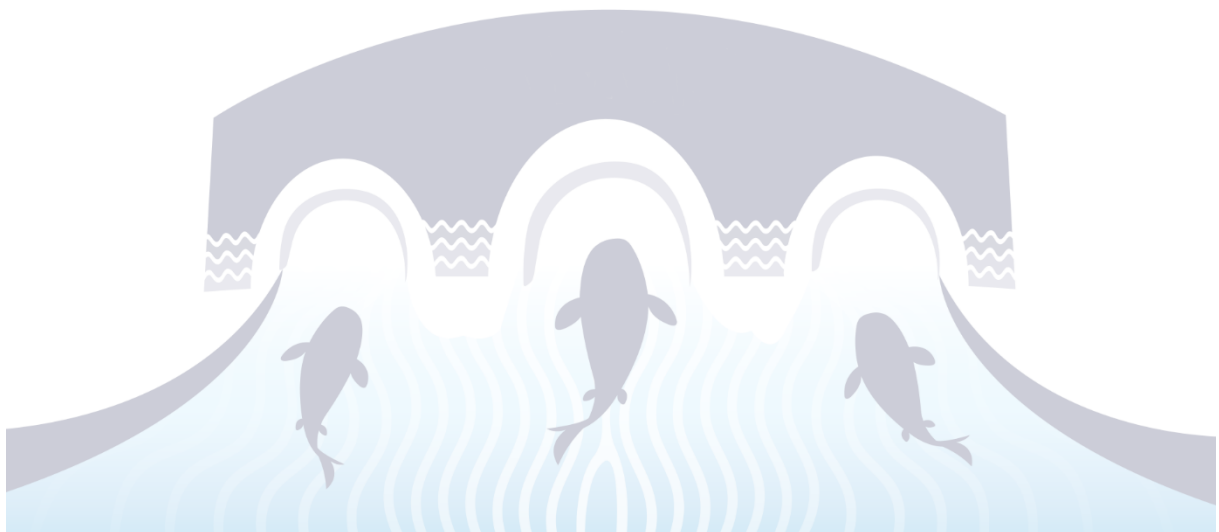




National Barrier Mitigation Programme

Killeen & Feenune Bridge Barrier Mitigation Project

Scope of Integrated Consultancy Services



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1 General Project Details

Inland Fisheries Ireland (the Client) is seeking to appoint a Consultant for Engineering and Environmental Services to assist the Client with the delivery of Killeen & Feenue Bridge Barrier Mitigation Project (detailed in section 2), through the completion of IFI Project Phases 1-3 as detailed in Figure 1 IFI Phases aligned with CWMF key life cycle Stages i-v below:

