river and an additional storage area is located in a grassed area to the north of the river. Both areas will be re-instated to their original conditions once works are complete. During construction there will be minor scale development pressures such as noise, dust, vegetation removal etc. These will be temporary and accompanied by increased activity on site from construction traffic and associated works. Operation: The operational phase is consistent with current use as the bridge will replace the previously demolished bridge and the temporary Baily Bridge which is currently in place. The footprint of the finished development will lie within the footprint of existing infrastructure. Decommissioning: Decommissioning of the bridge will consist of the bridge structure being unbolted and lifted out of place by a crane.
Resource Requirements and wastes	Construction: During construction there will be resource requirements related to materials such as concrete as well as the streel bridge. Some building waste and surplus soil material will be generated. These requirements will be temporary and span across the entirety of the works. Operation: During the operational phase, there will be no resource requirements or wastes produced. Decommissioning: At the end of its planned life (50 years) the bridge structure can be lifted out of place and can be refurbished or the steel recycled.

[1] Assessment of Plans and Projects significantly affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC', (European Commission, 2021), the likely impacts of the project are set out relative to the following project features:
- size (e.g. in relation to direct land-take)
- overall affected area including the area affected by indirect impacts (e.g. noise, turbidity, vibrations)
- physical changes in the environment (e.g. modification of riverbeds or morphology of other water bodies, changes in the density of forest cover)
- changes in the intensity of an existing pressure (e.g. increase in noise, pollution or traffic)
- resource requirements (e.g. water abstraction, mineral extraction)
- emissions (e.g. nitrogen deposition) and waste (and whether they are disposed of on land, water or in the air)
- transportation requirements (e.g. access roads)
- duration of construction, operation, decommissioning, etc.
- temporal aspects (timing of the different stages of a plan or project)

Project Feature[1]	Spatial and temporal scale of project interactions
Emissions	Construction: Possible emissions from the construction phase will include noise, dust, silt, concrete and hydrocarbons. These are identified to be small-scale and temporary. Operation: There will be no emissions during the operational phase that are not consistent with the previous land uses. Decommissioning: During decommissioning, the same possible emissions could take place as during the construction phase, though they will be less in volume and time.

3. METHODOLOGY

3.1 Relevant Guidance

The methodology for this EcIA has been devised in consideration of the following relevant guidance:

- Environmental Protection Agency (2022): Guidelines on Information to be contained in Environmental Impact Statement Reports.
- Chartered Institute of Ecology and Environmental Management (2018): Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine, Ver. 1.1 Updated September 2019.
- Chartered Institute of Ecological and Environmental Management (2017): Guidelines for Preliminary Ecological Appraisal (CIEEM), Second Edition.
- The Heritage Council (2000): A Guide to Habitats in Ireland by Fossitt JA.
- The Heritage Council (2011): Best Practice Guidance for Habitat Survey and Mapping.

Additional guidance available from the EU such as 'Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment' (2013) and 'Guidelines for Ecological Impact Assessment in the United Kingdom' (2006) has also been considered.

Relevant guidance published by the National Roads Authority (NRA) such as 'Guidelines for Assessment of Ecological Impacts of National Road Schemes' (2009a), and 'Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes' (2008) have also been followed.

Relevant guidance published by the National Roads Authority (NRA), and applicable to assessing watercourses in Ireland, was also followed, including 'Guidelines for the Assessment of Ecological Impacts of National Road Schemes – Revision 2' (NRA 2009a), 'Ecological surveying techniques for protected flora and fauna during the planning of National Road Schemes – Version 2' (NRA 2009b), 'Environmental Impact Assessment of National Road Schemes – A practical guide' (NRA 2008a) and 'Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes' (NRA 2008).

3.2 Legislative Context

Specific focus is placed on protected species/habitat features as well as those of local or national importance. Ireland's 4th National Biodiversity Action Plan 2023–2030[2], in accordance with the Convention on Biological Diversity, is a framework for the conservation and protection of Ireland's biodiversity, with an overall objective to secure the conservation, including, where possible, the enhancement and sustainable use of biological diversity in Ireland and to contribute to collective efforts for conservation of biodiversity globally. The plan is implemented through legislation and statutory instruments concerned with nature conservation. The Planning and Development Acts, 2000 (revised September 2020) and the European Communities (Environmental Impact Assessment) (Amendment) Regulations, 1989 to 1999 are particularly important in that regard and include a number of provisions directly concerned with the protection of natural heritage and biodiversity.

[2] Government of Ireland: d424b166-763b-4916-8eba-8afff955c5e5.pdf (www.gov.ie)

A diversity of flora and fauna, rare at a national level, are protected under the provisions of the Wildlife Act 1976, as amended, and the orders and regulations made thereunder, such as the Flora Protection Order (2022). In summary, the Wildlife Act protects species from injury, disturbance and damage to breeding and resting sites. All species listed in the Wildlife Acts must, therefore, be a material consideration in the planning process. Invasive species subject to restrictions (Third Schedule) under Regulation 49 of the European Communities (Birds and Natural Habitats) Regulations, 2011. All Irish bat species are protected under the Wildlife (Amendment) Act 2000 and the EU Habitats Directive. The Flora (Protection) Order, (2022) gives legal protection to certain species of wild flora, i.e., vascular plants, mosses, liverworts, lichens and stoneworts. Under the Order, it is an offence to uproot, damage, alter, or interfere with any species listed within the Order, or to damage or alter their supporting habitats.

The Habitats Directive 1992 has been transposed into Irish law, for the purposes of this application for permission by Part XAB of the Planning and Development Act 2000, as inserted. In addition, certain other obligations of the Habitat Directive have been transposed by the European Communities (Birds and Natural Habitats) Regulations 2011, as amended. This protection is afforded in part through the designation of areas that represent significant populations of listed species within a European context, i.e., Natura 2000 sites. An area designated for bird species is classed as a Special Protection Area (SPA), and an area designated for other protected species and habitats is classed as a Special Area of Conservation (SAC). Birds listed in Annex I of the Birds Directive in SPAs and habitats and species listed in Annexes I and II, respectively, of the Habitats Directive in SACs in which they are designated features have full European protection. Species listed on Annex IV of the Habitats Directive are strictly protected wherever they occur, whether inside or outside European sites. Annex I habitats outside of SACs are still considered to be of national and international importance and, under Article 27(4)(b) of the European Communities (Birds and Natural Habitats) Regulations, 2011, public authorities have a duty to strive to avoid the pollution or deterioration of Annex I habitats and habitats integral to the functioning of SPAs.

Sites of national importance for nature conservation are afforded protection under planning policy and the Wildlife Acts, 1976–2012. NHAs are sites that are designated under statute for the protection of flora, fauna, habitats and geological interest. Proposed NHAs (pNHAs) are published sites identified as of similar conservation interest but have not been statutorily proposed or designated.

The International Union for the Conservation of Nature and Natural Resources (IUCN) provides a global approach for evaluating the conservation status of species to inform and catalyse action for biodiversity conservation through the Red List of Threatened Species. Section 171 of the Fisheries (Consolidation) Act 1959 creates the offence of throwing, emptying, permitting or causing to fall onto any waters deleterious matter. Deleterious matter is defined as not only as any substance that is liable to injure fish but is also liable to damage their spawning grounds or the food of any fish or to injure fish in their value as human food or to impair the usefulness of the bed and soil of any waters as spawning grounds or other capacity to produce the food of fish.

Under Section 3 of the Local Government (Water Pollution) Act, 1977 (as amended by Sections 3 and 24 of the 1990 Act) it is an offence to cause or permit any polluting matter to enter waters. For example, visual evidence of oil/fuel in the river would constitute an offence.

3.2.1 Policy

The relevant development plans are the Meath County Development Plan (2021-2027), which applies within the proposed project's site boundary, has multiple objectives relevant to biodiversity. These objectives are presented in Appendix 5.

No other relevant plans were identified.

3.3 Zone of Influence

CIEEM (2018) defines the Zone of Influence (ZoI) as:

> *"… the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities."*

Each ecological feature will have different Zones of Influence, depending on its ecological characteristics (CIEEM, 2018); best practice guidance and professional judgement were used to define the Zone of Influence for each ecological feature.

Given the scale and nature of the proposed project, the Zone of Influence defined for most ecological features was the footprint and immediate surroundings. An assessment of the sources of impacts (see Section 2) identified that effects from the proposed project are temporary and likely to be localised with a potential for downstream effects.

There are two key considerations when identifying ecological pathways - the first is the distance from which potential sources for impacts can radiate known as the zone of influence (ZoI) and the second is the potential for sensitive receptors (such as NHA sites or QIs/SCIs) to interact with the ZoI which is a further pathway consideration zone (PCZ). It is understood that sites designated for vagile species are known to utilize isolated resources across the landscape could intersect with the localised zone of influence; however, beyond 15 km potential effects to such species at this scale are not identified to be significant due to the broad home range available to these species and the availability of alternate resources. Therefore, a radius of 2 km has been adopted as the ZoI and a 15 km radius was adopted as the PCZ for this EcIA - however, further considerations were given to any hydrological pathways from the proposed project which extended beyond the 15 km limit.

The 'Source-Pathway-Receptor' model was used to determine impacts on European designated sites, aided by the EPA's Appropriate Assessment tool to determine hydrological pathways (https://gis.epa.ie/EPAMaps/AAGeoTool).

3.4 Desktop Study

A desk study was carried out to collate and review available information, datasets and documentation sources pertaining to the site's natural environment. These sources included (accessed in January 2024):

- OSI Aerial photography and 1:50000 mapping;
- National Parks and Wildlife Service (NPWS);
- National Biodiversity Data Centre (NBDC);
- Inland Fisheries Ireland (IFI);
- Botanical Survey of Britain and Ireland (BSBI);
- Irish Wetland Bird Survey (iWEBs);
- EPA website datasets (soil, surface water quality, ground water quality, designated sites);

3.4.1 Designated Nature Conservation Sites

NHAs and pNHAs within 15 km of the proposed project were identified as part of this ecological appraisal using in-house GIS systems to integrate datasets obtained from the NPWS at www.npws.ie. These designated sites are described in **Error! Reference source not found.** of this document.

European (Natura 2000) sites within 15 km of this proposed project such as candidate Special Areas of Conservation (SACs) and Special Protection Areas for birds (SPAs) were also identified as part of this ecological appraisal. A separate Appropriate Assessment (AA) screening and Natura Impact Statement (NIS) were carried out to appraise the potential impact on European sites.

3.4.2 Flora and Fauna

A desktop study was undertaken to locate any records of rare or protected flora and fauna that have previously been recorded for the site and surrounding area. Data sources included:

- Records available on the NPWS website[3] for Habitat and Species data including The Irish Semi-Natural Grassland Survey and the Newt Survey 2010-2014;
- NPWS FPO Bryophyte Sites Mapview[4].
- Records available on the National Biodiversity Data Centre mapping website including:
- The Second Atlas of Breeding Birds in Britain and Ireland: 1988-1991
- Vascular plants: Online Atlas of Vascular Plants 2012 onwards
- Badger Setts of Ireland Database
- Bird Atlas 2007-2011. The breeding and wintering birds of Britain and Ireland (Balmer et al., 2013),
- General Biodiversity Records from Ireland
- Ireland's Wetlands and their Waterbirds: Status and Distribution (Crowe 2005),
- The Atlas of Wintering Birds in Britain and Ireland (Lack, 1986),
- Birds of Conservation Concern in Ireland 2020-2026 (Gilbert et al., 2021).

Botanical species were assessed in accordance with their occurrence on the Flora Protection Order (2022) and The Ireland Red List No. 10: Vascular Plants (Wyse-Jackson et al. 2016). Other species records were assessed according to the Irish Red Data Lists.

3.5 Field Assessment Methodology

Detailed aquatic habitat assessments were undertaken as well was survey for key species such as bird - including dedicated kingfisher (*Alcedo atthis*) - and specific otter (*Lutra lutra*) assessments. Summaries of the methods can be found below in the relevant sections.

[3] NPWS Habitat and Species data https://www.npws.ie/maps-and-data/habitat-and-species-data Accessed 12/02/2024
4 NPWS Bryophyte Viewer
https://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=71f8df33693f48edbb70369d7fb26b7e Accessed 12/02/2024

3.5.1 Aquatic Habitats including bankside vegetation

Aquatic surveys of the River Boyne within the vicinity of the Trim Millennium Bridge were conducted on the 10th of October 2023 by ecologists working for Triturus. These surveys included in-stream and riparian habitat surveys to assess the potential presence of Annex I habitat types within the vicinity of the bridge. The habitat assessment was conducted utilising elements of the methodology given in the Environment Agency's 'River Habitat Survey in Britain and Ireland Field Survey Guidance Manual 2003' (EA, 2003) and the Irish Heritage Council's 'A Guide to Habitats in Ireland' (Fossitt, 2000).

3.5.2 Mammals

The presence of otter (*Lutra lutra*) was determined through the recording of otter signs within 150m radius of each survey site. Notes on the age and location of signs (ITM coordinates) were made, in addition to the quantity and visible constituents of spraint (i.e. remains of fish, crustaceans, molluscs etc.).

3.5.3 Avifauna

Three rounds of kingfisher (*Alcedo atthis*) surveys were carried out by an FT ecologist on the 6th of June, the 24th of July and the 8th of August 2023. These surveys were carried out by walking a transects along both banks of the River Boyne up- and downstream from the bridge and checking for kingfisher as well as potential kingfisher nesting habitat. Other bird species seen and heard were also recorded on this occasion.

3.5.4 Other Fauna

During the ecological surveys at the proposed project, species from other groups of fauna - such as amphibians, invertebrates etc. - were noted and included in the report if observed.

3.5.5 Invasive species

A site visit was undertaken by Dr Patrick Moran of 'Forest, Environmental Research and Services Ltd.) on the 5th of August 2022. The site was walked and both riverbanks on either side of the bridge were examined.

3.6 Ecological Evaluation Process

The value of the ecological resources and features or receptors was determined using the ecological evaluation guidance given in the National Roads Authority (NRA) Ecological Assessment Guidelines. This evaluation scheme seeks to provide value ratings for ecological receptors, with values ranging from internationally to locally important. Internationally important receptors would include Special Areas of Conservation (SAC) or Special Protected Areas (SPA) while those of national importance would include Natural Heritage Areas (NHA).

This evaluation scheme is aimed at assessing the ecological value of sites focusing on habitats, flora, and fauna within the site. The value of habitats is assessed based on condition, size, rarity, conservation, and legal status. The value of flora and fauna are assessed on its national distribution, abundance or rarity, and associated trends (biodiversity value), legal status and conservation status.

Some of the habitats and species identified were selected as key ecological receptors. The NRA (NRA, 2009) refer to key ecological receptors as those ecological features which are evaluated as Locally Important (higher value) or higher and are likely to be impacted significantly by the proposed project. The features that were evaluated as being of Local Importance (higher value) and higher in this study were selected as key ecological features and the impact significance on each of these features was assessed (see appendix 6 for details).

4. EXISTING ENVRIONMENT

4.1 Overview of the area

The site of the proposed new Trim Millennium Pedestrian Bridge Scheme is immediately adjacent to Trim town and crosses the River Boyne. The bridge will be erected at the same location as the demolished Millennium Bridge and make use of the existing foundations and paths leading to the bridge location.

The site is located within the Hydrometric Area 07 Boyne and within the Boyne_SC_060 sub-catchment.

The land use classifications for the surrounding area as defined by the 2018 CORINE landcover dataset are discontinuous urban fabric (112) and pastures (231).

There are no habitats within the study area that conform to those listed under Annex I of the EU Habitats Directive.

4.2 Sites of International and National Importance

A stand-alone Appropriate Assessment screening and Natura Impact Statement was undertaken. The AA-Screening and NIS accompanies the planning application. This AA process was undertaken in accordance with Article 6(3) of the 'Habitats' Directive (92/43/EEC). The European and nationally designated sites identified by the AA process are detailed in Figure 4-2 below.

Special Areas of Conservation (SACs) are protected under the European Union (EU) 'Habitats Directive' (92/43/EEC), as implemented in Ireland by the European Communities (Natural Habitats) Regulations, 1997.

Special Protection Areas (SPAs) were initially designated under Directive 79/409/EEC, The Directive on the Conservation of Wild Birds ('The Birds Directive') and are now protected as Natura 2000 Sites under the EU 'Habitats Directive'.

Within the potential Zone of Influence of the proposed project there are four European sites identified. (Figure 4-2). The AA Screening concluded that there were two European sites which would have likely significant effects in the absence of mitigation. These are the River Boyne and River Blackwater SAC and the River Boyne and River Blackwater SPA.

4.2.1 Natural Heritage areas and proposed Natural Heritage Areas (NHAs and pNHAs)

Sites of National Importance in the Republic of Ireland are termed Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs). While the Wildlife (Amendment) Act 2000 has been passed into law, pNHAs will not have legal protection until the consultative process with landowners has been completed; this process is currently ongoing. However, they have been treated as fully designated sites for the purposes of this assessment. A total of seven pNHAs are present downstream of the proposed project (Figure: 4-3 below). There are no NHAs, located downstream of the proposed project. Due to the small scale of the project, there is no potential for any impact to any NHA or pNHA which is not hydrologically connected to the site.

The closest site is the Trim pNHA (001357) which is ca. 3.5km downstream of the from the proposed project. The pNHA's which have a direct, downstream hydrological connection to the site are described in Appendix 2.

4.3 Habitats

There were no habitats identified on site that conform to those listed under Annex I of the EU Habitats Directive.

The habitats on site were Depositing/Lowland River (FW2), which was bordered by Riparian woodland (WN5) and improved Amenity Grassland (GA2). A habitat map is not provided as they can be seen in full in the images below from the site as it's such a small extent.

Although the surveys were not undertaken in peak botanical flowering season, vegetative ID techniques were used to give a high identification rate. Moreover, the land is intensively managed - therefore, the timing of the surveys was not viewed to be a significant limitation in the context of the EcIA. See Figure 4-1 below for the site context.

Figure 4-1: View from the southern Abutment showing the temporary bailey bridge, the River Boyne downstream from the bridge, riparian vegetation and the northern bank

4.3.1 Depositing/Lowland River (FW2)

The River Boyne in the vicinity of Millennium Bridge was a high energy lowland river (FW2: Fossitt, 2000) that was 18-20m wide and ranged from 1.2-1.8m deep. The river had been historically modified and deepened with steeply sloping banks (particularly on the eastern bank). Upstream of the Millennium footbridge the river flowed between retaining walls (both banks) in the vicinity of Old Bridge. The profile comprised fast-flowing glide with occasional pool. Riffle and shallower glide was present locally in the vicinity of the existing footbridge (including at a historic weir). Deeper glide predominated downstream. The substrata were dominated by partially bedded cobble and boulder with frequent but scattered mixed gravels. Despite high flow rates at this location, siltation was moderate. Areas of sand were present but localised. Soft sediment accumulations were frequent along channel margins and in association with instream macrophyte beds.

The modified section of channel upstream of the existing footbridge supported sparse macrophyte growth due to the compacted bed and absence of riparian fringes although the moss *Fontinalis antipyretica* and *Leptodictyum riparium* were present on larger boulder, with scattered common clubrush (*Schoenoplectus lacustris*). Downstream of the footbridge, the macrophyte community was dominated by abundant common clubrush which forms extensive stands throughout the channel for much of the years (pers. obs.). Scattered stands of branched bur-reed (*Sparganium erectum*) were also present with occasional water mint (*Mentha aquatica*) and blue water-speedwell (*Myosotis scorpioides*). Deeper glide and flow refugia supported highly localised curled pondweed (*Potamogeton crispus*), perfoliate pondweed (*Potamogeton perfoliatus*) and water starwort (*Callitriche sp.*). Invasive *Elodea sp.* was also present in deeper glide but rare overall. The aquatic vegetation community was not representative of any Annex I habitats (e.g. floating river vegetation [3260]). Filamentous algal cover was low (2%) but its presence indicated eutrophication. See Figure 4-2 below.

Figure 4-2: River Boyne from the northern bank adjacent to the temporary bailey bridge (FW2)

4.3.2 Riparian woodland (WN5)

The littoral zones and sloping banks were consisted of low value riparian woodland. The open areas of the sloping banks were dominated by reed-canary grass (*Phalaris arundinacea*). The wooded area consisted of mature scrubby treelines of grey willow (*Salix cinerea*), osier (*Salix viminalis*), crack willow (*Salix fragilis*), sycamore (*Acer psuedoplatanus*), ash (*Fraxinus excelsior*) and hawthorn (*Crataegus monogyna*) with localised dense bramble (*Rubus fruticosus agg*.) along the eastern bank. See Figure 4-3 for an example of the riparian woodland present adjacent to the bridge.

Figure 4-3: Riparian woodland as viewed from the temporary bailey bridge facing downstream

4.3.3 Amenity Grassland (improved) GA2

The grassy area near the car-park to the south where the proposed site compound is to be located was of intensively managed amenity grassland which was kept short via mowing and are dominated by perennial ryegrass (*Lollium perenne*).

On the northern side of the river, where the proposed temporary storage area will be located, there was rougher grassland which was utilised for recreation and dog-walking.

See Figure 4-4 and Figure 4-5 for examples of grassland present near the Millennium Pedestrian Bridge on the southern and northern side of the River Boyne.

Figure 4-4: Amenity Grassland near the southern bank of the River Boyne, adjacent to the parking lot, facing south from the temporary bailey bridge

Figure 4-5: Amenity Grassland near the northern bank of the River Boyne, facing north from the temporary bailey bridge.

Table 4-1: Evaluation of habitats within the study area (NRA, 2009)

Habitat	Evaluation	Rationale	Selection as Key Ecological Receptor (KER)
Depositing/Lowland River (FW2)	International importance	The River Boyne is designated as an SAC and as an SPA for several protected habitat types and species. Due to the status of international importance and all features associated with the River Boyne and River Blackwater SAC and SPA, it is considered a KER.	Yes
Riparian woodland (WN5)	International importance)	Important to local wildlife (invertebrates, birds, mammals) and can act as ecological corridors. Due to the context within an SAC and SPA designated for kingfisher as well as the importance of hedgerows and treelines, it is considered as a KER.	Yes
Amenity Grassland (improved) GA2	Local Importance (Lower Value)	This is an intensively managed habitat, with a low diversity of flora. Due to its highly modified nature and dominance in the surrounding habitat, it is not considered a KER.	No

4.4 Flora

4.4.1 Protected or Rare Flora

Desktop Assessment Results

No records of rare and/or protected flora from NBDC data within the 2 km grid square (N85D) surrounding the proposed project site were returned. Furthermore, the area does not overlap any Bryophyte Sites, according to the NPWS FPO Bryophyte Sites Mapview[5]. The 10 km grid square N85 contains records for the FPO species red hemp-nettle (*Galeopsis angustifolia*), though the records are from 1896 from Kilmessan gravel pit which is more than 5km from Trim.

The proposed project does not overlap any of areas of Irish Semi-natural Grasslands identified by O'Neill et al., 2013[6].

5 NPWS Bryophyte Viewer https://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=71f8df33693f48edbb70369d7fb26b7e Accessed 12/02/2024

6 O'Neill, F.H., Martin, J.R., Devaney, F.M. & Perrin, P.M. (2013) The Irish semi-natural grasslands survey 2007-2012. Irish Wildlife Manuals, No. 78. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Ireland. https://www.npws.ie/maps-and-data/habitat-and-species-data Accessed 12/02/2024

Field Surveys Results

No rare or protected flora was recorded during any of the surveys of the site and surrounding areas

4.4.2 Invasive Non-Native Flora

Desktop Assessment

Additionally, the NBDC data within the 2 km grid square of the proposed project indicated three species of invasive non-native flora (Table 4-2).

Table 4-2: Invasive Non-Native Flora present within the 2km grid square N85D overlapping the proposed project.

Species	Impact	Designation	Last Record
Traveller's joy (*Clematis vitalba*)	Medium	NA	2013
Sycamore (*Acer pseudoplatanus*)	Medium	NA	2013
Japanese Knotweed (*Fallopia japonica*)	High	Third Schedule	2018

The only invasive species observed within the River Boyne near the bridge and adjacent to the river near the bridge were sycamore and an invasive pondweed species (*Elodea sp.*). Sycamore is not listed on the Third Schedule, thus there is no requirement for an invasive species management plan. All *Elodea* species are listed on the Third Schedule. However, as there are no in-stream works proposed, there are no sources for impacts related to potential spread of this species which is present in the river.

4.4.3 Fauna

4.4.3.1 Avifauna

Desktop Assessment

The desktop review using the National Biodiversity Data Centre's data highlighted that within 2 km grid square (N85D) surrounding of the proposed project site, a total of 59 species have been recorded. Of these two species are listed as Annex I species, these are kingfisher and little egret.

A total of five red-listed species were recorded in the NBDC grid square surrounding the site (N85D): grey wagtail, kestrel, redwing, swift, and yellowhammer. A total of 16 Amber-listed species were recorded in the grid square: black-headed gull, cormorant, goldcrest, greenfinch, house martin, house sparrow, kingfisher, linnet, mallard, mute swan, sand martin, sky larks, spotted flycatcher, starling, swallow and willow warbler. The NBDC species are listed in Appendix 7.

Field Surveys

Designated kingfisher surveys were carried out on the 6th of July, 24th of July and 8th of August 2023. During these surveys no kingfisher was noted, and no suitable nesting habitat was found. Suitable kingfisher perches and foraging habitat was however noted, and temporary disturbance to foraging kingfisher may occur outside of the breeding season. See the full report in Appendix 4.

A total of 39 bird species were recorded near the bridge location along the river across three kingfisher surveys in July and August 2023. The individual species and during which round the species were encountered are detailed in Table 4-3, below. Red-listed species grey wagtail and swift were noted during surveys, and 12 amber-listed species were noted. None of the species are listed as Annex I species.

Table 4-3: Additional Bird Species recorded during Kingfisher Surveys

Species	Latin name	BoCCI Status	Annex I	Visit 1	Visit 2	Visit 3
Blackbird	Turdus merula	Green	No	✓	✓	✓
Blackcap	Sylvia atricapilla	Green	No	✓	✓	✓
Black-headed Gull	Chroicocephalus ridibundus	Amber	No	✓		
Blue Tit	Cyanistes caeruleus	Green	No	✓	✓	✓
Bullfinch	Pyrrhula pyrrhula	Green	No		✓	✓
Chaffinch	Fringilla coelebs	Green	No	✓	✓	✓
Chiffchaff	Phylloscopus collybita	Green	No	✓	✓	✓
Coal Tit	Periparus ater	Green	No		✓	
Collared Dove	Streptopelia decaocto	Green	No	✓		✓
Dipper	Cinclus cinclus	Green	No	✓		
Dunnock	Prunella modularis	Green	No	✓	✓	✓
Feral Pigeon	Columba livia	Green	No	✓	✓	✓
Goldfinch	Carduelis carduelis	Green	No	✓	✓	✓
Great Tit	Parus major	Green	No	✓		✓
Greenfinch	Carduelis chloris	Amber	No	✓	✓	✓
Grey Heron	Ardea cinerea	Green	No	✓		
Grey Wagtail	Motacilla cinerea	Red	No	✓	✓	✓
Herring Gull	Larus argentatus	Amber	No	✓	✓	✓
Hooded Crow	Corvus cornix	Green	No	✓	✓	✓
House Martin	Delichon urbicum	Amber	No	✓	✓	✓
House Sparrow	Passer domesticus	Amber	No	✓	✓	
Jackdaw	Corvus monedula	Green	No	✓	✓	✓

Species	Latin name	BoCCI Status	Annex I	Visit 1	Visit 2	Visit 3
Lesser Black-backed Gull	Larus fuscus	Amber	No	✓	✓	✓
Lesser Redpoll	Carduelis cabaret	Green	No	✓	✓	✓
Linnet	Carduelis cannabina	Amber	No	✓	✓	
Magpie	Pica pica	Green	No			✓
Mistle Thrush	Turdus viscivorus	Green	No			✓
Pied/White Wagtail	Motacilla alba	Green	No			✓
Raven	Corvus corax	Green	No		✓	✓
Robin	Erithacus rubecula	Green	No	✓	✓	✓
Rook	Corvus frugilegus	Green	No	✓		
Sand Martin	Riparia riparia	Amber	No	✓	✓	✓
Song Thrush	Turdus philomelos	Green	No	✓	✓	
Starling	Sturnus vulgaris	Amber	No	✓	✓	✓
Swallow	Hirundo rustica	Amber	No	✓	✓	✓
Swift	Apus apus	Red	No	✓	✓	✓
Willow Warbler	Phylloscopus trochilus	Amber	No		✓	✓
Woodpigeon	Columba palumbus	Green	No	✓	✓	✓
Wren	Troglodytes troglodytes	Green	No	✓	✓	✓

4.4.3.2 Mammals

Desktop Assessment

Mammal species (both native and invasive) recorded during the surveys or in the 2 km grid squares from the NDBC are detailed in **Error! Reference source not found.**.

Table 4-4: Non-volant Mammals (records within the NBDC grid square N85D overlapping the proposed project)

Common Name	Scientific Name	Details	Designation	Date of last record
Otter	*Lutra lutra*	Protected Species	Wildlife Acts, Annex II, Annex IV	1982
Hedgehog	*Erinaceus europaeus*	Protected Species	Wildlife Acts	2022

4.4.3.2.1 Otter (Lutra lutra)

Desktop Assessment

Records of this species were widespread on the River Boyne in the Trim area, including within the town with 14 records existing with a 100m precision between 'Old Bridge' and the Trim Millennium Bridge. These records range from 1980 to 2011.

Field Surveys

Two regular otter spraint sites were recorded on a retaining wall ledge and stormwater inflow pipe upstream of the existing footbridge. See Appendix 4 for the full aquatics report.

4.4.3.2.2 Bats

Desktop Assessment

The River Boyne and riparian woodland present near the proposed project site offer potential foraging and commuting areas for bats.

The proposed project is situated in a landscape that is highly suitable for common pipistrelle (*Pipistrellus pipistrellus*) and of moderate to hight suitability the following species of bat: Brown long-eared bat (*Plecotus auritus*), Daubenton's bat (*Myotis daubentonii*), Leisler's bat (*Nyctalus leisleri*) and soprano pipistrelle (*Pipistrellus pygmaeus*). It is of moderate suitability for Natterer's bat (*Myotis nattereri*). The area is of moderate to low suitability for Nathusius' pipistrelles (Pipistrellus nathusii) and for whiskered bat (*Myotis mystacinus*) as there are no cluttered woodland habitats present, which the latter species prefers. Lesser horseshoe bat (*Rhinolophus hipposideros*) does not occur in this part of the country.

Table 4-5: Bats (records within the NBDC grid square N85D overlapping the proposed project)

Common Name	Scientific Name	Details	Designation	Date of last record
Daubenton's bat	*Myotis daubentonii*	Protected Species	Wildlife Acts, Annex II, Annex IV	2014
Leisler's bat	*Nyctalus leisleri*	Protected Species	Wildlife Acts, Annex II, Annex IV	2009
Common Pipistrelle	*Pipistrellus pipistrellus*	Protected Species	Wildlife Acts, Annex II, Annex IV	2009

Common Name	Scientific Name	Details	Designation	Date of last record
Soprano Pipistrelle	*Pipistrellus pygmaeus*	Protected Species	Wildlife Acts, Annex II, Annex IV	2009

4.4.3.3 Aquatic fauna

Desktop Assessment Results

The Boyne is a renowned wild brown trout (Salmo trutta), Atlantic salmon and (in its lower reaches) sea trout fishery (O'Reilly, 2009). In addition to salmonids, the river also supports three-spined stickleback (Gasterosteus aculeatus), minnow (Phoxinus phoxinus), stone loach (Barbatula barbatula), pike (Esox lucius), roach (Rutilus rutilus) and European eel (Anguilla anguilla) (Gordon et al., 2023; Kelly et al., 2011a, 2011b). Whilst Lampetra sp. ammocoetes (likely brook lamprey Lampetra planeri) are widespread throughout both the Boyne, densities have been recorded as low (O'Connor, 2006) and the species is known to suffer from the impacts of continued arterial drainage throughout the catchment (IFI, 2013).

White-clawed crayfish (Austropotamobius pallipes) are known form the River Boyne in the vicinity of Trim although the most recent record is from 2006 (0.3km upstream of survey area). Crayfish plague has been known from the Boyne catchment since the 1980s (Matthews & Reynolds, 1992) and has also been detected in recent years (Triturus data).

Field Survey Results

The River Boyne in vicinity of the existing Millennium Bridge was considered a good quality salmonid spawning and nursery habitat given the dominance of glide habitat, hard substrata and flow refugia. Undercut banks (mostly along the western bank downstream but also along retaining walls) provided valuable holding areas for adult salmonids although the deeper glide downstream of the survey site provided higher quality holding habitat. This area was dominated by clubrush beds and of high value as both a coarse fish nursery and European eel (*Anguilla anguilla*) habitat. Whilst localised and limited in extent, soft sediment accumulations along channel margins provided some suitability for lamprey ammocoetes although such areas were typically sub-optimal due to compaction and high sand content. Despite good physical suitability (abundant instream refugia), no white clawed crayfish (*Austropotamobius pallipes*) were recorded by sweep netting or hand searching.

However, white-clawed crayfish were detected via eDNA sampling, in addition to Atlantic salmon (*Salmo salar*) and lamprey (*Lampetra sp.).*

The invasive pathogen crayfish plague (*Aphanomyces astaci*) was also detected in the sample via eDNA analysis.

4.4.3.4 Other fauna

Other protected fauna identified in the grid square N85D that the bridge is located in, includes records of two amphibian species. Common frog (*Rana temporaria*) and smooth newt (*Lissotriton vulgaris*). Common Frog was recorded 11 times in the area with the last record from 2019 with a 100m precision near the bridge location. Smooth newt was recorded last in the area in 2012 in the grid square at a 100m precision. There was only one record of this species in the area and it was not near the river, but within a housing estate to the south of the river in the eastern part of Trim town.

Table 4-6: Evaluation of flora and fauna within the study area (NRA, 2009)

Feature	Evaluation	Rationale	Selection as Key Ecological Receptor (KER)
Protected or Rare Flora	NA	As no protected or rare flora was identified in near the proposed Trim Millennium Bridge, and disturbance of existing vegetation will be minimal, this feature is not considered a key ecological receptor.	No
Invasive Non-Native Flora	NA	Invasive *Elodea sp.* was present in the river near the bridge location. This is a third schedule species and therefore legally controlled, and the spread of this species is an offence. Third Schedule. However, as there are no in-stream works proposed, there are no sources for impacts related to potential spread of this species which is present in the river.	No
Avifauna	International Importance (kingfisher)/ Local importance (higher value for other avian species)	The River Boyne is an SPA designated for kingfisher, and there is suitable foraging habitat present near the bridge location. A high diversity of passerine species, hirundines, some wetland and water birds as well as some birds of prey were identified near the bridge location.	Yes
Mammals Otter (*Lutra lutra*)	International Importance (otter)/ Local importance (lower value for other mammal species)	The River Boyne is an SAC designated for Otter and has been confirmed via field signs near the bridge location.	Yes
Bats	Local importance (higher value)	The area is of moderate to high suitability for several bat species. There are historic records of several bat species in the area and the River Boyne and riparian habitat represents suitable commuting and foraging corridors for bats.	Yes
Aquatic fauna	International Importance	The River Boyne is an SAC designated for river lamprey (*Lampetra fluviatilis*) and salmon (*Salmo salar*). Both lamprey and salmon was identified in the river via eDNA analysis. Suitable salmonid spawning habitat as well as holding habitat for adult salmonids was identified near the bridge location as well as suitable lamprey ammocete habitat.	Yes

5. POTENTIAL IMPACTS

5.1 Impacts During Construction

5.1.1 Designated Sites

The proposed project Trim Millennium pedestrian Bridge project is within the boundary of the River Boyne and River Blackwater SAC and SPA.

The River Boyne and River Blackwater SAC and SPA have the potential to the impacted by siltation and pollutant emissions to the river, which could have an impact on the downstream habitats of the SAC, as well as on protected fisheries species. Construction noise could have an impact on mobile species of the SAC (otter) and of the SPA (kingfisher). The accompanying Natura Impact Statement considers the likely significant effects to these European sites and other European sites within the potential Zone of Influence in detail.

There are no NHA's within the potential Zone of Influence of the project, and the pNHA's within the potential Zone of Influence are downstream of the site and contained within the River Boyne and River Blackwater SAC and SPA. These pNHA's are considered under their higher European designation within the accompanying Natura Impact Statement. Details of the pNHAs assessed within this EcIA are presented in Appendix 2.

For any other NHA's and pNHA's, given the lack of physical pathway, and the fact that they are designated primarily for habitats, flora and fauna occurring within their boundaries, and will not be subject to habitat loss, disturbance and/or displacement during the construction phase or any other phase of the project, no impact is envisaged to these pNHAs.

5.1.2 Habitats and Flora

5.1.2.1 Habitats

A total of two habitat types were identified as key ecological receptors (See Table 4-1**Error! Reference source not found.**) within within/near the works area: depositing/lowland river (FW2) and riparian woodland (WN5).

Earthworks, concrete works and machinery could cause siltation and pollution to the aquatic habitat. In the absence of mitigation, this would cause likely, significant, moderate, temporary negative effects to aquatic habitats downstream of the bridge.

Vegetation removal is limited to areas of grassland, and low value vegetation along the riverbank, which has not been identified as a KER. It is possible that some small shrubs might be removed as part of the works, this would not cause a disruption of the riparian woodland habitat along the River Boyne. Effects on the riparian woodland therefore have been identified as unlikely, imperceptible, temporary and negative.

Therefore, mitigation measures are presented below to avoid/minimise these potential impacts.

5.1.2.2 Protected or Rare Flora

No rare or protected flora were recorded within the works area; therefore, there are no impacts in this regard.

5.1.2.3 Invasive Non-native Flora

An invasive pond weed (*Elodea sp.*) was found in the River Boyne near the bridge location. As no in-stream works are proposed, there is no potential to interfere with the spread of this invasive aquatic floral species.

5.1.3 Avifauna

Kingfisher

There is suitable foraging habitat for kingfisher near the bridge location. There is no suitable habitat for breeding kingfisher and during the last two kingfisher surveys in late July and early August, water levels were high, and the river was moving too fast for foraging kingfisher. It is probable that previous records of kingfisher at this location refer to birds having moved out of their respective breeding territories.

Thus, works conducted during the breeding season, based on the findings of the kingfisher surveys (see Appendix 4 for full report), would not cause disturbance to the species. Works outside the breeding season may cause temporary disturbance due to noise and human activity impacts. Effects from noise on kingfisher have been identified as likely, moderate, temporary, negative, in the absence of mitigation.

Other Avifauna

Noise and human presence during works has the potential to disturb other avifauna utilising the area during and outside of the bird breeding season (March 1st to August 31st). Effects from noise on avifauna have been identified as likely, moderate, temporary, negative, in the absence of mitigation.

5.1.4 Non-volant Mammals

Otter is historically present in the area and otter signs were recorded during surveys near the bridge location, in the form of regular sprainting sites. No otter holts or couches were found within 150m upstream or downstream of the bridge. Therefore it can be concluded that the area in the vicinity of the bridge location is utilised by otter for foraging, rather than breeding or resting. Otter is predominantly a crepuscular species, and works will take place predominantly during daylight hours. Therefore effects from noise disturbance on otter have been identified as likely, slight, temporary, negative, in the absence of mitigation.

The only other non-volant mammal species recorded in the NBDC data set in the 2km grid square N85D, the proposed project is located in, is hedgehog. No evidence of hedgehogs was found on site during site surveys. Only minimal vegetation disturbance will take place in the immediate vicinity of the bridge location. As such, any effects on this species will be unlikely and imperceptible.

5.1.5 Bats

The proposed project will be built predominantly during hours of daylight and only minor vegetation clearance of low growing groundcover vegetation or very young shrubs in the immediate vicinity of the bridge location will take place. Therefore, the impact on bats will be imperceptible.

5.1.6 Aquatic Fauna

Sedimentation caused by earthworks as well as pollution from concrete or hydrocarbon spills could have an impact on aquatic fauna as well as their spawning/larval habitats in the River Boyne downstream of the bridge location. Therefore, effects from sedimentation/pollution on aquatic fauna are identified as likely, moderate, temporary, negative, in the absence of mitigation.

5.1.7 Other Fauna

Other protected fauna recorded in the NBDC data set in the 2km grid square N85D, the proposed project is located in, are common frog and smooth newt. The River Boyne near the bridge location is too deep and fast flowing to be suitable for these amphibians. There may be some suitable habitat downstream which may be impacted by sedimentation or pollution from the proposed project. Effects are however deemed unlikely, slight, temporary, negative in the absence of mitigation.

5.2 Impacts During Operation

Operation of the Trim Millennium pedestrian bridge will be in line with current land use and will consist of pedestrians crossing the bridge and utilising walkways near the River Boyne. Maintenance works, which may consist of painting or exchanging of worn parts will be low intensity and have no scope of significant noise disturbance or of causing pollution events. Therefore no further impacts on any key ecological receptors identified in Table 4-1 and Table 4-6 are envisaged.

5.3 Impacts During Decommissioning

During decommissioning, there is again potential for impacts from noise, sedimentation and pollution do key ecological receptors, though any impacts will be a fraction of the impacts during construction. The decommissioning would consist of the bridge being lifted out of position by a crane, while the abutments are likely to stay in place. Therefore decommissioning can be completed in the course of a single day, which significantly reduces any risk of noise disturbance to any sensitive receptors. The risk of any pollution events taking place will be much lower during decommissioning than during construction, due to no planned earthworks, no concrete pouring and the minimal amount of machinery present.

5.4 Cumulative Impacts

Considering that the proposed project has a very small-scale and temporary construction phase and the operational phase is consistent with the existing land use, it is not foreseen that proposed project will have any significant cumulative impacts with other plans. The main cumulative impacts for the proposed project relate to other developments, discussed below.

A planning search was carried out (within the past five years) using the online planning enquiry system for County Meath[7] of developments within 500m of the proposed project site. A full list of these projects is included in Appendix 3.

There are a number of medium and small-scale developments within the receiving area.

Residential developments include the erection of a three storey apartment building with up to 12 residential units (planning reference: 221176), as well as the demolition of an existing dwelling, garage and associated outbuildings to erect seven residential units in their place (planning reference: 211914), and some applications for single residential units.

[7] https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de; 15th January 2024

Commercial developments include a 3 and 4 storey extension (total 43 new bedrooms) to an existing hotel (planning reference: TA190860) within the architectural conservation area and the demolition of part of a supermarket building and several new extensions to that building (planning reference: TA191322)

Other applications refer to extensions to buildings, installing solar panels on roofs, change of use applications, as well as applications for retention of building features of use changes.

Due to the scale, location and nature of these developments, it has been ruled out, that there is a risk of significant cumulative impacts between the proposed project and any of these applications.

6. MITIGATION MEASURES

Without mitigation, the proposed project may cause likely, moderate, temporary negative effects to the key ecological receptors depositing/lowland river (FW2), kingfisher and other avifauna, otter, and aquatic fauna. These effects relate to noise impact as well as impact from sediment and pollution. A detailed schedule of mitigation measures is outlined in Table 4-5 of the accompanying Natura Impact Statement. The points relevant to the protection of the key ecological receptors identified in Section 4 of this report are re-hashed below.

6.1 Mitigation by Avoidance and Design

With regards to the proposed pedestrian bridge scheme, the following design and best practice measures are incorporated into the proposed project:

- The bridge and footprint of ancillary structures such as footpaths and ramps will utilise the existing footprint of the demolished Trim Millennium pedestrian Bridge;
- The bridge will utilise existing foundation for the abutments;
- No in-stream works will take place for the installation of the bridge and ancillary infrastructure;
- The bridge is pre-fabricated and will be lifted into place in one piece by a crane, which will be located on the southern bank of the River Boyne;
- No new roads will be established to build the proposed bridge development; and
- For decommissioning the self-supporting bridge structure can be lifted off the abutments via crane in one piece.

6.2 Habitats and Flora

To minimise disturbance to flora, any sods from vegetated areas cleared to create ramps or new footpaths will be set aside and re-used to create the new vegetated ramps.

To prevent impact on aquatic habitats near the site and downstream of the site, measures to reduce sediment emissions and the risk of pollutant emissions to the River Boyne will be employed.

These include:

- Earthworks and concrete works will not take place during periods of heavy rainfall (rainfall >10mm/hour) or in the 24 hours following a period of heavy rainfall;
- Spoil and stockpile heaps will be kept to hights under 2m and will be located a distance greater than 20m from the River Boyne;
- Temporary silt fences will be installed along the river bank and around spoil and stockpile heaps;
- Concrete management will take place to best practice measures, to ensure no concrete emissions will enter the River Boyne;
- Any hazardous materials will be stored in bunded storage tanks, with the bunded volume of at least 110% of the volume of such materials stored;
- Appropriate spill control equipment, such as oil soakage pads will be kept in the construction area and in each item of plant to deal with any accidental spillage;

- Areas of the side-slopes of the new approach ramps, which cannot be covered with existing sods, will be seeded with a diverse native grassland and meadow flower mix as soon as practicable to minimise the generation of suspended solids.

6.3 Avifauna

Any trimming of vegetation (other than groundcover vegetation) should be carried out outside of the bird breeding season (March 1st – August 31st). If vegetation clearance must occur within the breeding season, then an ecologist will need to be appointed to check any area of riparian woodland/shrub for nests and breeding birds. The ecologist will examine the area(s) of construction/clearance no more than 48 hours in advance of works. These surveys will determine the presence/absence of nesting birds, and if active nests are present - no cutting will take place. They will have the authority to include a buffer zone if needed until young birds have fledged or it has been confirmed that breeding has failed.

No mitigation measures are necessary for kingfisher (beyond those identified above relating to all breeding birds), as temporary noise disturbance to foraging kingfisher will not cause significant adverse effects to this species.

6.4 Non-volant Mammals

No mitigation measures are necessary for otter, as temporary noise disturbance to foraging otter will not cause significant adverse effects to this species.

No mitigation measures are necessary for any other non-volant mammal species.

6.5 Bats

No mitigation measures for bats are necessary during any phase of the proposed project.

6.6 Aquatic Fauna

The same mitigation measures outline in Section 6.1 above will protect the aquatic fauna of the River Boyne from harmful sediment and pollution.

6.7 Other Fauna

No mitigation measures for any other protected fauna are necessary during any phase of the proposed project.

7. ECOLOGICAL ENHANCEMENT MEASURES

Riparian woodland planting

Shrubby vegetation will be planted to shield concrete abutments from sight. The shrubs planted will be of native species which are tolerant of the wet soil near the river. These can be selected from several species which already naturally occur as part of the riparian woodland along the River Boyne near the site. Appropriate species include several willow species (including grey willow, osier and crack willow) and hawthorn.

Native grassland/wildflower planting

The disturbed areas of ground near footpaths or on ramps which cannot be covered with existing sods which have been kept aside for this purpose, will be seeded with a diverse native grassland and wildflower mix. Examples of appropriate species include yellow oatgrass (*Trisetum flavescens*), meadow foxtail (*Alopecurus pratensis*), bird's foot trefoil (*Lotus corniculatus*), black medick (*Medicago lupulina*), eyebright (*Euphrasia officinalis*), yellow rattle (*Rhinanthus minor*), red bartsia (*Odontites vernus*), ox-eye daisy (*Leucanthemum vulgare*), selfheal (*Prunella vulgaris*), common vetch (*Vicia sativa*), cowslip (*Priumula veris*), devil's bit scabious (*Succisa pratensis*), fleabane (*Erigeron philadelphicus*), foxglove (*Digitalis purpurea*), greater trefoil (*Lotus pedunculatus*), hedge garlic mustard (*Alliaria petiolata*), kidney vetch (*Anthyllis vulneraria*), lesser knapweed (*Centaurea nigra*), meadow vetchling (*Lathyrus pratensis*), meadowsweet (*Filipendula ulmaria*), purple loosestrife (*Lythrum salicaria*), ragged robin (*Lychnis flos-cuculi*), red campion (*Silene dioica*), ribwort plantain (*Plantago lanceolata*), shepherd's purse (*Capsella bursa-pastoris*), St John's wort (*Hypericum perforatum*), teasel (*Dipsacus fullonum*), angelica (*Angelica sylvestris*), wild carrot *Daucus carota*) and yarrow (*Achillea millefolium*).

8. RESIDUAL IMPACT

If everything is done according to mitigation measures, no residual significant effects on any key ecological receptors are expected.

9. REFERENCES

Balmer, D., Gillings, S., Caffrey, B., Swann, B., Downie, I., Fuller, R. (2013). Bird Atlas 2007-2011. The breeding and wintering birds of Britain and Ireland (British Trust for Ornithology).

BCT and ILP (Bat Conservation Trust and Institution of Lighting Professionals)) 2018. Bats and artificial lighting in the UK. Bats and the Built Environment series. Guidance Note 08/18. Warwickshire, UK.

Blamey, M., Fitter, R. and Fitter, A. (2003). Wildflowers of Britain and Ireland. London: A & C Black.

CIEEM, (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland; Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, UK & Ireland.

Collins, J. (Ed). (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Ed.).

Crowe, O. 2005. Ireland's Wetlands and their Waterbirds: Status and Distribution. BirdWatch Ireland, Newcastle, Co. Wicklow.

Department of Environment Community and Local Government [DoECLG], (2013). Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment.

EPA (2022). Advice Notes on Current Practice (in the preparation of Environmental Impact Statements). Johnstown Castle Estate, Co. Wexford: EPA.

EPA (2022). Guidelines on the Information to be contained in Environmental Impact Statement, Environment Protection Agency.

Fossitt J.A. (2000). A Guide to Habitats in Ireland. Heritage Council, Kilkenny.

Gilbert G, Stanbury A and Lewis L (2021), “Birds of Conservation Concern in Ireland 2020 –2026”. Irish Birds 9: 523—544.

JNCC (2004) Common Standards Monitoring Guidance for Terrestrial Mammals, Version August 2004, JNCC, Peterborough, ISSN 1743-8160.

King, J.L., Marnell, F., Kingston, N., Rosell, R., Boylan, P., Caffrey, J.M., FitzPatrick, Ú., Gargan, P.G., Kelly, F.L., O’Grady, M.F., Poole, R., Roche, W.K. & Cassidy, D. (2011) Ireland Red List No. 5: Amphibians, Reptiles & Freshwater Fish. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

Lack, P., Poyser, A. D. (1986), The Atlas of Wintering Birds in Britain and Ireland, British Trust for Ornithology and Irish Wildbird Conservancy.

Marnell, F., Looney, D., & Lawton, C. (2019). Ireland Red List No. 12, Terrestrial Mammals. National parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.

Meath County Council (2021) Meath County Development Plan 2021-2027.

NRA (2008). Guidelines for the Crossing of Watercourses during the construction of National Road Schemes. National Roads Authority.

NRA (2008a). Environmental Impact Assessment of National Road Schemes – A practical guide. NRA.

NRA (2009). Ecological Surveying Techniques for Protected Flora and Fauna During the Planning of National Road Schemes. National Roads Authority.

NRA (2009a). Guideline for the Assessment of Ecological Impacts of National Road Schemes, National Roads Authority.

NRA (2009b). Ecological surveying techniques for protected flora and fauna during the planning of National Road Schemes – Version 2.

NRA, (2006). Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes. National Roads Authority.

NRA, (2008). Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes. National Roads Authority.

Parnell, J: Curtis, T; and Cullen, E. (2012): Webb's an Irish Flora. Hardback, 8th Edition (March 2012), Trinity College Dublin.

Regan, E.C., Nelson, B., Aldwell, B., Bertrand, C., Bond, K., Harding, J., Nash, D., Nixon, D., & Wilson, C.J. (2010) Ireland Red List No. 4 – Butterflies. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Ireland.

Reid, N., Hayden, B., Lundy, M.G., Pietravalle, S., McDonald, R.A. & Montgomery, W.I. (2013) National Otter Survey of Ireland 2010/12. Irish Wildlife Manuals No. 76. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

Rotherham, I, (2018) Bat Roosts in Trees: A Guide to Identification and Assessment for Tree-Care and Ecology Professionals: Pelagic Publishing.

Scottish Badgers (2018). Surveying for Badgers: Good Practice Guidelines. Version 1

Smith, G., O'Donoghue, P., O'Hora, K., Delaney, E. (2011). Best Practice Guidance for Habitat Survey and Mapping. Kilkenny, Ireland.: The Heritage Council.

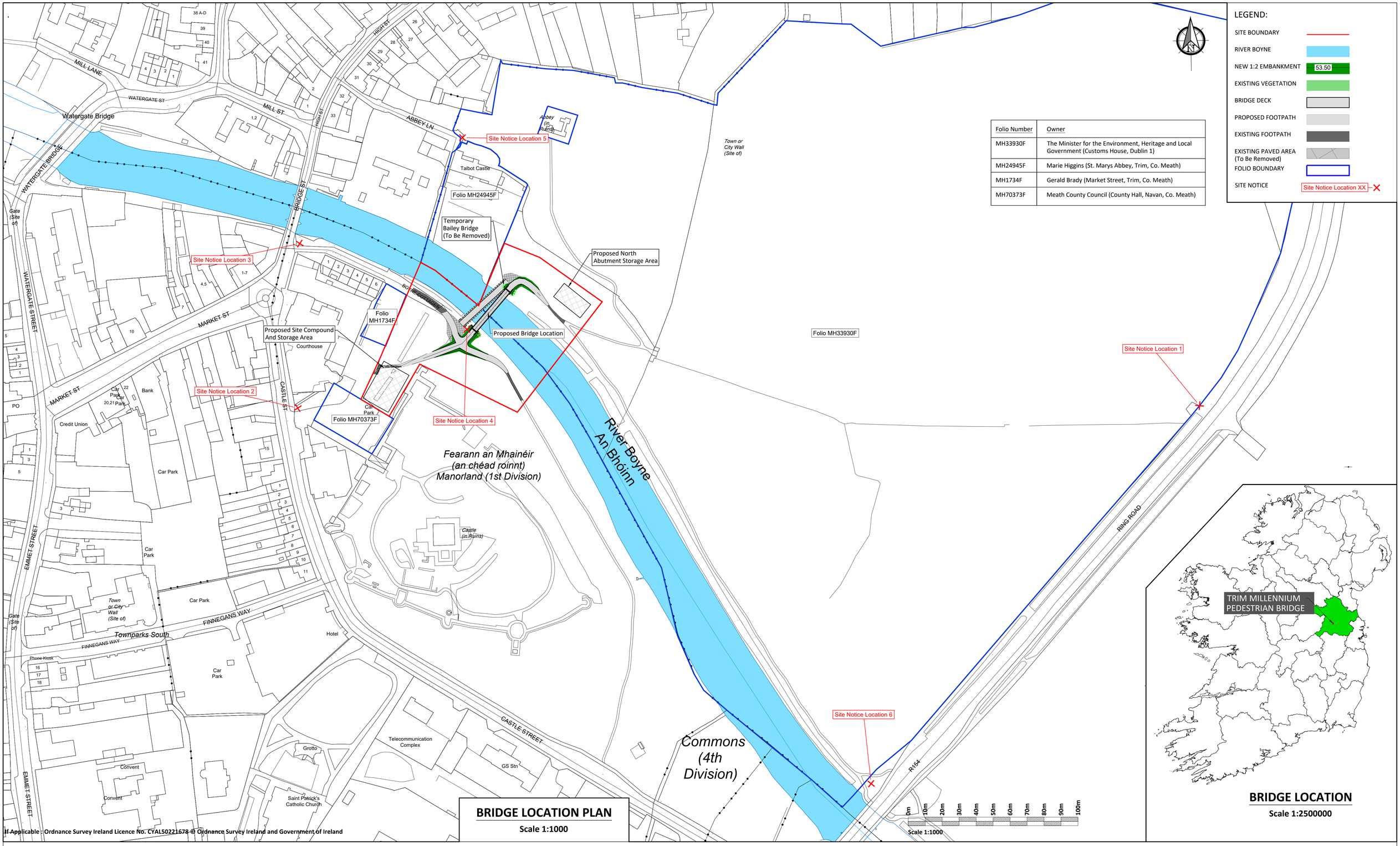
Wyse Jackson, M., FitzPatrick, Ú., Cole, E., Jebb, M., McFerran, D., Sheehy Skeffington, M. & Wright, M. (2016) Ireland Red List No. 10: Vascular Plants. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, Dublin, Ireland.

FEHILY TIMONEY

CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

APPENDIX 1

Site Layout Drawings



LEGEND:

- SITE BOUNDARY
- RIVER BOYNE
- NEW 1:2 EMBANKMENT (53.50)
- EXISTING VEGETATION
- BRIDGE DECK
- PROPOSED FOOTPATH
- EXISTING FOOTPATH
- EXISTING PAVED AREA (To Be Removed)
- FOLIO BOUNDARY
- SITE NOTICE (Site Notice Location XX)

Folio Number	Owner
MH33930F	The Minister for the Environment, Heritage and Local Government (Customs House, Dublin 1)
MH24945F	Marie Higgins (St. Marys Abbey, Trim, Co. Meath)
MH1734F	Gerald Brady (Market Street, Trim, Co. Meath)
MH70373F	Meath County Council (County Hall, Navan, Co. Meath)

BRIDGE LOCATION
Scale 1:2500000

BRIDGE LOCATION PLAN
Scale 1:1000

FEHILY TIMONEY
Cork | Dublin | Carlow
www.fehilytimoney.ie

Rev.	Description	App By	Date
P01	ISSUE FOR APPROVAL	BB	19.02.24
P02	ISSUE FOR APPROVAL	BB	08.03.24
P03	FOR PLANNING	BB	31.05.24

PROJECT: TRIM MILLENNIUM PEDESTRIAN BRIDGE

CLIENT: comhairle chontae na mí / meath county council

SHEET: BRIDGE LOCATION PLANS

Date: 19.02.24	Project number: P22-256	Scale (@ A1-): 1:1000	
Drawn by: SK	Drawing Number: P22256-FT-XX-ZZ-DR-S-0001		Rev: P03
Checked by: AB			

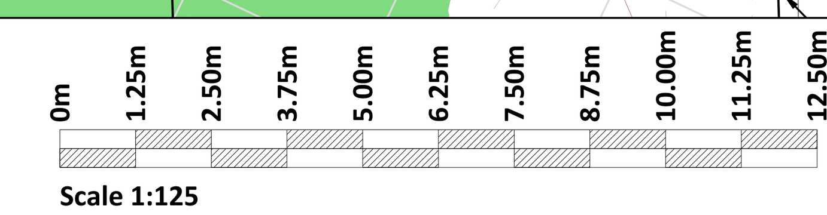
O:\ACAD\2022\P22-256\P22256-FT-XX-ZZ-DR-S-0001

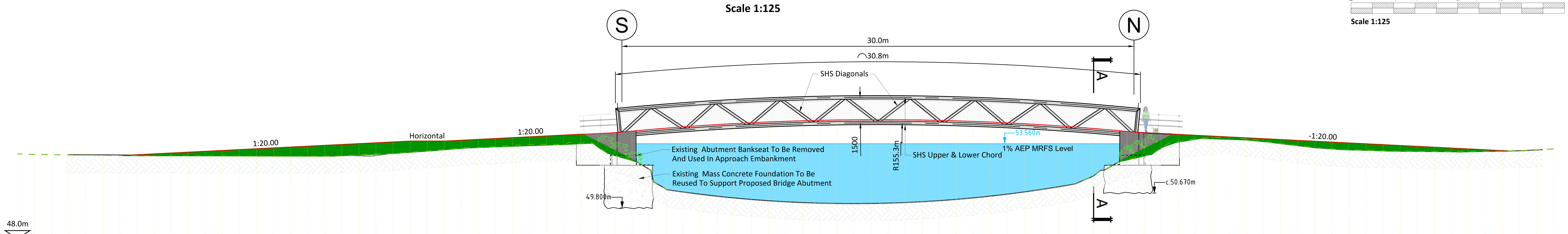
29 May 2024

Note:
Levels given are with reference to Malin Head Benchmark

BRIDGE PLAN

Scale 1:125





Chainage	0.000	01.000	02.000	03.000	04.000	5.000	06.000	07.000	08.000	09.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000	18.000	19.000	20.000	21.000	22.000	23.000	24.000	25.000	26.000	27.000	28.000	29.000
Ramp/Deck								52.895	52.945	52.995	53.045	53.095	53.145	53.195	53.245	53.295	53.345	53.395	53.445	53.495	53.545	53.595	53.645	53.695	53.695	53.695	53.745	53.795	53.845	53.895
Existing Ground Level	52.946	52.923	52.903	52.891	52.878	52.866	52.854	52.841	52.829	52.827	52.828	52.825	52.821	52.818	52.814	52.811	52.807	52.809	52.813	52.838	52.897	52.948	52.973	53.045	53.118	53.203	53.292	53.331	53.379	53.450

Chainage	30.000	31.000	32.000	33.000	34.000	35.000	36.000	37.000	38.000	39.000	40.000	41.000	42.000	43.000	44.000	45.000	46.000	47.000	48.000	49.000	50.000	51.000	52.000	53.000	54.000	55.000	56.000	57.000	58.000	59.000
Ramp/Deck	53.945	53.995	54.045	54.095	54.145	54.195	54.283	54.373	54.456	54.533	54.603	54.667	54.724	54.775	54.820	54.858	54.889	54.914	54.933	54.945	54.951	54.950	54.943	54.930	54.910	54.883	54.851	54.811	54.766	54.714
Existing Ground Level	53.494	53.504	53.510	53.582	53.369	52.865	52.572	52.053	50.884																					

Chainage	60.000	61.000	62.000	63.000	64.000	65.000	66.000	67.000	68.000	69.000	70.000	71.000	72.000	73.000	74.000	75.000	76.000	77.000	78.000	79.000	80.000	81.000	82.000	83.000	84.000	85.000	86.000	87.000	88.000	89.000	90.000
Ramp/Deck	54.655	54.590	54.518	54.440	54.356	54.265	54.185	54.135	54.085	54.035	53.985	53.935	53.885	53.835	53.785	53.735	53.685	53.635	53.585	53.535	53.485	53.435	53.385	53.335	53.285	53.235	53.185	53.135			
Existing Ground Level				51.636	52.188	52.604	52.837	53.294	53.672	53.833	53.895	53.940	53.824	53.694	53.555	53.434	53.315	53.245	53.195	53.169	53.131	53.107	53.103	53.093	53.094	53.097	53.103	53.116	53.138	53.186	53.236

BRIDGE ELEVATION (Viewed From South East)

Scale 1:125

FEHILY TIMONEY

Cork | Dublin | Carlow

www.fehilytimoney.ie

Rev.	Description	App By	Date
P01	ISSUE FOR APPROVAL	BB	19.02.24
P02	FOR PLANNING	BB	31.05.24

PROJECT
TRIM MILLENNIUM PEDESTRIAN BRIDGE

SHEET
PLAN & ELEVATION

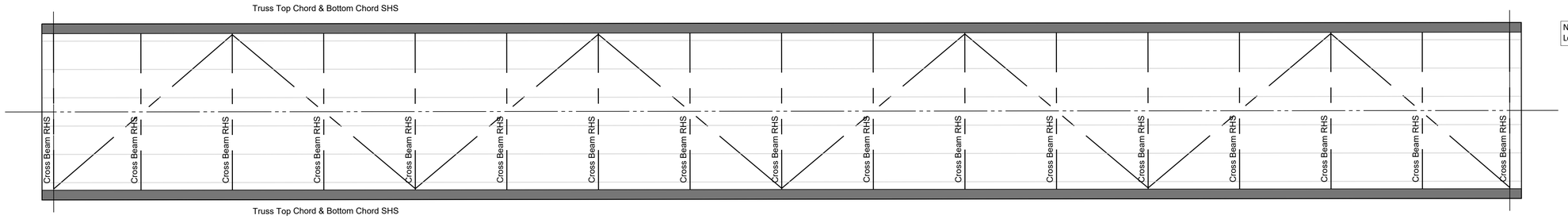
CLIENT
comhairle chontae na mí
meath county council

Date	Project number	Scale (@ A1-)
19.02.24	P22-256	1:125

Drawn by	Drawing Number	Rev
SK	P22256-FT-XX-ZZ-DR-S-0002	P02
Checked by AB		

O:\ACAD\2022\P22-256\P22256-FT-XX-ZZ-DR-S-0002

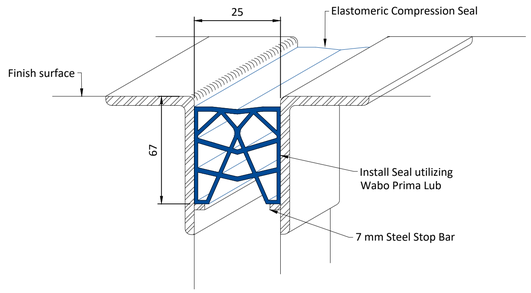
29 May 2024



Note:
Levels given are with reference to Malin Head Benchmark

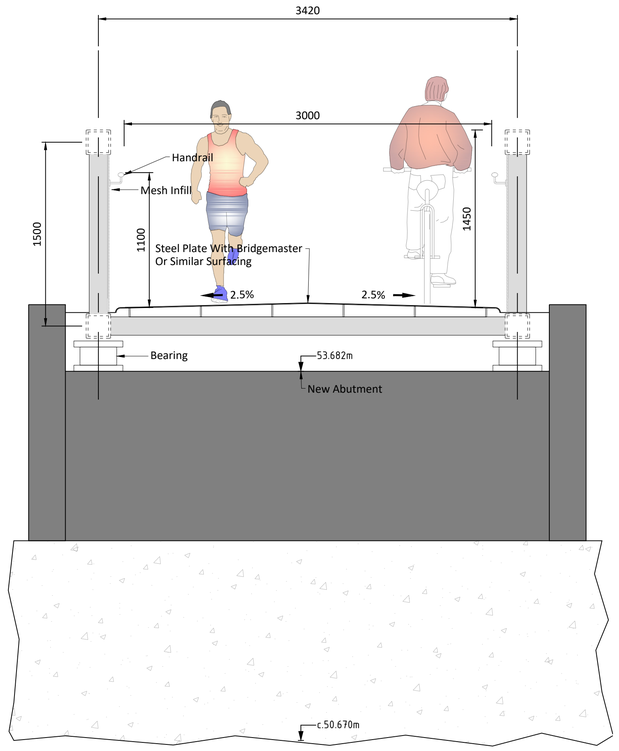
STRUCTURAL STEEL DECK PLAN

Scale 1:50



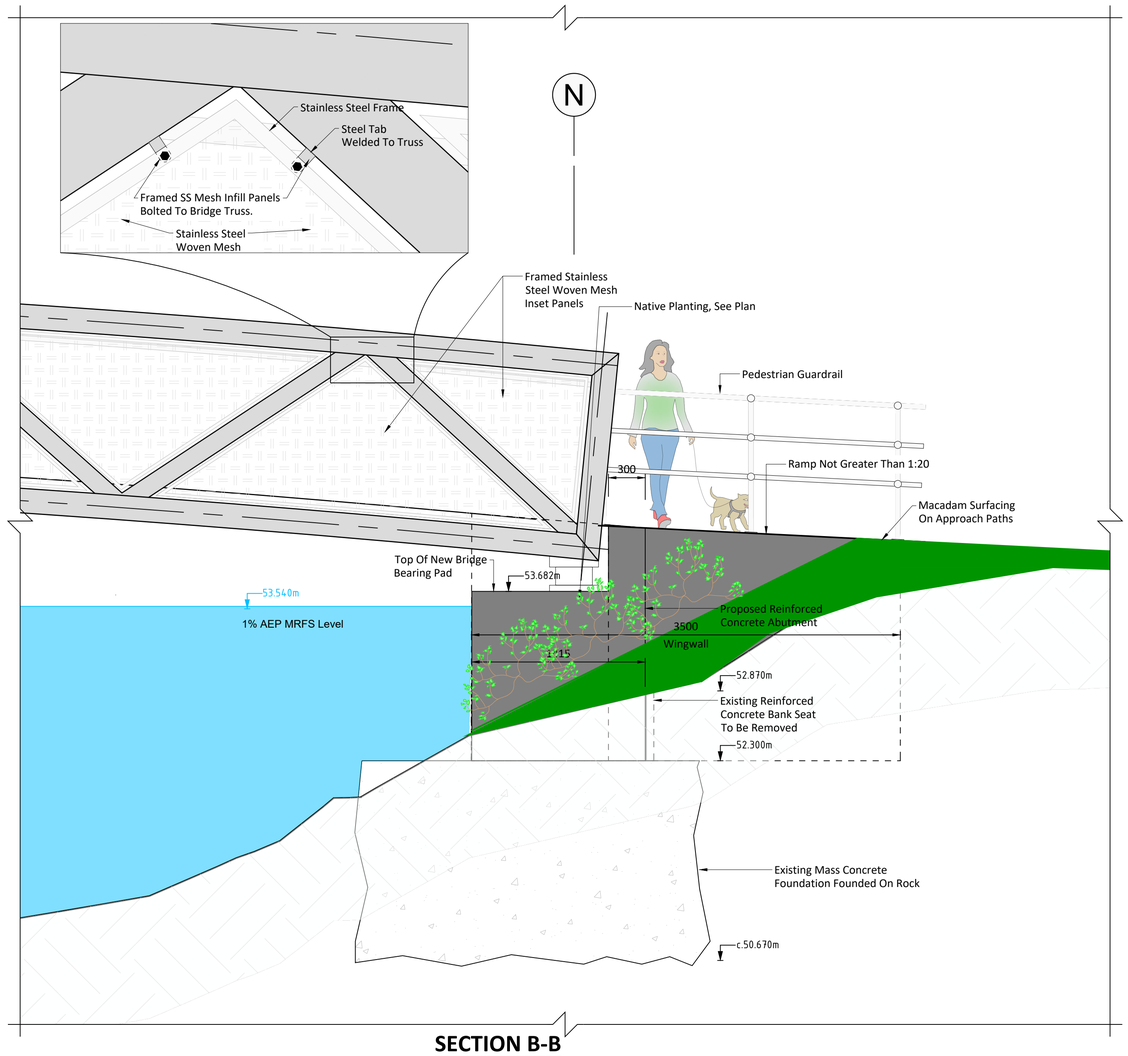
BRIDGE TO ABUTMENT JOINT DETAIL

Scale 1:5



SECTION A-A

Scale 1:25



SECTION B-B

Scale 1:25

FEHILY TIMONEY
Cork | Dublin | Carlow
www.fehilytimoney.ie

Rev.	Description	App By	Date
P01	ISSUE FOR APPROVAL	BB	19.02.24
P02	FOR PLANNING	BB	31.05.24

PROJECT
TRIM MILLENNIUM PEDESTRIAN BRIDGE

CLIENT
comhairle chontae na mí
meath county council

SHEET
SECTIONS & DETAILS

Date 19.02.24	Project number P22-256	Scale (@ A1-) 1:25
Drawn by SK	Drawing Number P22256-FT-XX-ZZ-DR-S-0003	Rev P02
Checked by AB		

O:\ACAD\2022\P22-256\P22256-FT-XX-ZZ-DR-S-0003

29 May 2024

Tie In Path With Existing Approach Path

Tie In Path With Existing Approach Path

S

N

30.0m

Native Planting

Native Planting

1:2 Side Slope

1:2 Side Slope

Pedestrian Guardrail

Bollard

3000 Clear

B

B

Pedestrian Guardrail

Bollard

Native Planting

Native Planting

Existing Pump Station

RIVER BOYNE

Proposed New Pedestrian Bridge

Tie In With Existing Footpath

Tie In With Existing Footpath

LEGEND:

- SITE BOUNDARY
- RIVER BOYNE
- NEW 1:2 EMBANKMENT 53.50
- EXISTING VEGETATION
- BRIDGE DECK
- PROPOSED FOOTPATH
- EXISTING FOOTPATH

Note:
Levels given are with reference to Malin Head Benchmark

FINAL PLAN

Scale 1:125

0m 1.25m 2.50m 3.75m 5.00m 6.25m 7.50m 8.75m 10.00m 11.25m 12.50m

Scale 1:125

FEHILY TIMONEY

Cork | Dublin | Carlow

www.fehilytimoney.ie

Rev.	Description	App By	Date
P01	FOR PLANNING	BB	31.05.24

PROJECT

TRIM MILLENNIUM PEDESTRIAN BRIDGE

CLIENT

comhairle chontae na mí
meath county council

SHEET

PROPOSED FINAL LAYOUT OF BRIDGE AND APPROACH RAMPS

Date 31.05.24	Project number P22-256	Scale (@ A1-) 1:125	
Drawn by SK	Drawing Number P22256-FT-XX-ZZ-DR-S-0004		Rev P01
Checked by AB			

O:\ACAD\2022\P22-256\P22256-FT-XX-ZZ-DR-S-0004

29 May 2024

FEHILY TIMONEY

CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

APPENDIX 2

Supporting Information for European Sites and Nationally designated Site

European sites with functional connectivity (ecological pathways) to the area including their Qualifying Interests, known threats and pressures

Site Code	Site Name	Qualifying Feature	Pressures Codes	Known Threats and Pressures
001957	Boyne Coast and Estuary SAC	Shifting dunes along the shoreline with Ammophila arenaria - white dunes [2120], Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330], Mudflats and sandflats not covered by seawater at low tide [1140], Fixed coastal dunes with herbaceous vegetation - grey dunes [2130], Estuaries [1130], Annual vegetation of drift lines [1210], Embryonic shifting dunes [2110], Salicornia and other annuals colonising mud and sand [1310]	D01.01, E05, G05.04, H01, D01.05, E03.03, E03.01, G01.03.02, J02, J02.02, G03, K02, G05, J02.12.01, G01.02, E01, I01, J02.01.03, L07, J02.12, J03.03	Paths, tracks, cycling tracks, Storage of materials, Vandalism, Pollution to surface waters (limnic & terrestrial, marine & brackish), Bridge, viaduct, Disposal of inert materials, Disposal of household or recreational facility waste, Off-road motorized driving, Human induced changes in hydraulic conditions, Removal of sediments (mud...), Interpretative centres, Biocenotic evolution, succession, Other human intrusions and disturbances , Sea defence or coast protection works, tidal barrages, Walking, horse riding and non-motorised vehicles, Urbanised areas, human habitation, Invasive non-native species, Infilling of ditches, dykes, ponds, pools, marshes or pits, Storm, cyclone, Dykes, embankments, artificial beaches, general, Reduction, lack or prevention of erosion
002299	River Boyne and River Blackwater SAC	Atlantic salmon (Salmo salar) [1106], Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0], Alkaline fens [7230], Otter (Lutra lutra) [1355], River lamprey (Lampetra fluviatilis) [1099]	A01, A03, A05.02, A07, A08, A10.01, B01.02, C01.01, E03.02, J02, D01.02, E05, D01.05, G05, E01.04, G05.06, J02.10, G01, J02.15, E02, J02.05.02, H01, E03.04, G02.10, I01, J02.11	Cultivation, Mowing or cutting of grassland, Stock feeding, Use of biocides, hormones and chemicals, Fertilisation, Removal of hedges and copses or scrub, Artificial planting on open ground (non-native trees), Sand and gravel extraction , Disposal of industrial waste, Human induced changes in hydraulic conditions, Roads, motorways, Storage of materials, Bridge, viaduct, Other human intrusions and disturbances , Other patterns of habitation, Tree surgery, felling for public safety, removal of roadside trees, Management of aquatic and bank vegetation for drainage purposes, Outdoor sports and leisure activities, recreational activities, Other human induced changes in hydraulic conditions, Industrial or commercial areas, Modifying structures of inland water courses, Pollution to surface waters (limnic & terrestrial, marine & brackish), Other discharges, Other sport or leisure complexes, Invasive non-native species, Siltation rate changes, dumping, depositing of dredged deposits

Site Code	Site Name	Qualifying Feature	Pressures Codes	Known Threats and Pressures
004080	Boyne Estuary SPA	Oystercatcher (Haematopus ostralegus) [A130], Lapwing (Vanellus vanellus) [A142], Sanderling (Calidris alba) [A144], Little Tern (Sterna albifrons) [A195], Black-tailed Godwit (Limosa limosa) [A156], Knot (Calidris canutus) [A143], Shelduck (Tadorna tadorna) [A048], Golden Plover (Pluvialis apricaria) [A140], Redshank (Tringa totanus) [A162], Wetland and Waterbirds [A999], Grey Plover (Pluvialis squatarola) [A141], Turnstone (Arenaria interpres) [A169]	J02.05, E01, F01, G01.02, F02.03, J02.11, G02.01, I01, J02.01.02	Modification of hydrographic functioning, general, Urbanised areas, human habitation, Marine and Freshwater Aquaculture, Walking, horse riding and non-motorised vehicles, Leisure fishing, Siltation rate changes, dumping, depositing of dredged deposits, Golf course, Invasive non-native species, Reclamation of land from sea, estuary or marsh
004232	River Boyne and River Blackwater SPA	Kingfisher (Alcedo atthis) [A229]	D01.02, J02, E01, X, E01.03	Roads, motorways, Human induced changes in hydraulic conditions, Urbanised areas, human habitation, No threats or pressures, Dispersed habitation

Qualifying Interests of SACs that have undergone assessment including summaries of current threats and sensitivities

EU Code	Qualifying Interests	Article 17 Report Summary - Threats and Pressures	Threats and Pressures Codes	Known Threats and Pressures	Sensitivity of Qualifying Interests
[1099]	River Lamprey (Lampetra fluviatile)	The main pressures on River Lampreys are associated with hydropower infrastructure and changes in rainfall due to climate change. The use of synthetic and natural fertilisers, drainage and also infrastructure related to shipping are also considered to be pressures on the species.	A19, A20, A31, D02, E03, N01, N02, N03	Application of natural fertilisers on agricultural land, Application of synthetic (mineral) fertilisers on agricultural land, Drainage for use as agricultural land, Hydropower (dams, weirs, run-off-the-river), including infrastructure, Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging), Temperature changes (e.g. rise of temperature & extremes) due to climate change, Increases or changes in precipitation due to climate change	Surface water dependent. Highly sensitive to hydrological change. Availability of suitable spawning ground is a considerable issue for the species.
[1106]	Salmon (Salmo salar)	Known pressures include exploitation at sea in commercial fisheries, interceptory fisheries in coastal waters, aquaculture and predation. In addition, the negative influence of climate change on prey structure as well as alterations in habitat and water quality are also pressures on the species.	A25, A26, B23, D02, F12, F28, G11, G19, G20, I02, J01, K05, L06, N01	Agricultural activities generating point source pollution to surface or ground waters, Agricultural activities generating diffuse pollution to surface or ground waters, Forestry activities generating pollution to surface or ground waters, Hydropower (dams, weirs, run-off-the-river), including infrastructure, Discharge of urban waste water (excluding storm overflows and/or urban run-offs) generating pollution to surface or ground water, Modification of flooding regimes, flood protection for residential or recreational development, Illegal harvesting, collecting and taking, Other impacts from marine aquaculture, including infrastructure, Abstraction of water, flow diversion, dams and other modifications of hydrological conditions	Disease, parasites and barriers to movement.

EU Code	Qualifying Interests	Article 17 Report Summary - Threats and Pressures	Threats and Pressures Codes	Known Threats and Pressures	Sensitivity of Qualifying Interests
				for freshwater aquaculture, Other invasive alien species (other than species of Union concern), Mixed source pollution to surface and ground waters (limnic and terrestrial), Physical alteration of water bodies, Interspecific relations (competition, predation, parasitism, pathogens), Temperature changes (e.g. rise of temperature & extremes) due to climate change	
[1130]	Estuaries	Most of the pressures on estuaries come from various sources of pollution, including domestic wastewater, agriculture and marine aquaculture. Alien invasive species such as the naturalised Pacific oyster (Magalana gigas) are also recognised as a significant pressure	A28, F20, G16, I02, XU	Agricultural activities generating marine pollution, Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution, Marine aquaculture generating marine pollution, Other invasive alien species (other than species of Union concern), Unknown pressure	Inappropriate development, changes in turbidity
[1140]	Mudflats and sandflats not covered by seawater at low tide	Pressures on mudflats and sandflats are partly caused by pollution from agricultural, forestry and wastewater sources, as well as impacts associated with marine aquaculture, particularly the Pacific oyster (Magallana gigas).	A28, F20, G16	Agricultural activities generating marine pollution, Residential or recreational activities and structures generating marine pollution (excl. marine macro- and micro- particular pollution, Marine aquaculture generating marine pollution	Surface and marine water dependent. Moderately sensitive to hydrological change. Moderate sensitivity to pollution. Changes to salinity and tidal regime. Coastal development.
[1210]	Annual vegetation of drift lines	Most of the pressures on drift lines are associated with activities such as recreation and coastal defences, which can interfere with sediment dynamics.	C01, F01, F06, F07, F08	Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell), Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of	Overgrazing and erosion. Changes in management.

EU Code	Qualifying Interests	Article 17 Report Summary - Threats and Pressures	Threats and Pressures Codes	Known Threats and Pressures	Sensitivity of Qualifying Interests
				coastline, estuary and coastal conditions), Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning, Sports, tourism and leisure activities, Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures)	
[1310]	Salicornia and other annuals colonising mud and sand	Pressures on salicornia mud are caused by alien species and overgrazing by livestock	A09, I02	Intensive grazing or overgrazing by livestock, Other invasive alien species (other than species of Union concern)	Marine water dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Infilling, reclamation, invasive species.
[1330]	Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	The main pressures on Atlantic salt meadows are from agriculture, including ecologically unstable grazing regimes and land reclamation, and the invasive non-native species common cord-grass (Spartina anglica).	A09, A33, A36, F07, F08, I02	Intensive grazing or overgrazing by livestock, Modification of hydrological flow or physical alternation of water bodies for agriculture (excluding development and operation of dams), Agriculture activities not referred to above, Sports, tourism and leisure activities, Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures),	Marine and groundwater dependent. Medium sensitivity to hydrological change. Changes in salinity and tidal regime. Overgrazing, erosion and accretion.

EU Code	Qualifying Interests	Article 17 Report Summary - Threats and Pressures	Threats and Pressures Codes	Known Threats and Pressures	Sensitivity of Qualifying Interests
				Other invasive alien species (other than species of Union concern)	
[1355]	Otter (Lutra lutra)	There are no pressures facing this species	Xxp, Xxt	No pressures, No threats	Surface and marine water dependent. Moderately sensitive to hydrological change. Sensitivity to pollution.
[2110]	Embryonic shifting dunes	The majority of pressures on this habitat are associated with recreation and coastal defences, which can interfere with sediment dynamics.	C01, E03, F01, F06, F07, F08, L01, L02	Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell), Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging), Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions), Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning, Sports, tourism and leisure activities, Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures), Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization), Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)	Overgrazing, and erosion. Changes in management.

EU Code	Qualifying Interests	Article 17 Report Summary - Threats and Pressures	Threats and Pressures Codes	Known Threats and Pressures	Sensitivity of Qualifying Interests
[2120]	Shifting dunes along the shoreline with white dunes (Ammophila arenaria)	Most of the pressures on marram dunes are caused by the interference on sediment dynamics due to recreation and coastal defences.	E01, E03, F01, F06, F07, F08, I02, L01	Roads, paths, railroads and related infrastructure (e.g. bridges, viaducts, tunnels), Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging), Conversion from other land uses to housing, settlement or recreational areas (excluding drainage and modification of coastline, estuary and coastal conditions), Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning, Sports, tourism and leisure activities, Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures), Other invasive alien species (other than species of Union concern), Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization)	Overgrazing, and erosion. Changes in management.
[2130]	Fixed coastal dunes with herbaceous vegetation (grey dunes)	Pressures on fixed dunes are associated with recreation and ecologically unsuitable grazing practices.	A02, A09, A10, F07, F08, I02, L02	Conversion from one type of agricultural land use to another (excluding drainage and burning), Intensive grazing or overgrazing by livestock, Extensive grazing or undergrazing by livestock, Sports, tourism and leisure activities, Modification of coastline, estuary and coastal conditions for development, use and protection of residential,	Overgrazing, and erosion. Changes in management.

EU Code	Qualifying Interests	Article 17 Report Summary - Threats and Pressures	Threats and Pressures Codes	Known Threats and Pressures	Sensitivity of Qualifying Interests
				commercial, industrial and recreational infrastructure and areas (including sea defence or coast protection works and infrastructures), Other invasive alien species (other than species of Union concern), Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices)	
[7230]	Alkaline fens	The main pressures facing this habitat are land abandonment (and associated succession), overgrazing, drainage and pollution.	A06, A09, A26, J01, K01, K02, K04, L02, N02, N03	Abandonment of grassland management (e.g. cessation of grazing or of mowing), Intensive grazing or overgrazing by livestock, Agricultural activities generating diffuse pollution to surface or ground waters, Mixed source pollution to surface and ground waters (limnic and terrestrial), Abstraction from groundwater, surface water or mixed water, Drainage, Modification of hydrological flow, Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices), Temperature changes (e.g. rise of temperature & extremes) due to climate change, Increases or changes in precipitation due to climate change	Surface and groundwater dependent. Highly sensitive to hydrological changes. Inappropriate management.

Special Conservation Interests and Vulnerabilities of SPAs that have undergone assessment

Species Code	Common Name	Scientific Name	Threats and Pressures Codes	Known Threats and Pressures
A048	Common Shelduck	Tadorna tadorna	F01, F02, G01, H03, M01	Marine and Freshwater Aquaculture, Fishing and harvesting aquatic resources, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Changes in abiotic conditions
A130	Eurasian Oystercatcher	Haematopus ostralegus	C03, F01, F02, G01, H03, J02	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Fishing and harvesting aquatic resources, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Human induced changes in hydraulic conditions
A140	European Golden Plover	Pluvialis apricaria	A02, A04, B01, C01, C03, F01, G01, H03, J01, K03, M02	Modification of cultivation practices, Grazing, Forest planting on open ground, Mining and quarrying, Renewable abiotic energy use, Marine and Freshwater Aquaculture, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Fire and Fire suppression, Interspecific faunal relations, Changes in biotic conditions
A141	Grey Plover	Pluvialis squatarola	C03, F01, F02, G01, H03, J02, J03, M01	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Fishing and harvesting aquatic resources, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Human induced changes in hydraulic conditions, Other Ecosystem Modifications, Changes in abiotic conditions
A142	Northern Lapwing	Vanellus vanellus	A02, C03, F01, G01, H03	Modification of cultivation practices, Renewable abiotic energy use, Marine and Freshwater Aquaculture, Outdoor sports and leisure activities, recreational activities, Marine water pollution
A143	Red Knot	Calidris canutus	C03, F01, F02, G01, H03, J02, J03, M01	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Fishing and harvesting aquatic resources, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Human induced changes in hydraulic

Species Code	Common Name	Scientific Name	Threats and Pressures Codes	Known Threats and Pressures
				conditions, Other Ecosystem Modifications, Changes in abiotic conditions
A144	Sanderling	Calidris alba	C03, F01, G01, H03, M01	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Changes in abiotic conditions
A162	Common Redhank	Tringa totanus	C03, F01, F02, G01, H03, J02, J03, M01	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Fishing and harvesting aquatic resources, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Human induced changes in hydraulic conditions, Other Ecosystem Modifications, Changes in abiotic conditions
A169	Ruddy Turnstone	Arenaria interpres	C03, F01, G01, H03, J03, M01	Renewable abiotic energy use, Marine and Freshwater Aquaculture, Outdoor sports and leisure activities, recreational activities, Marine water pollution, Other Ecosystem Modifications, Changes in abiotic conditions
A229	Common Kingfisher	Alcedo atthis	A11, D01, G01, H01, I01, J02	Agriculture activities not referred to above, Roads, paths and railroads, Outdoor sports and leisure activities, recreational activities, Pollution to surface waters (limnic & terrestrial, marine & brackish), Invasive non-native species, Human induced changes in hydraulic conditions

Conservation objectives that have been considered by the assessment are included in the following NPWS/Department of Culture, Heritage and the Gaeltacht documents

- NPWS (2012) Conservation Objectives for Boyne Coast and Estuary SAC [IE0001957] Version 1.
- NPWS (2021) Conservation Objectives for River Boyne and River Blackwater SAC [IE0002299] Version 1.
- NPWS (2013) Conservation Objectives for Boyne Estuary SPA [IE0004080] Version 1.
- NPWS (2022) Generic Conservation Objectives for River Boyne and River Blackwater SPA [IE0004232] Version 9.

Potential Natural Heritage Areas downstream of the proposed project

Site Code	Site Name	Features of Interest	Downstream distance from proposed project
001357	Trim pNHA	Freshwater marsh with species such as yellow flag (Iris pseudocarus), canary reed-grass (Phalaris arundinacea) and water mint (Mentha aquatica). Wet grassland with tall fescue (Festuca arundinacea), meadowsweet (Filipendula ulmaria) and meadow vetchling (Lathyrus pratensis) as well as strawberry clover (Trifolium fragiferum).	Ca. 3.5km
001592	Boyne Woods pNHA	Broadleaved woodland with ash (Fraxinus excelsior) is abundant, also, sessile oak (Quercus petraea), wych elm (Ulmus glabra), beech (Fagus sylvatica), sycamore (Acer pseudoplatanus) and occasionally lime (Tilia cordata x Platyphyllos), larch (Larix sp.), Scots pine (Pinus sylvestris), white willow (Salix alba) and alder (Alnus glutinosa). The woodland ground flora includes barran strawberry (Potentilla sterius), enchanters nightshade (Arcaea lutentiana) and ground-ivy (Guechoma hederacea), along with a range of ferns - harts-tongue (Phyllitis scolopendrium), male-Fern (Dryopteris fiux-mas) and soft shield-fern (Polystichum setiferum). Freshwater marsh with butterbur (Petasites hybrious) floating sweet-grass (Glyceria fluitans), reed canary-grass (Phalaris arundinacea), wild angelica (Angelica sylvestris) and marsh wound-wort (Stachys palustris) are found.	Ca. 24.8km
000553	Crewbane Marsh pNHA	Freshwater marsh with species such as yellow flag (Iris pseudocarus), creeping bent (Agrostis stolonifera), reed-grass (Glyceria maxima), marsh bedstraw (Galium paluste) and water forget-me-not (Myosotis scorpioides). Deciduous woodland with species such as ash (Fraxinus excelsior), sycamore (Acer pseudoplatanus), hawthorn (Crataegus monogyna), blackthorn (Plunus spinosa) and elder (Sambucus nigra). Badger, stoat, red squirrel, pine marten and otter.	Ca. 34.46 km
001589	Rossnareen Riverbank pNHA	Round-fruited rush (Juncus compressus).	Ca. 37.7 km

Site Code	Site Name	Features of Interest	Downstream distance from proposed project
001861	Dowth Wetland pNHA	Freshwater marsh with species such as Canary Reed-Grass (Phalaris arundinacea) with Marsh Bedstraw (Galium palustre), Reed-Grass (Glyceria maxima), Meadowsweet (Filipendula ulmaria) and sedges (Carex disticha) and (Carex elata). Deciduous woodland with species such as ash (Fraxinus excelsior) and sycamore (Acer pseudoplatanus), hazel (Corylus avellana) and lime (Tilia cordata), beech (Fagus sylvatica), cherry laurel (Prunus laurocerasus) and bird cherry (Prunus avium). Red deer.	Ca. 42.9 km
001862	Boyne River Island pNHA	Riparian woodland with osier (Salix. viminalis), crack willow (S. fragilis), white willow (S. alba), purple willow (Salix purpurea) and grey willow (S. cinerea).	Ca. 46.2 km
001957	Boyne Coast And Estuary pNHA	No site synopsis available	Ca. 54.2 km

FEHILY TIMONEY

CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

APPENDIX 3

Planning Application Search Results

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
211723	Conditional	The development consists of change of use of existing retail unit at ground floor level to café/bistro together with all associated site works	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	N	N
TA190860	Conditional	A partial 3 and partial 4 storey extension comprising 43 bedrooms over the existing basement car park and surface car park with a first floor link to the existing hotel, minor alterations to the first floor to allow access to the link, rearrangement of the surface car park, minor elevational changes to the existing hotel, connection to public services and all associated site works. The building is located within the Trim Historic Core Architectural Conservation Area. Significant further information/revised plans submitted on this application	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale, location and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	N	N
TA191322	Conditional	1. Demolition works to the existing supermarket building north east elevation at first floor level, removal of existing yard canopy and demolition works to the yard wall to form new door openings. 2. Construction of ground floor extension (33sq.m) and first floor extension (125sq.m). 3. Internal alterations at first floor level (61sq.m) to provide new fire escape corridor. 4. Construction of housed refuse area and associated site and drainage works	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	N	N

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
211914	Conditional	The demolition of the existing two storey dwelling with attached garage and associated outbuildings, the construction of seven new two storey dwellings: two pairs of semi-detached houses and one terrace of three houses all with individual entrances off the Dublin Road, connection to public services, and all associated site works. A Natura Impact Assessment will be submitted to the Planning Authority with the application	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale, location and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	N	N
2169	Conditional	The development will consist of installation of p.v. solar panels on the rear of roof to dwelling house together with all associated site works	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	N	N
TA190773	Conditional	Re-constructing existing roof to form new dormer extension at first floor level, new single storey porch to front, single storey extension to rear of existing dwelling together with a single storey extension to front on north west side of dwelling. The development also includes new detached domestic garage and all associated site works. Significant further information/revised plans submitted on this application	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	N	N
22667	Conditional	Description: the development being retained consists of change of use of carport to side of dwelling previously granted planning permission under planning reference no. TA/190773 to home office and gym to	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3.	N	N

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
		include modifications to elevations together with all associated site works	Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.		
TA200883	Conditional	The development will consist of 105kWp (350 no.) of Roof Mounted Solar PV Panels and all associated works on the uppermost level of the four-storey car park	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	N	N
221176 211907 TA190634 (these planning numbers all refer to the same development with the most recent application at the top	Conditional - Appealed	Permission for amendments to permitted application reference no. 211907, which amended planning application reference TA t 90634 (ABP-306550-20) which amended planning application reference TT/800019. Planning application reference no. 219907 had granted permission for a three-storey apartment building containing 12 no. apartments, which amended a previously approved apartment block under planning references TA190634 (ABP-306550 20) and TT/800019, at Emmet Street, Trim, Co. Meath. The proposed amendments include 1) the revised location of Stairwell Window. 2) alterations of Window Type 2, change of dimension from 3350mm to 2530mm wide to facilitate boiler and Flue position. 3) the inclusion of a Lift Shaft to Provide the Necessary 3450mm Height between the Finished 2nd Floor level and the underside of the Lift	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature and location of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	N	N

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
		Eye Beam for Health and Safety Purposes. 4) a change to the North Facing Fa.-;ade, change from stone effect cladding to Painted Render. 5) the inclusion of a Roof AOV - TGD Part 8. 6) the inclusion of approx. 48 PV Panels in adherence to TGO Part L & BER and 7) all necessary ancillary and site works. The Site is within the curtilage of the Old Town Wall (a Protected Structure under the provision of the Part IV of the Planning and Development Regulations 2001) amendments to permitted planning application reference no. TA190634 (ABP-306550-20) which granted permission for a three storey apartment building containing 11 no. apartments, which amended a previously approved apartment block under planning application reference TT/800019 at Emmet Street, Trim, Co. Meath. The proposed amendments include 1) Alterations to the northern wall of granted apartment No. 8 on the first floor and to decrease occupancy from a two storey 3 bedroom apartment to single storey 2 bedroom apartment, 2) alterations to granted apartment No. 09 on the second floor to increase the occupancy from a one bedroom to a two bedroom apartment, 3) Alterations of granted apartments No. 11 and No. 8 to accommodate 1 no. additional apartment to the north of the second storey, 4) an increase of an overall 800mm to the depth of the granted building to facilitate minimum 1.5m deep balconies, 5) An overall increase of 4 square meters to the internal gross floors area of the building and 6) All necessary ancillary site works.			

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
		The site is within the curtilage of the Old Town Wall (a Protected Structure under the provision of Part IV of the Planning & Development Regulations 2001). Significant Further information/Revised plans submitted on this application. A 4 storey block containing 14no. residential units (1x 3 bed, 7x 2 bed and 6x 1 bed) to replace the block previously approved under planning ref: TT/800019, all to the rear of the existing apartment building constructed under planning permission (reg ref TT20004). The development will also comprise associated site works and landscaping to include surface car parking and bin storage, both serving the existing and new developments and connection to public services. Site access will be through the entrance to the existing development. The site is within the curtilage of the Old Town Wall (a Protected Structure under the provision of the Part IV of the Planning & Development Act 2000 and Part IV of the Planning & Development Regulations 2001). Significant further information/revised plans submitted on this application			

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
TA200764	Conditional	The development will consist of (a) demolition of existing shop front section of Trim Hardware Building and construct new front section to include cut stone and glazed shop front and signage, (b) new mezzanine floor within the existing shop together with revised internal plan layout. (c) The development also includes extending into the adjoining building at ground floor level and form new shop fronts facing Emmet Street and the forecourt to the building, (d) modifications to plan layout to include new front door and access stairs to first floor accommodation from Emmet Street, (e) re-construct existing living accommodation at first floor level to form 2 no. 1 bed apartments (f) modifications to existing elevations and all associated site works. Significant further information/revised plans submitted on this application	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	N	N

TA201367T A200764	Conditional Conditional	planning permission for minor alterations to previously approved Permission Reg. Ref. 98/16 at their private dwelling a Protected structure. The development will consist of Internal alterations to the rear existing 1999 single storey extension only, including modifications to internal layout, replacement external windows and doors, alterations to three existing openings, removal of one chimney and addition of new rooflights lights. External works will include minor revisions to drainage, landscaping, small storage shed and new garden wall the development will consist of (a) demolition of existing shop front section of Trim Hardware Building and construct new front section to include cut stone and glazed shop front and signage, (b) new mezzanine floor within the existing shop together with revised internal plan layout. (c) The development also includes extending into the adjoining building at ground floor level and form new shop fronts facing Emmet Street and the forecourt to the building, (d) modifications to plan layout to include new front door and access stairs to first floor accommodation from Emmet Street, (e) re-construct existing living accommodation at first floor level to form 2 no. 1 bed apartments (f) modifications to existing elevations and all associated site works. Significant further information/revised plans submitted on this application	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	NN	NN

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
221371TA201367	Conditional Conditional	The development consists of retention of the change of use of two rear store rooms to bar area, retention of a single storey cleaners store located in the yard area, and use of rear yard area as a Beer Garden, retention of elevational changes to the building including, increased height to rear storerooms that have been converted into an additional bar area, provision of a covered area to the side of rear bar area, retractable awning to yard area and revisions to the windows/ roof windows to the covered beer garden area. Retention permission is also sought for a period of 10 years for a single storey prefabricated ladies toilet block which has been installed in the enclosed rear yard area and for the change of use of part of the yard area, which is located next the entrance to the car park, into additional car parking (five bays), along with four recycling banks and for the retention of a bay for hot food casual trading beside the entrance to this land from Thursday to Sunday from 4pm to 9pm daily. Planning Permission is sought to convert an existing store room within this public house to a cocktail bar, including the creation of a bar counter / servery area and permission is sought to cover the existing metal roof cladding to the rear bar area to be retained with a corrugated metal or sinusoidal curved metal, finished in a red colour, rendering and painting of the exposed blockwork to the gable end of the public house and all associated site works and services. The building is a Protected Structure and it is located within Trim Historic Core Architectural Conservation area and Trim Zone of Archaeological.	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	NN	NN

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
		Archaeological potential planning permission for minor alterations to previously approved Permission Reg. Ref. 98/16 at their private dwelling a Protected structure. The development will consist of Internal alterations to the rear existing 1999 single storey extension only, including modifications to internal layout, replacement external windows and doors, alterations to three existing openings, removal of one chimney and addition of new rooflights. External works will include minor revisions to drainage, landscaping, small storage shed and new garden wall			
TA190371221371	Conditional Conditional	Two storey infill dwelling with attic storage/playroom, new domestic entrance, domestic store shed to rear, connection to all mains services together with all associated site works. Significant further information/revised plans submitted on this application. The development consists of retention of the change of use of two rear store rooms to bar area, retention of a single storey cleaners store located in the yard area, and use of rear yard area as a Beer Garden, retention of elevational changes to the building including, increased height to rear storerooms that have been converted into an additional bar area, provision of a covered area to the side of rear bar area, retractable awning to yard area and revisions to the windows/ roof windows to the covered beer garden area. Retention permission is also sought for a period of 10 years for a single storey prefabricated ladies toilet block which has been installed in the enclosed rear yard area and for the change of use of part of the yard area, which is located	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	NN	NN

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
		next the entrance to the car park, into additional car parking (five bays), along with four recycling banks and for the retention of a bay for hot food casual trading beside the entrance to this land from Thursday to Sunday from 4pm to 9pm daily. Planning Permission is sought to convert an existing store room within this public house to a cocktail bar, including the creation of a bar counter / servery area and permission is sought to cover the existing metal roof cladding to the rear bar area to be retained with a corrugated metal or sinusoidal curved metal, finished in a red colour, rendering and painting of the exposed blockwork to the gable end of the public house and all associated site works and services. The building is a Protected Structure and it is located within Trim Historic Core Architectural Conservation area and Trim Zone of Archaeological potential'			
2349TA190371	Conditional Conditional	The demolition of existing dwelling (107.2 sqm) and garage (22 sqm), the construction of new replacement single storey dwelling (130 sqm), domestic garage (32 sqm) and modification to existing entrance and all associated site works two storey infill dwelling with attic storage/playroom, new domestic entrance, domestic store shed to rear, connection to all mains services together with all associated site works. Significant further information/revised plans submitted on this application	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3.	NN	NN

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
			Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.		
225422349	Conditional Conditional	The alterations to proposed dwelling previously granted TA171206. It will also include the demolition of existing garage(22m/sq) and the modifications to existing entrance and all associated site works the demolition of existing dwelling (107.2 sqm) and garage (22 sqm), the construction of new replacement single storey dwelling (130 sqm), domestic garage (32 sqm) and modification to existing entrance and all associated site works	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	NN	NN
227322542	Conditional Conditional	a detached storey and a half style dwelling, new site entrance, connection to existing public mains facilities and all associated site works. Significant further information/revised plans submitted on this application the alterations to proposed dwelling previously granted TA171206. It will also include the demolition of existing garage(22m/sq) and the modifications to existing entrance and all associated site works	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	NN	NN

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
			The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.		
218982273	Conditional Conditional	The development consists of: Works to protected structure niah record no: 14328067. Meath Co. Co. List Protected Structures Ref: TT036-015. This structure is within the Trim Historic Core Architectural Conservation Area. 1. Demolition of late 20th century lean-to kitchen extension to rear of house. 2. Retention Permission sought for Coach House rooflights and openings, and other minor modifications to the property in recent years. 3. Permission sought for proposed new external access stairs and new external access door to existing basement room. 4. Permission sought for proposed single storey extension linking south side of house to north side of Coach House, containing dining area, kitchen, wc, pantry, and boot room. 5. Change of use of existing Coach House from storage to living space, to include playroom, living area and mezzanine. 6. All associated site works a detached storey and a half style dwelling, new site entrance, connection to existing public mains facilities and all associated site works. Significant further information/revised plans submitted on this application	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	NN	NN

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
2259821898	Conditional Conditional	the development will consist/consists of: Shopfront alterations to a protected structure (Ref No. 14328064) which comprise of: fitting of new branded signage (after removal of existing signage/ or over existing signage) onto existing shopfront, replacement of existing ATM with new ATM (location retained). 2No. internally located digital marketing LED screens, to be viewed externally through the existing glazing. Minor internal alterations to existing front banking hall to consist of new internal SSBM/ATMs within a new room. These proposed works are to a proposed structure the development consists of: Works to protected structure niah record no: 14328067. Meath Co. Co. List Protected Structures Ref: TT036-015. This structure is within the Trim Historic Core Architectural Conservation Area. 1. Demolition of late 20th century lean-to kitchen extension to rear of house. 2. Retention Permission sought for Coach House rooflights and openings, and other minor modifications to the property in recent years. 3. Permission sought for proposed new external access stairs and new external access door to existing basement room. 4. Permission sought for proposed single storey extension linking south side of house to north side of Coach House, containing dining area, kitchen, wc, pantry, and boot room. 5. Change of use of existing Coach House from storage to living space, to include playroom, living area and mezzanine. 6. All associated site works	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	NN	NN

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
22123722598	Conditional Conditional	the development being retained consists of (a) single storey porch to front of dwelling, (b) sun room extension to rear and (c) detached domestic garage to side/rear of existing dwelling together with all associated site works the development will consist/consists of: Shopfront alterations to a protected structure (Ref No. 14328064) which comprise of: fitting of new branded signage (after removal of existing signage/ or over existing signage) onto existing shopfront, replacement of existing ATM with new ATM (location retained). 2No. internally located digital marketing LED screens, to be viewed externally through the existing glazing. Minor internal alterations to existing front banking hall to consist of new internal SSBM/ATMs within a new room. These proposed works are to a proposed structure	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	NN	NN
22235221237	Conditional Conditional	extension to rear of existing two-storey semi-detached residence consisting of bedroom and en-suite the development being retained consists of (a) single storey porch to front of dwelling, (b) sun room extension to rear and (c) detached domestic garage to side/rear of existing dwelling together with all associated site works	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in	NN	NN

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
			combination effects are negligible and therefore no further considerations are required.		
TA200234222235	Conditional Conditional	the development will consist of change of use from retail to domestic use for 5 no. units as follows: (a) Retail Unit 1 - change of use to 1 no. 1 bed apartment with entrance off Haggard Street, (b) Retails Units 2 & 3 - change of use to form 1 no. 2 bed. Apartment with entrance off Haggard street, (c) Retail Unit 4 - change of use of ground floor from retail to domestic together with combing apartment at 1st floor level to form a 3 bed. Townhouse at ground and first floor level. (d) Retail Unit 5 - change of use to 1 no. 2 bed apartment with entrance off Navan Gate Street (e) The development also includes modifications to existing elevations and floor plans together with all associate site works. (f) Car parking provided to rear as per planning permission reference no: TT800005extension to rear of existing two-storey semi-detached residence consisting of bedroom and en-suite	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	NN	NN
TA200489TA200234	Conditional Conditional	demolition of existing disused carpenters' workshop and construction of a single storey dwelling, connection of foul and surface water to existing services and associated site works. The development will consist of change of use from retail to domestic use for 5 no. units as follows: (a) Retail Unit 1 - change of use to 1 no. 1 bed apartment with entrance off Haggard Street, (b) Retails Units 2 & 3 - change of use to form 1 no. 2 bed. Apartment with entrance off Haggard street, (c) Retail	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	NN	NN

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
		Unit 4 - change of use of ground floor from retail to domestic together with combing apartment at 1st floor level to form a 3 bed. Townhouse at ground and first floor level. (d) Retail Unit 5 - change of use to 1 no. 2 bed apartment with entrance off Navan Gate Street (e) The development also includes modifications to existing elevations and floor plans together with all associate site works. (f) Car parking provided to rear as per planning permission reference no: TT800005	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.		
TA202081TA200489	Conditional Conditional	The development will consist of single storey extension to side and rear of existing dwelling, modifications to existing elevations together with all associated site works. Significant Further information / Revised plans submitted on this applicationdemolition of existing disused carpenters' workshop and construction of a single storey dwelling, connection of foul and surface water to existing services and associated site works.	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	NN	NN
21121TA202081	Conditional Conditional	Development consists of retention of revisions to the home previously granted planning permission under Planning Reg. Ref P.183/73.	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3.	NN	NN

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
		These revisions include, replacement of the original attached garage to the side of this home with a single storey pitched roof projection comprising utility room, guest toilet and flexi room, canopy projection to the front of this side extension and replacement front door, conversion of a first floor bedroom to en-suite and elevational changes to the original home including provision of patio door access from the kitchen/dining room into the rear garden. Retention permission is also sought for revisions to the site boundaries from that previously granted planning permission under Planning Reg. Ref P.183/73, widening of the vehicle entrance and all associated site works and servicesthe development will consist of single storey extension to side and rear of existing dwelling, modifications to existing elevations together with all associated site works. Significant Further information / Revised plans submitted on this application	Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.		
TA20007421121	Conditional Conditional	Permission to retain the existing living room and utility extension to the south gable development consists of retention of revisions to the home previously granted planning permission under Planning Reg. Ref P.183/73. These revisions include, replacement of the original attached garage to the side of this home with a single storey pitched roof projection comprising utility room, guest toilet and flexi room, canopy projection to the front of this side extension and replacement front door, conversion of a first floor bedroom to en-suite and elevational changes to the original home including	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3.	NN	NN

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
		provision of patio door access from the kitchen/dining room into the rear garden. Retention permission is also sought for revisions to the site boundaries from that previously granted planning permission under Planning Reg. Ref P.183/73, widening of the vehicle entrance and all associated site works and services	Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.		
22106TA200074	Conditional Conditional	The change of use of the ground floor from restaurant/café as permitted under TA/180122 to residential and office, changes to the elevations and ground floor plan, connection to services and all associated site works. Spicers is a protected structure and is situated within the Trim Historic Architectural Conservation Area and the Trim Zone of Archaeological Potentialpermission to retain the existing living room and utility extension to the south gable	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	NN	NN
TA190390222106	Unconditional Conditional	EXTENSION OF DURATION OF PLANNING PERMISSION TT130013 - Single storey extension to rear of No. 5 Castle Street, Trim, Co. Meath consisting of open plan living/dining & kitchen area the change of use of the ground floor from restaurant/café as permitted under TA/180122 to residential and office, changes to the	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and	NN	NN

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
		elevations and ground floor plan, connection to services and all associated site works. Spicers is a protected structure and is situated within the Trim Historic Architectural Conservation Area and the Trim Zone of Archaeological Potential	therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.		
23889TA190390	Further Information Unconditional	Change of use of existing retail shop unit to 1 no. 2 bed apartment to include modifications to existing elevations and internal plan layout together with all associated site works. The site is located within the Trim Historic Architectural Conservation AreaEXTENSION OF DURATION OF PLANNING PERMISSION TT130013 - Single storey extension to rear of No. 5 Castle Street, Trim, Co. Meath consisting of open plan living/dining & kitchen area	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	NN	NN
236013823889	Conditional Further Information	The development will consist of (A) Change of use from retail use to café use, (B) The construction of a two-storey extension with single storey element to rear of	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3.	NN	NN

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
		existing building to contain seating (C) Internal alterations (D) Elevational changes including the addition of windows to northern and eastern elevations and signage to northern elevation and all associated site works and services change of use of existing retail shop unit to 1 no. 2 bed apartment to include modifications to existing elevations and internal plan layout together with all associated site works. The site is located within the Trim Historic Architectural Conservation Area	Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.		
TA1909642 360138	Conditional Conditional	The change of use of the ground floor from shop to restaurant/cafe, demolition of the single-storey rear structure, changes to the internal layout and all associated site works. The building is situated within the Trim Historic Core Architectural Conservation Area and the Trim Zone of Archeological. Archaeological Potential. Significant further information/revised plans submitted on this application the development will consist of (A) Change of use from retail use to café use, (B) The construction of a two-storey extension with single storey element to rear of existing building to contain seating (C) Internal alterations (D) Elevational changes including the addition of windows to northern and eastern elevations and signage to northern elevation and all associated site works and services	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	NN	NN

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
22479TA190964	Conditional Conditional	A change of use from existing permitted café/bistro use to café (27 sqm) and part office (113.39 sqm) use, With new shop front /porch fascia level external signage (full width & height of fascia, 750 mm x 4040 mm approximate) and new sliding entrance door option to East (front) elevation and all other ancillary works the change of use of the ground floor from shop to restaurant/cafe, demolition of the single-storey rear structure, changes to the internal layout and all associated site works. The building is situated within the Trim Historic Core Architectural Conservation Area and the Trim Zone of Archeological Potential. Significant further information/revised plans submitted on this application	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	NN	NN
236024522479	Conditional Conditional	Retention of alterations and amendments made to elevations and floor plan of existing single storey retail unit together with permission for (a) change of use from retail unit to Café, (b) amend internal layout, (c) erect signage to front elevation, (d) Complete all ancillary site works and associated site structures a change of use from existing permitted café/bistro use to café (27 sqm) and part office (113.39 sqm) use, With new shop front /porch fascia level external signage (full width & height of fascia, 750 mm x 4040 mm approximate) and new sliding entrance door option to East (front) elevation and all other ancillary works	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and	NN	NN

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
			therefore no further considerations are required.		
221362360245	Conditional Conditional	The two existing 14 metre telecommunications timber support structures with antennas attached (16.5m overall height) and associated equipment within the exchange compound Retention of alterations and amendments made to elevations and floor plan of existing single storey retail unit together with permission for (a) change of use from retail unit to Café, (b) amend internal layout, (c) erect signage to front elevation, (d) Complete all ancillary site works and associated site structures	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	NN	NN
2321522136	Conditional Conditional	The change of use of the ground floor office as permitted under Planning Reg. Ref. 22/106 to a retail unit and all associated site works and services. Spicers is a protected structure and is situated within the Trim Historic Architectural Conservation Area and the Trim Zone of Archaeological Potential the two existing 14 metre telecommunications timber support structures with antennas attached (16.5m overall height) and associated equipment within the exchange compound	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required. The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3.	NN	NN

Project Code	Status	Overview	Characteristics of the potential interactions between the projects; sources and pathways	Is there a risk of in-combination effects	Are significant in-combination effects likely
			Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.		
23215	Conditional	The change of use of the ground floor office as permitted under Planning Reg. Ref. 22/106 to a retail unit and all associated site works and services. Spicers is a protected structure and is situated within the Trim Historic Architectural Conservation Area and the Trim Zone of Archaeological Potential	The proposed bridge project has small scale temporary effects identified as can be seen in Section 2.3. Considering the scale and nature of this project it is identified that potential in combination effects are negligible and therefore no further considerations are required.	N	N

FEHILY TIMONEY

CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

APPENDIX 4

Field Survey Reports

P22-256- Trim Millennium Pedestrian Bridge Scheme 2022: Ornithology Summary

Table 1: Survey Details

Survey	Date	Surveyor	Start	End	Cloud (out of 8)	Visibility	Rain	Wind
VP survey from bridge	06/07/2023	Seán Ronayne	08:30	10:30	7	Good	Dry	F3, S
Transect survey following river from 53.557693, -6.796415 to 53.555497, -6.769438	06/07/2023	Seán Ronayne	10:41	11:30	7	Good	Dry	F3, S
VP survey from bridge	24/07/2023	Seán Ronayne	09:10	11:10	2	Good	Dry	F2, N
Transect survey following river from 53.557693, -6.796415 to 53.555497, -6.769438	24/07/2023	Seán Ronayne	11:15	12:15	7	Good	Dry	F2, N
VP survey from bridge	08/08/2023	Seán Ronayne	08:30	10:30	7	Good	Dry	F1, NE
Transect survey following river from 53.557693, -6.796415 to 53.555497, -6.769438	08/08/2023	Seán Ronayne	08:30	10:30	7	Good	Dry	F1, NE

No kingfishers were present during any of the six surveys conducted. There is no suitable habitat for breeding and during the second two site visits, water levels were high, and the river was moving too fast for foraging by kingfisher. It is probable that previous sightings here refer to birds having moved out of their respective breeding territories.

Thus, works conducted during the breeding season, based on the findings of this survey, would not cause disturbance to the species. Works outside the breeding season may cause temporary disturbance.

It was noted that Peregrine Falcon was frequent in the area, with six sightings in total, spread across every survey date. The species likely breeds in Trim Castle or nearby. Works are unlikely to affect this species which shows a high degree of tolerance to human activity. As works would be focused on the river, this species is unlikely to be affected.

In terms of red-listed species (see table 2 below), swifts typically breed in cavities in buildings which could include Trim Castle. Grey wagtails nest along watercourses and could nest within the vicinity or indeed the immediate footprint of the works. Works conducted in the winter season would avoid causing direct disturbance to both of these species. Swift is unlikely to be affected because of their lack of presence in winter, and their nesting requirements, however, if works were to be conducted in summer, any active grey wagtail territory in the near vicinity or footprint of the works would need to be eliminated by a qualified ornithologist.

Table 2: Additional species recorded on surveys.

Species	Latin name	BoCCI Status	Annex I	Visit 1	Visit 2	Visit 3
Blackbird	*Turdus merula*	Green	No	✓	✓	✓
Blackcap	*Sylvia atricapilla*	Green	No	✓	✓	✓
Black-headed Gull	*Chroicocephalus ridibundus*	Amber	No	✓		
Blue Tit	*Cyanistes caeruleus*	Green	No	✓	✓	✓
Bullfinch	*Pyrrhula pyrrhula*	Green	No		✓	✓
Chaffinch	*Fringilla coelebs*	Green	No	✓	✓	✓
Chiffchaff	*Phylloscopus collybita*	Green	No	✓	✓	✓
Coal Tit	*Periparus ater*	Green	No		✓	
Collared Dove	*Streptopelia decaocto*	Green	No	✓		✓
Dipper	*Cinclus cinclus*	Green	No	✓		
Dunnock	*Prunella modularis*	Green	No	✓	✓	✓
Feral Pigeon	*Columba livia*	Green	No	✓	✓	✓

Species	Latin name	BoCCI Status	Annex I	Visit 1	Visit 2	Visit 3
Goldfinch	*Carduelis carduelis*	Green	No	✓	✓	✓
Great Tit	*Parus major*	Green	No	✓		✓
Greenfinch	*Carduelis chloris*	Amber	No	✓	✓	✓
Grey Heron	*Ardea cinerea*	Green	No	✓		
Grey Wagtail	*Motacilla cinerea*	Red	No	✓	✓	✓
Herring Gull	*Larus argentatus*	Amber	No	✓	✓	✓
Hooded Crow	*Corvus cornix*	Green	No	✓	✓	✓
House Martin	*Delichon urbicum*	Amber	No	✓	✓	✓
House Sparrow	*Passer domesticus*	Amber	No	✓	✓	
Jackdaw	*Corvus monedula*	Green	No	✓	✓	✓
Lesser Black-backed Gull	*Larus fuscus*	Amber	No	✓	✓	✓
Lesser Redpoll	*Carduelis cabaret*	Green	No	✓	✓	✓
Linnet	*Carduelis cannabina*	Amber	No	✓	✓	
Magpie	*Pica pica*	Green	No			✓
Mistle Thrush	*Turdus viscivorus*	Green	No			✓
Pied/White Wagtail	*Motacilla alba*	Green	No			✓
Raven	*Corvus corax*	Green	No		✓	✓
Robin	*Erithacus rubecula*	Green	No	✓	✓	✓
Rook	*Corvus frugilegus*	Green	No	✓		
Sand Martin	*Riparia riparia*	Amber	No	✓	✓	✓
Song Thrush	*Turdus philomelos*	Green	No	✓	✓	
Starling	*Sturnus vulgaris*	Amber	No	✓	✓	✓
Swallow	*Hirundo rustica*	Amber	No	✓	✓	✓
Swift	*Apus apus*	Red	No	✓	✓	✓
Willow Warbler	*Phylloscopus trochilus*	Amber	No		✓	✓
Woodpigeon	*Columba palumbus*	Green	No	✓	✓	✓
Wren	*Troglodytes troglodytes*	Green	No	✓	✓	✓

Aquatic baseline report for the proposed Trim Millennium Pedestrian Bridge Scheme, Trim, Co. Meath

Prepared by Triturus Environmental Ltd. for Fehily Timoney

December 2023

Please cite as:

Triturus (2023). Aquatic baseline report for the proposed Trim Millennium Pedestrian Bridge Scheme, Trim, Co. Meath. Report prepared by Triturus Environmental Ltd. for Fehily Timoney. December 2023.

Table of contents

1. Introduction

1.1 Background

Triturus Environmental Ltd. were commissioned by Fehily Timoney to conduct baseline aquatic surveys to inform NIS preparation for the proposed Trim Millennium Pedestrian Bridge scheme, located on the River Boyne, Trim, Co. Meath (**Figure 2.1**). This report provides a baseline assessment of the aquatic ecology including fisheries and biological water quality, as well as protected species and habitats in the vicinity of the proposed scheme (bridge replacement). Aquatic surveys were undertaken on the 10th October 2023.

1.2 Scheme description

A full description of the proposed scheme will be provided in the accompanying NIS report used to support consenting applications.

2. Methodology

2.1 Aquatic site surveys

Aquatic surveys of the River Boyne (EPA code: 07B04) within the vicinity of Millennium Bridge were conducted on the 10th October 2023. Survey effort focused on both instream and riparian habitats at the site and included a fisheries habitat appraisal[1], white-clawed crayfish (*Austropotamobius pallipes*) survey, otter (*Lutra lutra*) survey (within 150m radius), environmental DNA sampling, macrophyte and aquatic bryophyte survey and biological water quality sampling (Q-sampling at 2 no. locations, upstream and downstream) (**Figure 2.1**). This holistic approach informed the overall aquatic ecological evaluation of the site in context of the proposed scheme and ensured that any habitats and species of high conservation value would be detected to best inform mitigation.

In addition to the ecological characteristics of the site, a broad aquatic and riparian habitat assessment was conducted utilising elements of the methodology given in the Environment Agency's 'River Habitat Survey in Britain and Ireland Field Survey Guidance Manual 2003' (EA, 2003) and the Irish Heritage Council's 'A Guide to Habitats in Ireland' (Fossitt, 2000). This broad characterisation helped define the watercourses' conformity or departure from naturalness. The site was assessed in terms of:

- Physical watercourse/waterbody characteristics (i.e. width, depth, channel form) including associated evidence of historical drainage
- Substrate type and relative condition, listing substrate fractions in order of dominance (i.e. bedrock, boulder, cobble, gravel, sand, silt etc.)
- Flow type by proportion of riffle, glide and pool in the sampling area
- An appraisal of the macrophyte and aquatic bryophyte community at each site
- Riparian vegetation composition and bordering land use practices

Table 2.1 Location of the aquatic survey site in the vicinity of the proposed Trim Millennium Pedestrian Bridge scheme

Watercourse	EPA code	Location	X (ITM)	Y (ITM)
River Boyne	07B04	Millennium Bridge	680219	756860

[1] Site unsuitable for electro-fishing due to prohibitive depths

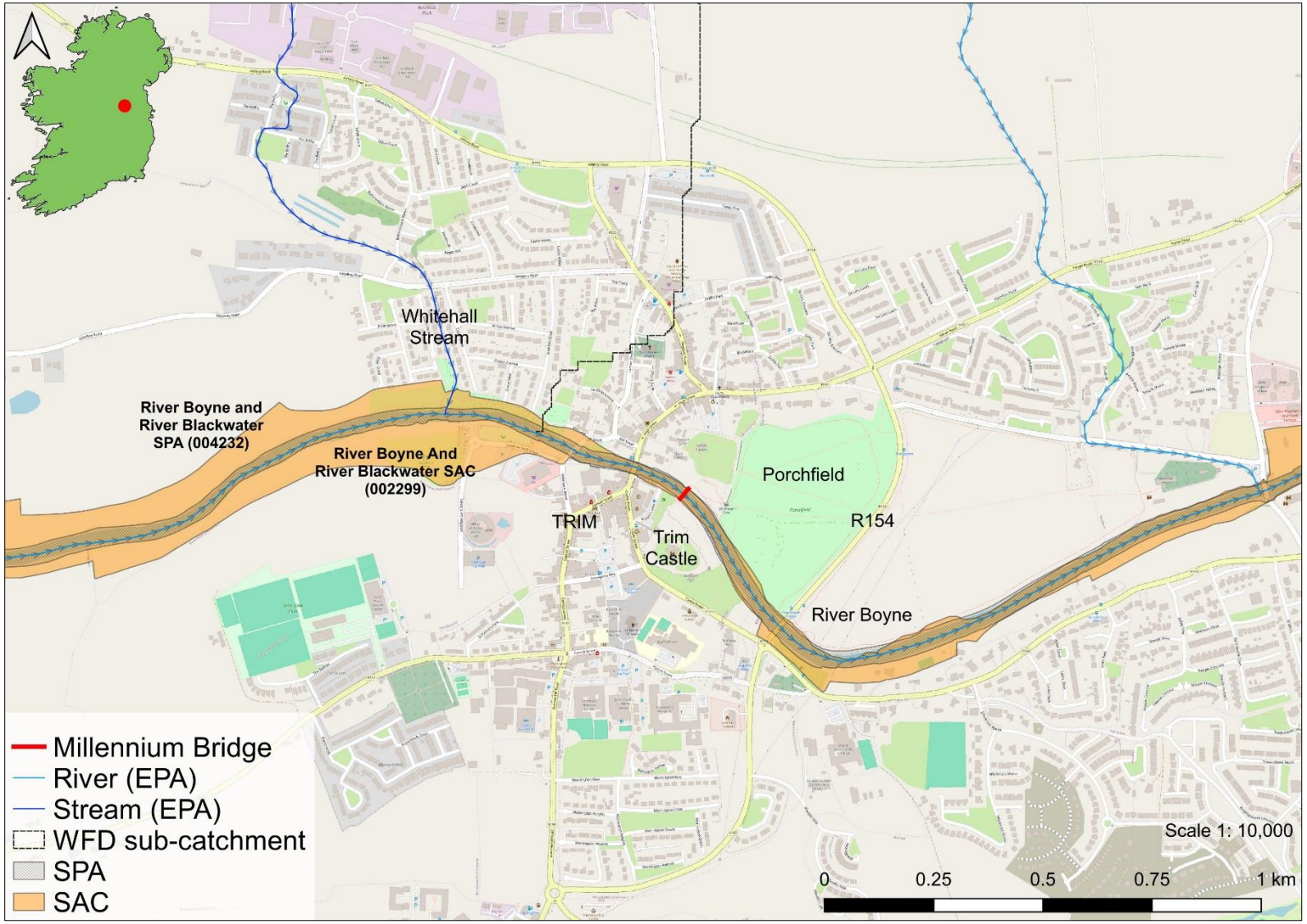


Figure 2.1 Overview of the aquatic survey sites in the vicinity of the proposed Trim Millennium Pedestrian Bridge scheme

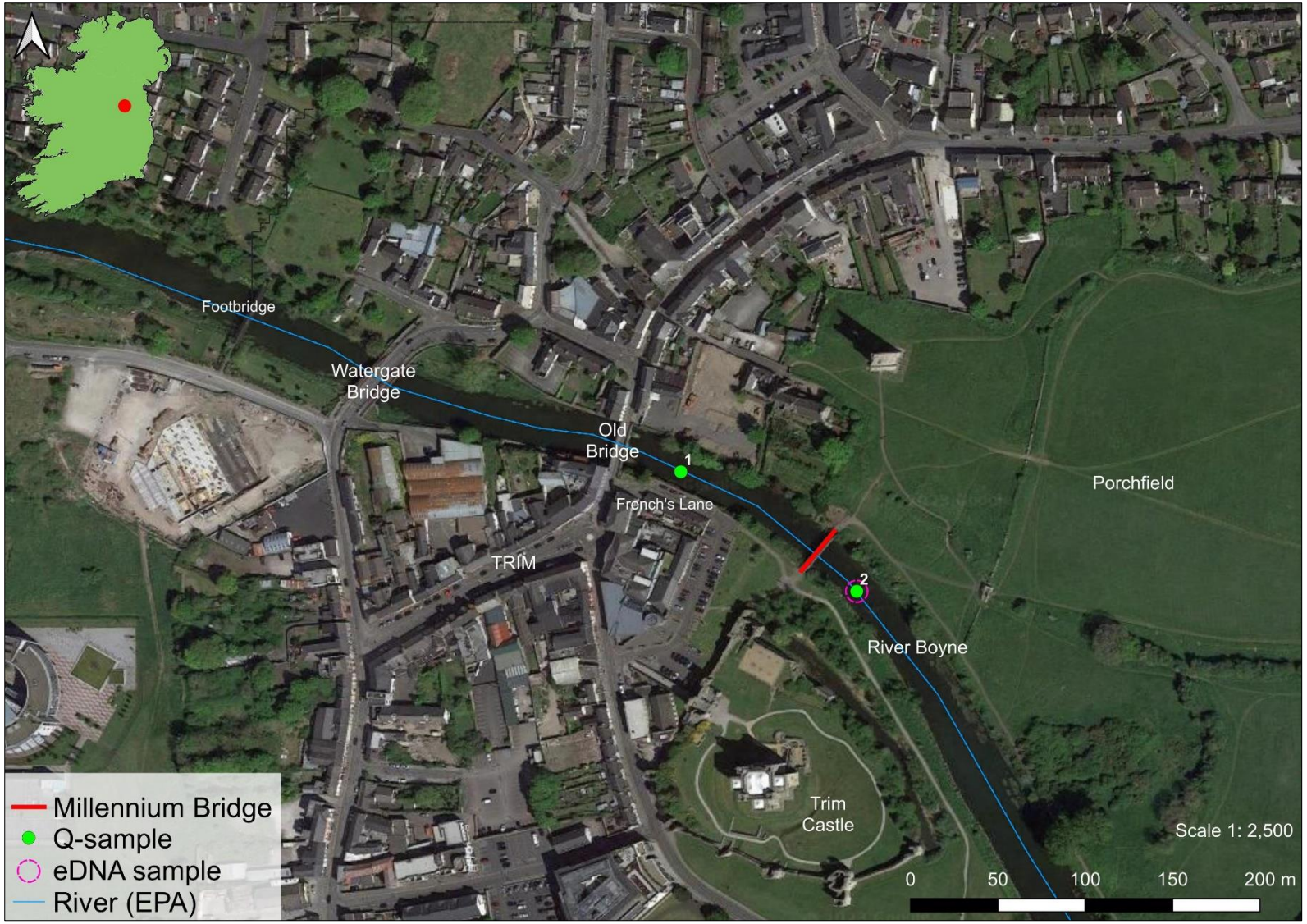


Figure 2.2 Location of the aquatic survey sites in the vicinity of the proposed Trim Millennium Pedestrian Bridge scheme

2.2 Fisheries habitat appraisal

A fisheries habitat appraisal of the River Boyne in vicinity of the existing Millennium Bridge was undertaken to establish the importance of the supporting habitats as nursery, spawning and or holding habitats for salmonids and lamprey species, but also considered European eel and other fish species. The appraisals of salmonids and lamprey were cognisant of species-specific habitat requirements and preferences as outlined in O'Grady (2006), Hendry et al. (2003), Armstrong et al. (2003), Harvey & Cowx (2003), Maitland (2003) and Hendry & Cragg-Hine (1997). River habitat surveys and fisheries assessments were also carried out utilising elements of the approaches in the River Habitat Survey Methodology (EA, 2003) and Fishery Assessment Methodology (O'Grady, 2006) to broadly characterise the riverine site (i.e., channel profile, substrata etc.).

2.3 White-clawed crayfish survey

A white-clawed crayfish (*Austropotamobius pallipes*) survey was undertaken in October 2023 under a National Parks and Wildlife (NPWS) open national licence (no. C24/2023), as prescribed by Sections 9, 23 and 34 of the Wildlife Act (1976-2023), to capture and release crayfish to their site of capture. As per Inland Fisheries Ireland aquatic biosecurity recommendations, the crayfish sampling started at the uppermost site(s) of the catchment/sub-catchments in the survey area to minimise the risk of transfer invasive propagules (including crayfish plague) in an upstream direction.

Hand-searching of instream refugia and sweep netting was undertaken according to Reynolds et al. (2010). An appraisal of white-clawed crayfish habitat in the vicinity of Millennium Bridge was conducted based on physical habitat attributes, water chemistry and incidental records in mustelid spraint. Additionally, a desktop review of crayfish records within the wider survey area was completed.

2.4 eDNA analysis

To validate site surveys, fill data lacunae and detect potentially cryptically-low populations within the study area, a composite water sample was collected from the River Boyne downstream of Millennium Bridge in October 2023 (**Figure 2.2**) and analysed for Atlantic salmon (*Salmo salar*), lamprey (*Lampetra* spp.), white-clawed crayfish and crayfish plague (*Aphanomyces astaci*) environmental DNA (eDNA).

In accordance with laboratory guidance, a composite (500ml) water sample was collected from the sampling point, maximising the geographic spread at the site (20 x 25ml samples at each site), thus increasing the chance of detecting the target species' DNA. The composite sample was filtered and fixed on site using a sterile proprietary eDNA sampling kit. The sample was stored at room temperature and sent to the laboratory for analysis with 48 hours of collection. A total of n=12 qPCR replicates were analysed for the site. Given the high sensitivity of eDNA analysis, a single positive qPCR replicate is considered as proof of the species' presence (termed qPCR No Threshold, or qPCR NT). Whilst an eDNA approach is not currently quantitative, the detection of the target species' DNA indicates the presence of the species at and or upstream of the sampling point. Please refer to **Appendix A** for full eDNA laboratory analysis methodology.

2.5 Biological water quality (Q-sampling)

The River Boyne at Millennium Bridge was assessed for biological water quality through Q-sampling in October 2023, with a sample collected upstream and downstream of the existing bridge. The 2 no. samples were taken with a standard kick sampling hand net (250mm width, 500µm mesh size) from areas of riffle/glide utilising a 2-minute kick sample, as per Environmental Protection Authority (EPA) methodology (Feeley et al., 2020). Large cobble was also washed at each site for 1-minute (where present) to collect attached macro-invertebrates (as per Feeley et al., 2020). Samples were elutriated and fixed in 70% ethanol for subsequent laboratory identification to species level. Samples were converted to Q-ratings as per Toner et al. (2005) and assigned to WFD status classes (**Table 2.2**). Any rare invertebrate species were identified from the NPWS Red List publications for beetles (Foster et al., 2009), mayflies (Kelly-Quinn & Regan, 2012), stoneflies (Feeley et al., 2020) and other relevant taxa (i.e. Byrne et al., 2009; Nelson et al., 2011).

Table 2.2 Reference categories for EPA Q-ratings (Q1 to Q5) (Toner et al., 2005)

Q value	WFD status	Pollution status	Condition
Q5 or Q4-5	High status	Unpolluted	Satisfactory
Q4	Good status	Unpolluted	Satisfactory
Q3-4	Moderate status	Slightly polluted	Unsatisfactory
Q3 or Q2-3	Poor status	Moderately polluted	Unsatisfactory
Q2, Q1-2 or Q1	Bad status	Seriously polluted	Unsatisfactory

2.6 Macrophytes and aquatic bryophytes

Surveys of the macrophyte and aquatic bryophyte community were conducted by instream wading, with specimens collected (by hand or via grapnel) for on-site identification. An assessment of the aquatic vegetation community helped to identify any rare macrophyte species listed under the Flora (Protection) Order, 2022 and or Irish Red list for vascular plants (Wyse-Jackson et al., 2016) or habitats corresponding to the Annex I habitats, e.g., 'Water courses of plain to montane levels, with submerged or floating vegetation of the *Ranunculion fluitantis* and *Callitricho-Batrachion* (low water level during summer) or aquatic mosses [3260]' (more commonly referred to as 'floating river vegetation').

2.7 Otter signs

The presence of otter (*Lutra lutra*) was determined through the recording of otter signs within 150m radius of each survey site. Notes on the age and location of signs (ITM coordinates) were made, in addition to the quantity and visible constituents of spraint (i.e. remains of fish, crustaceans, molluscs etc.).

2.8 Biosecurity

A strict biosecurity protocol following IFI (2010) and the Check-Clean-Dry approach was adhered to during surveys for all equipment and PPE used. Disinfection of all equipment and PPE before and after

use with Virkon™ was conducted to prevent the transfer of pathogens or invasive propagules between survey sites. Surveys were undertaken at sites in a downstream order to minimise the risk of upstream propagule mobilisation. Care was given towards preventing the spread or introduction of highly virulent crayfish plague, known throughout the Boyne catchment with checking, cleaning, disinfecting and drying of equipment undertaken after the survey to prevent spread of crayfish plague. All Triturus staff are certified in 'Good fieldwork practice: slowing the spread of invasive non-native species' by the University of Leeds.

3. Desktop review

3.1 Fisheries asset of the survey area

The River Boyne rises in Co. Kildare and flows for over 110km in a north easterly direction through counties Offaly, Meath and Louth before entering the Irish Sea at Drogheda. The Boyne was subject to extensive arterial drainage from 1969 until 1985 and this has significantly impacted fisheries habitat (Massa-Gallucci & Mariani, 2011).

The River Boyne is a designated salmonid watercourse under the European Communities (Quality of Salmonid Waters) Regulations, 1988 (S.I. No. 293/1988) and is ranked 5th nationally in terms of the amount of fluvial habitat accessible to Atlantic salmon (*Salmo salar*) (5.93% of national; McGinnity et al., 2003). The Boyne is a renowned wild brown trout (*Salmo trutta*), Atlantic salmon and (in its lower reaches) sea trout fishery (O'Reilly, 2009). In addition to salmonids, the river also supports three-spined stickleback (*Gasterosteus aculeatus*), minnow (*Phoxinus phoxinus*), stone loach (*Barbatula barbatula*), pike (*Esox lucius*), roach (*Rutilus rutilus*) and European eel (*Anguilla anguilla*) (Gordon et al., 2023; Kelly et al., 2011a, 2011b). Whilst *Lampetra* sp. ammocoetes (likely brook lamprey *Lampetra planeri*) are widespread throughout both the Boyne, densities have been recorded as low (O'Connor, 2006) and the species is known to suffer from the impacts of continued arterial drainage throughout the catchment (IFI, 2013).

3.2 Protected aquatic species

A comprehensive desktop review of available data from the National Biodiversity Data Centre (NBDC), Inland Fisheries Ireland (IFI), Botanical Society of Britain and Ireland (BSBI), National Crayfish Plague Surveillance Programme (NCPSP), Environmental Protection Agency (EPA) and Triturus databases for the River Boyne in the vicinity of Trim identified a low number of records for rare and or protected aquatic species.

White-clawed crayfish (*Austropotamobius pallipes*) are known form the River Boyne in the vicinity of Trim although the most recent record is from 2006 (0.3km upstream of survey area). Crayfish plague has been known from the Boyne catchment since the 1980s (Matthews & Reynolds, 1992) and has also been detected in recent years (Triturus data).

Otter (*Lutra lutra*) records were widespread on the River Boyne in the Trim area, including within the town (Old Bridge) (NBDC data).

4. Results of aquatic surveys

4.1 Aquatic survey

The River Boyne in the vicinity of Millennium Bridge was a high energy lowland river (FW2: Fossitt, 2000) that was 18-20m wide and ranged from 1.2-1.8m deep. The river had been historically modified and deepened with steeply sloping banks (particularly on the eastern bank). Upstream of the existing Millennium footbridge the river flowed between retaining walls (both banks) in the vicinity of Old Bridge. The profile comprised fast-flowing glide with occasional pool. Riffle and shallower glide was present locally in the vicinity of the existing footbridge (including at a historic weir). Deeper glide predominated downstream. The substrata were dominated by partially bedded cobble and boulder with frequent but scattered mixed gravels. Despite high flow rates at this location, siltation was moderate. Areas of sand were present but localised. Soft sediment accumulations were frequent along channel margins and in association with instream macrophyte beds.

The modified section of channel upstream of the existing footbridge supported sparse macrophyte growth due to the compacted bed and absence of riparian fringes although the moss *Fontinalis antipyretica* and *Leptodictyum riparium* were present on larger boulder, with scattered common clubrush (*Schoenoplectus lacustris*). Downstream of the footbridge, the macrophyte community was dominated by abundant common clubrush which forms extensive stands throughout the channel for much of the years (pers. obs.). Scattered stands of branched bur-reed (*Sparganium erectum*) were also present with occasional water mint (*Mentha aquatica*) and blue water-speedwell (*Myosotis scorpioides*). Deeper glide and flow refugia supported highly localised curled pondweed (*Potamogeton crispus*), perfoliate pondweed (*Potamogeton perfoliatus*) and water starwort (*Callitriche* sp.). Invasive *Elodea* sp. was also present in deeper glide but rare overall. The aquatic vegetation community was not representative of any Annex I habitats (e.g. floating river vegetation [3260]). Filamentous algal cover was low (2%) but its presence indicated eutrophication. The littoral zones and sloping banks were dominated by reed-canary grass (*Phalaris arundinacea*) with mature scrubby treelines of grey willow (*Salix cinerea*), osier (*Salix viminalis*), crack willow (*Salix fragilis*), sycamore (*Acer psuedoplatanus*), ash (*Fraxinus excelsior*) and hawthorn (*Crataegus monogyna*) with localised dense bramble (*Rubus fruticosus* agg.) along the eastern bank.

The River Boyne in vicinity of the existing Millennium Bridge was considered a good quality salmonid spawning and nursery habitat given the dominance of glide habitat, hard substrata and flow refugia. Undercut banks (mostly along the western bank downstream but also along retaining walls) provided valuable holding areas for adult salmonids although the deeper glide downstream of the survey site provided higher quality holding habitat. This area was dominated by clubrush beds and of high value as both a coarse fish nursery and European eel habitat. Whilst localised and limited in extent, soft sediment accumulations along channel margins provided some suitability for lamprey ammocoetes although such areas were typically sub-optimal due to compaction and high sand content. Despite good physical suitability (abundant instream refugia), no white clawed crayfish were recorded by sweep netting or hand searching. However, white-clawed crayfish were detected via eDNA sampling, in addition to Atlantic salmon and lamprey (*Lampetra* sp.) (**Table 4.1**). Two regular otter spraint sites were recorded on a retaining wall ledge and stormwater inflow pipe upstream of the existing footbridge (ITM 680125, 756899 & ITM 680135, 756921).

Biological water quality, based on Q-sampling, was calculated as **Q3-4 (moderate status)** both upstream (site 1) and downstream (site 2) of Millennium Bridge (**Appendix A**). No macro-invertebrate species of conservation value greater than 'least concern', according to national red lists, were recorded via Q-sampling.

Plate 3.1 Millennium Bridge, October 2023 (facing upstream)

Plate 3.2 The modified River Boyne at Old Bridge, located upstream of Millennium Bridge

Plate 3.3 Facing downstream to Millennium Bridge from French's Lane, October 2023

Plate 3.4 Facing upstream from Millennium Bridge towards Old Bridge

Plate 3.5 Facing downstream from Millennium Bridge, October 2023

Plate 3.6 Facing downstream to Boyne Bridge

4.2 White-clawed crayfish

No white-clawed crayfish were recorded via hand-searching or sweep netting of instream refugia during the October 2023 survey. However, environmental DNA sampling detected the presence of crayfish from the River Boyne (see section 4.3 below).

4.3 eDNA analysis

Atlantic salmon, lamprey (*Lampetra* sp.) and white-clawed crayfish eDNA was detected in composite water samples taken from the River Boyne downstream of Millennium Bridge (12, 12 & 2 positive qPCR replicates out of 12, respectively) (**Table 4.1; Appendix B**).

The invasive pathogen crayfish plague was also detected in the sample (11 positive qPCR replicates out of 12) (**Table 4.1; Appendix B**).

Table 4.1 eDNA results collected downstream of Trim Millenium Pedestrian Bridge (positive qPCR replicates out of 12 in parentheses)

Watercourse	White-clawed crayfish	Crayfish plague	Atlantic salmon	*Lampetra* sp.[2]
River Boyne, Millennium Bridge	**Positive (2/12)**	**Positive (11/12)**	**Positive (12/12)**	**Positive (12/12)**

[2] eDNA techniques are unable to reliably distinguish between brook lamprey (*Lampetra planeri*) and river lamprey (*Lampetra fluviatilis*)

4.4 Biological water quality (macro-invertebrates)

No rare or protected macro-invertebrate species (according to national red lists) were recorded in the biological water quality samples taken from a 2 no. riverine sites in October 2023 (**Appendix A**).

Sites 1 and 2 on the River Boyne (**Figure 4.1**) achieved **Q3-4 (moderate status)** water quality based on the dominance of EPA group C (moderate water quality indicator taxa with lower numbers of EPA group A and B (clean water indicator species). EPA group A taxa included small number of the mayfly species *Ecdyonurus dispar, Heptagenia sulphurea* and *Ephemera danica* (**Appendix A**). The most abundant EPA group C taxa included the mayflies *Baetis rhodani* and *Seratella ignita* (**Table 4.2**).

Table 4.2 Macro-invertebrate Q-sampling results, October 2023

Group	Family	Species	Site 1	Site 2	EPA class
Ephemeroptera	Heptageniidae	*Ecdyonurus dispar*	2		A
Ephemeroptera	Heptageniidae	*Heptagenia sulphurea*	1		A
Ephemeroptera	Ephemeridae	*Ephemera danica*		2	A
Trichoptera	Glossosomatidae	sp. indet.	12	5	B
Trichoptera	Hydroptilidae	*Hydroptila sp.*	3		B
Trichoptera	Limnephilidae	*Unidentified species*	1	2	B
Trichoptera	Limnephilidae	*Potamophylax cingulatus*		1	B
Trichoptera	Sericostomatidae	*Sericostoma personatum*	2	7	B
Odonata	Calopterygidae	*Calopteryx splendens*		1	B
Ephemeroptera	Baetidae	*Baetis rhodani*	55	36	C
Ephemeroptera	Ephemerellidae	*Serratella ignita*	18	10	C
Plecoptera	Leuctridae	*Leuctra fusca*	2		C
Trichoptera	Hydropsychidae	*Hydropsyche siltalai*	4	4	C
Trichoptera	Rhyacophilidae	*Rhyacophila dorsalis*		1	C
Coleoptera	Elmidae	*Elmis aenea*	13	5	C
Coleoptera	Elmidae	*Limnius volckmari*	4	5	C
Coleoptera	Elmidae	*Esolus parallelepipedus*	2		C
Crustacea	Gammaridae	*Gammarus duebeni*	4	24	C
Diptera	Chironomidae	Non-*Chironomus* spp.	2	6	C
Diptera	Simuliidae	sp. indet.	21	68	C
Diptera	Ceratopogonidae	sp. indet.	1	3	C
Gastropoda	Bithnyiidae	*Bithynia tentaculata*	16	25	C
Gastropoda	Lymnaeidae	*Ampullaceana balthica*	3	11	C
Gastropoda	Planorbidae	*Ancylus fluviatilis*	4	2	C
Crustacea	Asellidae	*Asellus aquaticus*		2	D
Hirudinidae	Glossiphoniidae	Glossiphonia complanata	1	1	D
Diptera	Chironomidae	Non-*Chironomus* spp.		1	E
Oligochaeta		sp. indet.		3	n/a
Abundance			**171**	**225**	
Q-rating			**Q3-4**	**Q3-4**	
WFD status			**Moderate**	**Moderate**	

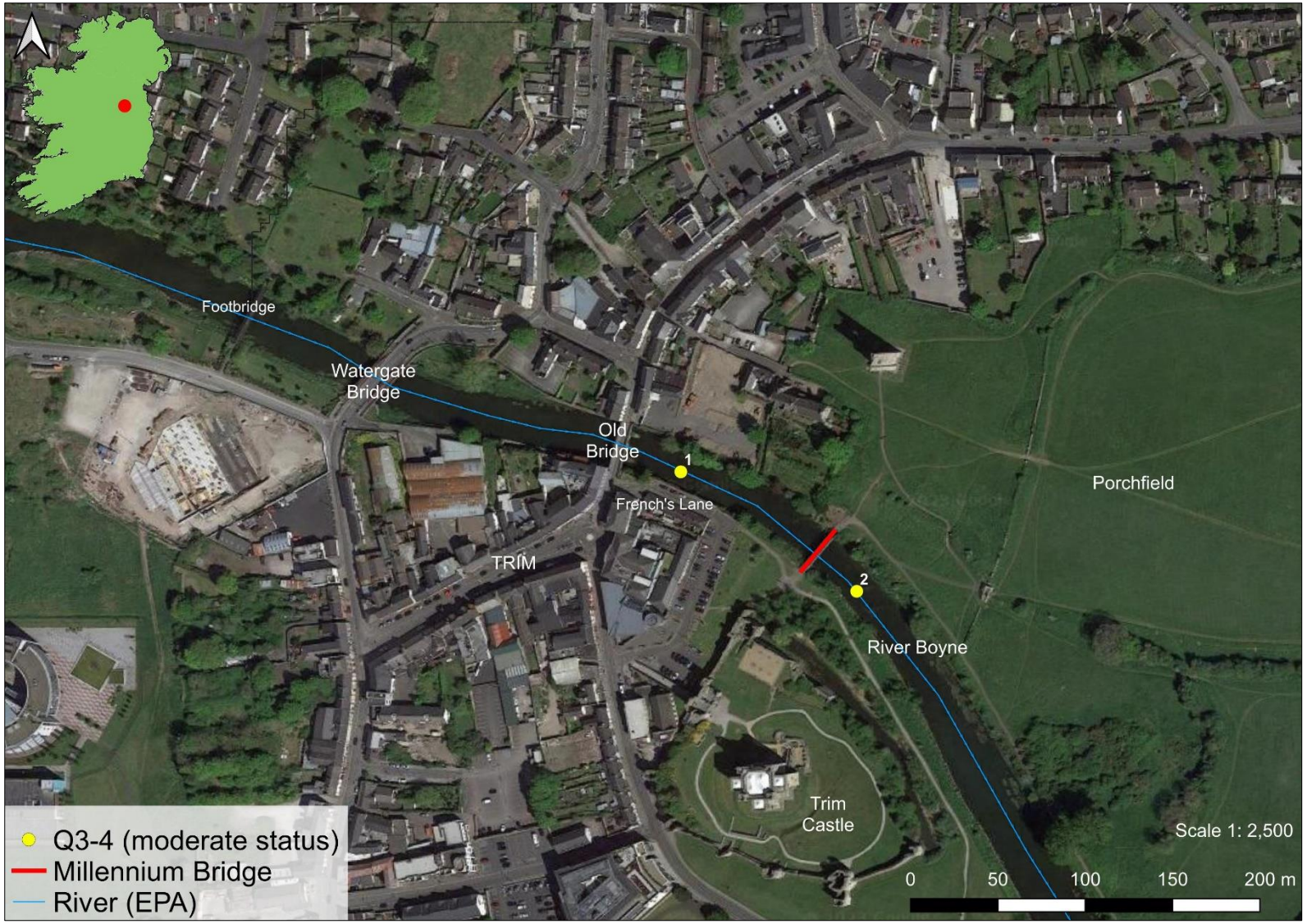


Figure 4.1 Overview of the biological water quality status in the vicinity of Millennium Bridge, October 2023

Table 4.3 Summary of aquatic species and habitats of higher conservation value recorded in the vicinity of Millennium Bridge, October 2023

Watercourse	White-clawed crayfish	Otter signs[4]	Annex I aquatic habitats	Rare or protected macrophytes/ aquatic bryophytes	Rare or protected macro-invertebrates (excl. crayfish)	Other species/habitats of high conservation value
River Boyne, Millennium Bridge	**None recorded but detected via eDNA**	**2 no. spraint sites**	Not present	None recorded	None recorded	**Atlantic salmon, *Lampetra* sp. recorded (eDNA); Red-listed European eel likely present**

Conservation value: Atlantic salmon (*Salmo salar*), brook lamprey (L*ampetra planeri*) and river lamprey (*Lampetra fluviatilis*), white-clawed crayfish (*Austropotamobius pallipes*) and Eurasian otter (*Lutra lutra*) are listed under Annex II of the Directive on the Conservation of Natural Habitats of Wild Fauna and Flora (92/43/EEC) ('EU Habitats Directive') and all are protected under the Irish Wildlife Acts 1976-2023. White-clawed crayfish (Füreder et al., 2010) are also listed as 'Endangered' according to the IUCN Red List. European eel are 'critically endangered' according to most recent ICUN red list (Pike et al., 2020) and listed as 'critically engendered' in Ireland (King et al., 2011).

[4] Otter signs within 150m of the survey site

5. Discussion

The River Boyne in the vicinity of the proposed Trim Millennium Pedestrian Bridge scheme (bridge replacement) is of international importance in terms of aquatic ecology given its location with the River Boyne And River Blackwater SAC (002299), a site designated for several aquatic species, namely Atlantic salmon, river lamprey and otter (NPWS, 2021).

Despite historical modifications from both arterial drainage and urbanisation (i.e. retaining walls, modified banks), the river at this location remains of considerable value for a range of aquatic species of high conservation value. Both Atlantic salmon and lamprey (*Lampetra* sp.) were detected via eDNA sampling and indeed spawning and nursery habitats for both species were present in vicinity of the existing footbridge. Good quality salmonid spawning and nursery habitat was located upstream of Millennium Bridge, with valuable holding areas for migratory adults present downstream (in deeper glide habitat). Spawning areas for *Lampetra* sp. were also present here although nursery areas were limited in extent and typically sub-optimal where present due to the shallow nature of sediments and or high sand content. Nevertheless, areas of marginal soft sediment downstream of Millennium Bridge likely support low densities of *Lampetra* sp. ammocetes, as routinely observed throughout the River Boyne (Gordon et al., 2023; Gallagher et al., 2022; O'Connor, 2006; Triturus data). The survey area (especially deep glide downstream) was of high suitability for Red-listed (King et al., 2011) and critically endangered (Pike et al., 2020) European eel, as well as a range of coarse fish species.

Although some good habitat suitability was present in terms of instream refugia (inclusive of old retaining walls), no white-clawed crayfish were recorded during the survey via hand searching or sweep netting. However, the species was detected by eDNA sampling (**Table 4.1**), confirming their presence at and or upstream of the sampling point. Records for crayfish are available throughout the River Boyne, including in the vicinity of Trim, although many are historical only. This is most likely due to the prevalence of crayfish plague, first known in the Boyne catchment in 1987 and detected again in recent years (Triturus 2021-2022 data). The presence of crayfish plague (confirmed via eDNA sampling) will continue to jeopardise the persistence of remaining Boyne crayfish populations. Crayfish plague is listed at one of the world's 100 worst invasive species (GISD, 2022; Lowe et al., 2000) and is becoming highly prevalent across Ireland.

Two otter spraint sites were recorded on the east and west bank of the River Boyne between Old Bridge and Millennium Bridge in October 2023. The survey area was considered to provide good foraging and commuting habitat although the generally high levels of human disturbance (urban centres, public footpaths etc.) and modified banks were unsuitable for breeding or resting areas – neither of which were identified within a 150m radius of the existing footbridge.

No rare or protected macro-invertebrate species (according to national red lists) were recorded in the samples taken from the River Boyne upstream and downstream of Millennium Bridge (**Table 4.2**). In terms of biological water quality, both sites achieved **Q3-4** (moderate status) due to the low abundances of pollution sensitive (EPA group A) taxa. Thus, the Boyne at this location failed to meet the target good status (≥Q4) requirements of the European Union Environmental Objectives (Surface Waters) (Amendment) Regulations 2019 and the Water Framework Directive (2000/60/EC), in keeping with the most recent EPA monitoring data (2020). Significant hydromorphological modifications and

water quality pressures (including urban run-off, eutrophication & siltation) were noted during the surveys and are known to be the primary threats to water quality in the survey area (EPA data).

No examples of Annex I aquatic habitats associated with large lowland rivers including the Boyne were recorded in the study area. This included an absence of, 'Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation' [3260] or 'Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels' [6430].

6. References

Armstrong, J. D., Kemp, P. S., Kennedy, G. J. A., Ladle, M., & Milner, N. J. (2003). Habitat requirements of Atlantic salmon and brown trout in rivers and streams. Fisheries research, 62(2), 143-170.

Byrne, A. W., Moorkens, E. A., Anderson, R., Killeen, I. J., & Regan, E. (2009). Ireland Red List no. 2: Non-marine molluscs. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government.

EA (2003). River Habitat Survey in Britain and Ireland Field Survey Guidance Manual 2003. Environment Agency, UK.

Feeley, H. B., Baars, J. R., Kelly-Quinn, M., & Nelson, B. (2020). Ireland Red List No. 13: Stoneflies (Plecoptera). National Parks and Wildlife Service.

Fossitt, J. (2000) A Guide to Habitats in Ireland. The Heritage Council, Ireland.

Foster, G. N., Nelson, B. H. & O Connor, Á. (2009). Ireland Red List No. 1 – Water beetles. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.

Füreder, L., Gherardi, F., Holdich, D., Reynolds, J., Sibley, P. & Souty-Grosset, C. (2010). *Austropotamobius pallipes*. The IUCN Red List of Threatened Species 2010: e.T2430A9438817. https://dx.doi.org/10.2305/IUCN.UK.2010-3.RLTS.T2430A9438817.en.

Gallagher, T., O'Gorman, N.M., Rooney, S.M., Brett, A., and O'Leary, C. (2022) National Programme: Habitats Directive and Red Data Book Species Summary Report 2021. Inland Fisheries Ireland, 3044 Lake Drive, Citywest, Dublin 24, Ireland.

Gardiner, R. (2003). Identifying lamprey. A field key for sea, river and brook lamprey. Conserving Natura 2000 Rivers, Conservation techniques No. 4. Peterborough. English Nature.

GISD (2022). Global Invasive Species Database downloaded from http://www.iucngisd.org/gisd/100_worst.php on 06-10-2022.

Gordon, P., Matson, R., Corcoran, W., Heagney, B. and Kelly, F.L. (2023). Sampling Fish in Rivers 2022 – Boyne Catchment, Factsheet No. 2022/04. National Research Survey Programme. Inland Fisheries Ireland.

Harvey, J. & Cowx, I. (2003). Monitoring the River, Sea and Brook Lamprey, *Lampetra fluviatilis, L. planer*i and *Petromyzon marinus*. Conserving Natura 2000 Rivers Monitoring Series No. 5, English Nature, Peterborough.

Hendry, K., & Cragg-Hine, D. (1997). Restoration of Riverine Salmon Habitats: A Guidance Manual. Environment Agency.

Hendry, K., Cragg-Hine, D., O'Grady, M., Sambrook, H., & Stephen, A. (2003). Management of habitat for rehabilitation and enhancement of salmonid stocks. Fisheries Research, 62(2), 171-192.

IFI (2010). Biosecurity Protocol for Field Survey Work. Available at http://www.fisheriesireland.ie/Invasive-Species/biosecurity-protocol-for-field-survey-work.html

IFI (2013). Environmental River Enhancement Programme review report 2008 – 2012. Inland Fisheries Ireland. May 2013.

Kelly, F.L., Harrison, A., Matson, R., Connor, L., Feeney, R., Morrissey, E., O'Callaghan, R., Wogerbauer, C., Hanna, G., Rocks, K. & Gallagher, K. (2011a). Sampling fish for the Water Framework Directive Rivers 2010: Eastern River Basin District. Inland Fisheries Ireland, Swords Business Campus, Swords, Co. Dublin, Ireland.

Kelly, F.L., Harrison, A., Connor, L., Wightman, G., Matson, R., Hanna, G., Feeney, R., Morrissey, E., O'Callaghan, R., Wogerbauer, C., Rocks, K., Hayden, B., & Stafford, T. (2011b). Sampling fish for the Water Framework Directive Rivers 2009: Eastern River Basin District. Inland Fisheries Ireland, Swords Business Campus, Swords, Co. Dublin, Ireland.

Kelly-Quinn, M. & Regan, E.C. (2012). Ireland Red List No. 7: Mayflies (Ephemeroptera). National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

King, J.L., Marnell, F., Kingston, N., Rosell, R., Boylan, P., Caffrey, J.M., FitzPatrick, Ú., Gargan, P.G., Kelly, F.L., O'Grady, M.F., Poole, R., Roche, W.K. & Cassidy, D. (2011). Ireland Red List No. 5: Amphibians, Reptiles & Freshwater Fish. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

Lowe, S., Browne, M., Boudjelas, S., & De Poorter, M. (2000). 100 of the world's worst invasive alien species: a selection from the global invasive species database (Vol. 12). Auckland: Invasive Species Specialist Group.

Maitland, P.S. (2003). Ecology of the River, Brook and Sea Lamprey. Conserving Natura 2000 Rivers Ecology Series No. 5. English Nature, Peterborough.

Massa-Gallucci A. & Mariani S. (2011). A genetic study of the mixed trout populations of the Boyne and Suir River catchments. Technical Report. Inland Fisheries Ireland.

Matthews, M., & Reynolds, J. D. (1992). Ecological impact of crayfish plague in Ireland. Hydrobiologia, 234, 1-6.

McGinnity, P., Gargan, P., Roche, W., Mills, P. & McGarrigle, M. (2003). Quantification of the Freshwater Salmon Habitat Asset in Ireland using data interpreted in a GIS platform. Irish Freshwater Fisheries, Ecology and Management Series: Number 3, Central Fisheries Board, Dublin, Ireland.

Nelson, B., Ronayne, C. & Thompson, R. (2011). Ireland Red List No.6: Damselflies & Dragonflies (Odonata). National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.

NPWS (2021). Conservation Objectives: River Boyne and River Blackwater SAC 002299. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

O'Connor W. (2006). A survey of juvenile lamprey populations in the Boyne Catchment. Irish Wildlife Manuals, No. 24 National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.

O'Grady, M.F. (2006). Channels and challenges: enhancing Salmonid rivers. Irish Fresh- water Fisheries Ecology and Management Series: Number 4. Central Fisheries Board, Dublin.

O'Reilly, P. (2009). Rivers of Ireland, a Flyfisher's Guide (7th Edition). Merlin Unwin Books, Shropshire, UK.

Pike, C., Crook, V. & Gollock, M. (2020). *Anguilla anguilla*. The IUCN Red List of Threatened Species 2020: e.T60344A152845178. https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T60344A152845178.en.

Reynolds, J.D., Lynn, D., O' Keeffe, C. (2010). Methodology for Monitoring Irish Lake Populations of White-clawed Crayfish Austropotamobius pallipes (Lereboullet). Freshwater Crayfish 17:195–200.

Toner, P., Bowman, J., Clabby, K., Lucey, J., McGarrigle, M., Concannon, C., ... & MacGarthaigh, M. (2005). Water quality in Ireland. Environmental Protection Agency, Co. Wexford, Ireland.

Wyse Jackson, M., FitzPatrick, Ú., Cole, E., Jebb, M., McFerran, D., Sheehy Skeffington, M., & Wright, M. (2016). Ireland red list no. 10: Vascular plants. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, Dublin, Ireland.

7. Appendix A – eDNA analysis lab report

Triturus

Folio No: 141-2023
Purchase Order: eDNA_OCT23
Contact: Triturus Environmental Ltd
Issue Date: 31.10.2023

eDNA Report

Technical Report

SureScreen Scientifics

Triturus

Folio No:	141-2023
Purchase Order:	eDNA_OCT23
Contact:	Triturus Environmental Ltd
Issue Date:	31.10.2023

SureScreen Scientifics

eDNA Analysis

Summary

When aquatic organisms inhabit a waterbody such as a pond, lake or river they continuously release small amounts of their DNA into the environment. By collecting and analysing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm the presence or absence of the target species within the waterbody.

Results

Lab ID	Site Name	OS Reference	Target Species	Sample Integrity Check	Result	Positive Replicates
11696	River Boyne, Millenium Bridge, Trim		Atlantic salmon	Pass	Positive	12
			Brook lamprey	Pass	Positive	12
			Crayfish plague	Pass	Positive	11
			White-clawed crayfish	Pass	Positive	2

Matters affecting result: none

Reported by:Lauryn Jewkes

Approved by: Chelsea Warner

SureScreen Scientifics Ltd, Morley Retreat, Church Lane, Morley, Derbyshire, DE7 6DE, UK
+44 (0)1332 292003 | scientifics@surescreen.com | surescreenscientifics.com

Triturus

Folio No:	141-2023
Purchase Order:	eDNA_OCT23
Contact:	Triturus Environmental Ltd
Issue Date:	31.10.2023

SureScreen Scientifics

Methodology

Samples have been analyzed for the presence of target species eDNA following readily available and scientifically published eDNA assays and protocols.

The analysis is conducted in two phases. The sample first goes through an extraction process where the filter is incubated in order to obtain any DNA within the sample. The extracted sample is then tested via real-time PCR (also called q-PCR) for each of the selected target species. This process uses species-specific molecular markers (known as primers) to amplify a select part of the DNA, allowing it to be detected and measured in 'real time' as the analytical process develops. qPCR combines amplification and detection of target DNA into a single step. With qPCR, fluorescent dyes specific to the target sequence are used to label targeted PCR products during thermal cycling. The accumulation of fluorescent signals during this reaction is measured for fast and objective data analysis. The primers used in this process are specific to a part of mitochondrial DNA only found in each individual species. Separate primers are used for each of the species, ensuring no DNA from any other species present in the water is amplified. If target species DNA is present, the DNA is amplified up to a detectable level, resulting in positive species detection. If target DNA is not present then amplification does not occur, and a negative result is recorded.

Analysis of eDNA requires scrupulous attention to detail to prevent the risk of false positive and false negative results. True positive controls, negative controls, and spiked synthetic DNA are included in every analysis and these have to be correct before any result is declared. Stages of the analysis are also conducted in different buildings at our premises for added security. SureScreen Scientifics Ltd is ISO9001 accredited and participates in Natural England's proficiency testing scheme for GCN eDNA testing.

Interpretation of Results

Sample Integrity Check:

Laboratory Arrival:

When samples are received in the laboratory, they are inspected for any tube leakage, suitability of sample (not too much mud or weed etc.) and absence of any factors that could potentially lead to inconclusive results. Any samples which fail this test are rejected and eliminated before analysis.

Degradation and Inhibition check:

Analysis of the spiked DNA marker to see if there has been degradation or inhibition of the kit or sample, between the date it was made to the date of analysis. Degradation of the spiked DNA marker may indicate a risk of false negative results. If inhibition is detected, samples are purified and re-analyzed. Inhibitors cannot always be removed, if the inhibition check fails, the sample should be re-collected.

Result:

Presence of eDNA (Positive/Negative/Inconclusive)

Positive: DNA was identified within the sample, indicative of species presence within the sampling location at the time the sample was taken or within the recent past.

Positive Replicates: Number of positive qPCR replicates out of a series of 12. If one or more of these are found to be positive the pond is declared positive for species presence. It may be assumed that small fractions of positive analyses suggest low level presence, but this cannot currently be used for population studies. Even a score as low as 1/12 is declared positive. 0/12 indicates negative species presence.

Negative: eDNA was not detected or is below the threshold detection level and the test result should be considered as evidence of species absence, however, does not exclude the potential for species presence below the limit of detection.

Inconclusive: Controls indicate inhibition or degradation of the sample, resulting in the inability to provide conclusive evidence for species presence or absence.

SureScreen Scientifics Ltd, Morley Retreat, Church Lane, Morley, Derbyshire, DE7 6DE, UK
+44 (0)1332 292003 | scientifics@surescreen.com | surescreenscientifics.com

Triturus Environmental Ltd.

42 Norwood Court,

Rochestown,

Co. Cork,

T12 ECF3.

FEHILY TIMONEY

CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

APPENDIX 5

Meath County Development Plan Biodiversity Objectives

HER POL 27: To protect, conserve and enhance the County's biodiversity where appropriate;

- HER POL 28: Integration of protection and enhancement of biodiversity in the development management process;
- HER POL 29: To raise public awareness and understanding of the County's natural heritage and biodiversity;
- HER POL 30: To promote increased public participation in biodiversity conservation by supporting and encouraging community-led initiatives;
- HER POL 31: To ensure the ecological impact of all development proposals on habitats and species are appropriately assessed by suitably qualified professionals in accordance with best practice guidelines (including preparation EcIA, AA-screening and NIS);
- HER OBJ 30: To implement the objectives of Ireland's National Biodiversity Action Plan 2017-2021;
- HER OBJ 31: To implement the objectives of the County Meath Biodiversity Plan 2015-2020;
- HER OBJ 32: To actively support the implementation of the All Ireland Pollinator Plan 2021-2025

FEHILY TIMONEY

CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

APPENDIX 6

Process for Assessing Impact Significance

Once the value of the identified key ecological receptors (species, habitats, features and resources) was determined, the next step was to assess the potential effect or impact of the proposed works on the identified key ecological receptors. This was carried out with regard to the criteria outlined in various impact assessment guidelines (NRA, 2009; CIEEM, 2018 and revisions). The impacts were assessed under several parameters such as magnitude, extent, duration and reversibility.

The tables below, outline the EPA (2022) evaluation criteria utilised in this appraisal of the Environmental Factor, Biodiversity. These criteria are included in the Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022). Section **Error! Reference source not found.**outlines the impacts identified from the proposed project.

Table of Probability of Effects (EPA, 2022)

Likely Effects	Unlikely Effects
The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented

Quality of Effects (EPA, 2022)

Likely Effects	Description
Positive Effect	A change which improves the quality of the environment (for example, by increasing species diversity; or the improving reproductive capacity of an ecosystem, or removing nuisances or improving amenities)
Neutral Effect	No effects or effects that are imperceptible, within the normal bounds of variation or within the margin of forecasting error.
Negative/Adverse Effect	A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem; or damaging health or property or by causing nuisance).

Significance of Effects (EPA, 2022)

Significance of Effect	Description
Imperceptible	An effect capable of measurement but without significant consequences
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging trends
Significant	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment

Significance of Effect	Description
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment
Profound	An effect which obliterates sensitive characteristics

Duration of Effects (EPA, 2022)

Duration of Effect	Description
Momentary Effects	Effects lasting from seconds to minutes
Brief Effects	Effects lasting less than a day
Temporary Effects	Effects lasting less than a year
Short-term Effects	Effects lasting one to seven years
Medium-term Effects	Effects lasting seven to fifteen years
Long-term Effects	Effects lasting fifteen to sixty years
Permanent Effects	Effects lasting over sixty years

Types of Effects (EPA, 2022)

Type of Effect	Description
Effect/Impact	A change resulting from the implementation of a project
Likely Effects	The effects that are specifically predicted to take place – based on an understanding of the interaction of the proposed project and the receiving environment.
Indirect Effects (a.k.a. secondary effects)	Effects on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway
Cumulative Effects	The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.
'Do Nothing' Effects	The environment as it would be in the future should the subject project not be carried out.
'Worst Case' Effects	The effects arising from a project in the case where mitigation measures substantially fail
Indeterminable Effects	When the full consequences of a change in the environment cannot be described.
Irreversible Effects	When the character, distinctiveness, diversity, or reproductive capacity of an environment is permanently lost.
Reversible Effects	Effects that can be undone, for example through remediation or restoration
Residual Effects	The degree of environmental change that will occur after the proposed mitigation measures have taken effect
Synergistic Effects	Where the resultant effect is of greater significance than the sum of its constituents (e.g. combination of SOx and NOx to produce smog).

Definition of Terms – Source, Pathway, Receptor (EPA, 2022)

Term	Description
Source	The activity or place from which an effect originates
Pathway	The route by which an effect is conveyed between a source and a receptor.
Receptor	Any element in the environment which is subject to effects.
Effect/Impact	A change resulting from the implementation of a project

Where impacts are assessed to be significant, mitigation measures have been incorporated into the project design to remove or reduce these impacts. The residual impacts after mitigation are also assessed.

The cumulative impact of the proposed project is assessed by discussing the impact of the proposed project in terms of other developments that have planning permission, that are under construction or are in existence in the area. The cumulative impacts of neighbouring developments, and agriculture in the greater area are also considered (see Section **Error! Reference source not found.** for further details).

FEHILY TIMONEY

CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

APPENDIX 7

Bird Records within the NBDC grid square N85D surrounding the proposed project

Species	Latin name	BoCCI Status	Annex I	Date of last record
Blackbird	*Turdus merula*	Green	No	2011
Blackcap	*Sylvia atricapilla*	Green	No	2011
Black-headed Gull	*Chroicocephalus ridibundus*	Amber	No	2011
Blue Tit	*Cyanistes caeruleus*	Green	No	2011
Bullfinch	*Pyrrhula pyrrhula*	Green	No	2011
Buzzard	*Buteo buteo*	Green	No	2017
Chaffinch	*Fringilla coelebs*	Green	No	2011
Chiffchaff	*Phylloscopus collybita*	Green	No	2011
Coal Tit	*Periparus ater*	Green	No	2011
Collared Dove	*Streptopelia decaocto*	Green	No	2011
Cormorant	*Phalacrocorax carbo*	Amber	No	2023
Dipper	*Cinclus cinclus*	Green	No	2020
Dunnock	*Prunella modularis*	Green	No	2017
Fieldfare	*Turdus pilaris*	Green	No	2011
Garden Warbler	*Sylvia borin*	Green	No	2010
Goldcrest	*Regulus regulus*	Amber	No	2020
Goldfinch	*Carduelis carduelis*	Green	No	2011
Grasshopper Warbler	*Locustella naevia*	Green	No	2011
Great Tit	*Parus major*	Green	No	2011
Greenfinch	*Carduelis chloris*	Amber	No	2011
Grey Heron	*Ardea cinerea*	Green	No	2023
Grey Wagtail	*Motacilla cinerea*	Red	No	2022
Hooded Crow	*Corvus cornix*	Green	No	2011
House Martin	*Delichon urbicum*	Amber	No	2017
House Sparrow	*Passer domesticus*	Amber	No	2022
Jackdaw	*Corvus monedula*	Green	No	2011

Species	Latin name	BoCCI Status	Annex I	Date of last record
Kestrel	*Falco tinnunculus*	Red	No	1991
Kingfisher	*Alcedo atthis*	Amber	Yes	2020
Lesser Redpoll	*Carduelis cabaret*	Green	No	2011
Linnet	*Carduelis cannabina*	Amber	No	2011
Little Egret	*Egretta garzetta*	Green	Yes	2023
Long-tailed Tit	*Aegithalos caudatus*	Green	No	2011
Magpie	*Pica pica*	Green	No	2022
Mallard	*Anas platyrhynchos*	Amber	No	2011
Mistle Thrush	*Turdus viscivorus*	Green	No	2011
Moorhen	*Gallinula chloropus*	Green	No	2020
Mute Swan	*Cygnus olor*	Amber	No	2011
Pheasant	*Phasianus colchicus*	Green	No	1991
Pied/White Wagtail	*Motacilla alba*	Green	No	2011
Redwing	*Turdus iliacus*	Red	No	2011
Reed Bunting	*Emberiza schoeniclus*	Green	No	2010
Robin	*Erithacus rubecula*	Green	No	2023
Rock Dove	*Columba livia*	Green	No	2022
Rook	*Corvus frugilegus*	Green	No	2023
Sand Martin	*Riparia riparia*	Amber	No	2019
Sedge Warbler	*Acrocephalus schoenobaenus*	Green	No	2011
Siskin	*Carduelis spinus*	Green	No	2011
Sky Lark	*Alauda arvensis*	Amber	No	2011
Song Thrush	*Turdus philomelos*	Green	No	2011
Sparrowhawk	*Accipiter nisus*	Green	No	2022
Spotted Flycatcher	*Muscicapa striata*	Amber	No	2011
Starling	*Sturnus vulgaris*	Amber	No	2023

Species	Latin name	BoCCI Status	Annex I	Date of last record
Stonechat	*Saxicola torquata*	Green	No	2023
Swallow	*Hirundo rustica*	Amber	No	2022
Swift	*Apus apus*	Red	No	2023
Willow Warbler	*Phylloscopus trochilus*	Amber	No	2011
Woodpigeon	*Columba palumbus*	Green	No	2011
Wren	*Troglodytes troglodytes*	Green	No	2023
Yellowhammer	*Emberiza citrinella*	Red	No	2018

FEHILY TIMONEY

**CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING**

www.fehilytimoney.ie

Cork Dublin Carlow