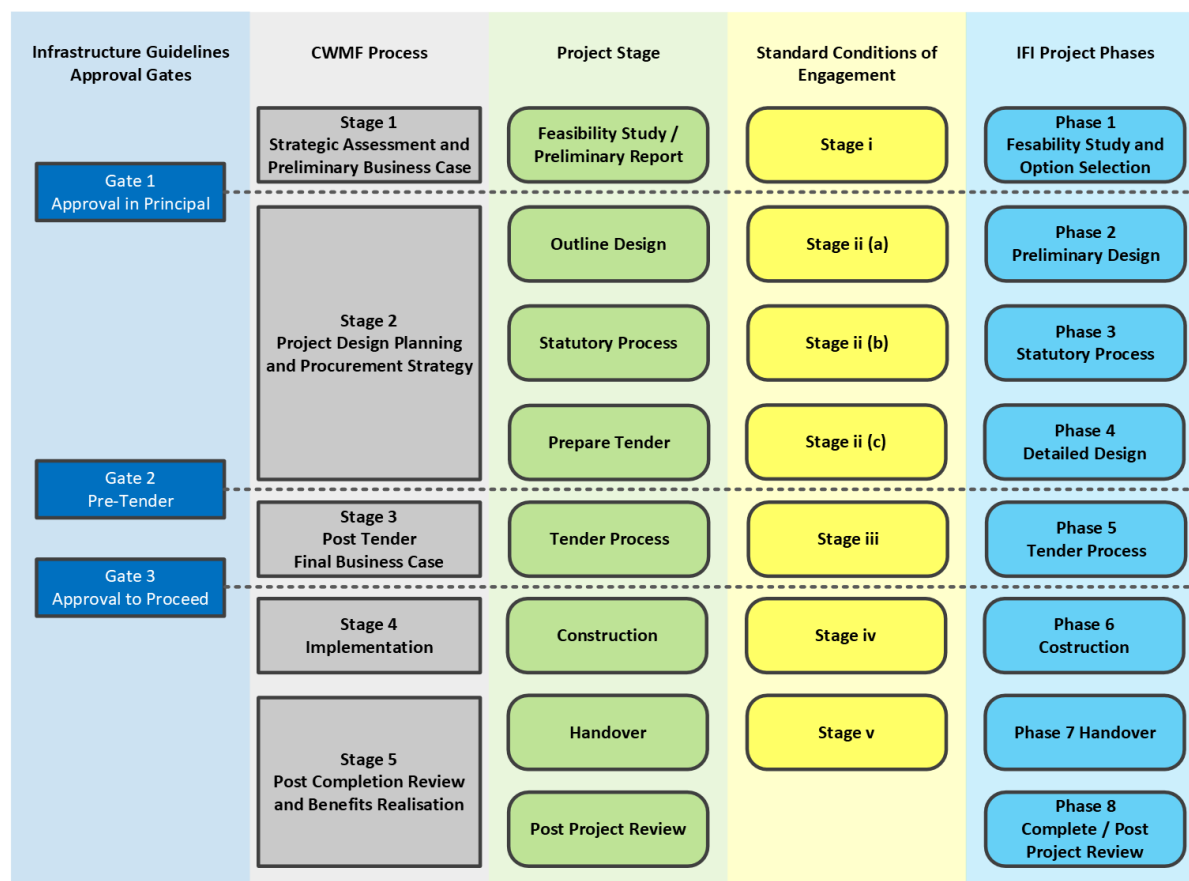


Figure 1 IFI Phases aligned with CWMF key life cycle Stages i-v

The successful consultant shall be initially appointed to undertake Phases 1-3. Following the completion of each Phase, there may be a break in the Consultant's appointment. IFI reserve the right to subsequently reappoint the successful Consultant to undertake the next Phase in the project or to terminate the appointment at that point.

1.1 National Barrier Mitigation Programme

Over the past three decades, there has been growing global recognition of the need to maintain and restore free movement of migratory and non-migratory fish within rivers to allow them to complete their life cycles. In Europe, this principle is now well established. Since 1992, three key pieces of European Union legislation have expanded the focus of fisheries management and fish protection beyond commercially important salmonids to encompass all fish species:

- the Habitats Directive (92/43/EEC),
- the Water Framework Directive (2000/60/EC), and
- the Eel Regulation (EC/1100/2007).

In addition, the EU Biodiversity Strategy for 2030 – “Bringing nature back into our lives” (building on the earlier 2020 Strategy) commits to restoring river ecosystems by removing or adapting barriers to fish passage, re-establishing connectivity, and restoring spawning and nursery habitats in Europe’s rivers.

A central concept across these legislative frameworks is river continuity, which is especially emphasised under the WFD. River continuity is a core environmental objective and a key indicator in assessing whether a water body achieves Good Ecological Status (GES) or Good Ecological Potential (GEP). To reach this standard, a river must be able to support populations of all naturally occurring migratory and non-migratory fish that were present prior to the construction of man-made barriers. This requires sufficient longitudinal connectivity to permit free movement of all migratory fish species. Where water bodies fail to meet GES/GEP, the WFD obliges Member States to implement measures to improve their ecological condition.

1.2 Project Objectives

The Barrier Mitigation Project(s) (detailed in Section 0) aims to mitigate the impacts of the identified barriers on fish passage and restore more natural river processes along the associated rivers. The project objectives are as follows:

1.2.1 Restore Longitudinal Connectivity

- Remove/mitigate identified barriers to restore longitudinal connectivity
- Re-establish or improve upstream access for key migratory species including Atlantic salmon (*Salmo salar*), sea trout (*Salmo trutta trutta*), Sea Lamprey (*Petromyzon marinus*). River lamprey (*Lampetra fluviatilis*), and European eel (*Anguilla anguilla*).

1.2.2 Reinstatement Sediment and Hydromorphological Processes

- Restore natural sediment transport processes.

1.2.3 Promote Environmental and Ecological Enhancement

- Enhance spawning and nursery habitat for salmonids and other native fish species.
- Contribute to the delivery of Water Framework Directive (2000/60/EC) objectives by supporting “High Ecological Status” classification.

1.2.4 Enable Circular Economy Outcomes

- Maximise opportunities for the reuse of demolition arisings (e.g. use of suitable stone or concrete in other local works).
- Investigate sustainable management and reuse of sediments in landscaping, restoration, or local authority projects, subject to testing and regulatory compliance.

1.2.5 Support Policy and Regulatory Compliance

- Ensure compliance with all relevant environmental and planning legislation, including the Habitats Directive (92/43/EEC), Water Framework Directive, and EU Eel Regulation (1100/2007).
- Align with national and EU climate, biodiversity, and water management strategies, including the Nature Restoration Law and Ireland’s River Basin Management Plan.

1.2.6 Deliver Value for Money and Public Benefit

- Deliver the project in accordance with the Capital Works Management Framework (CWMF) and Infrastructure Guidelines 2023.
- Optimise project outcomes in terms of cost-effectiveness, sustainability, and long-term ecological and social benefit.

2 Project Description

This commission is for two Bridge Barrier Mitigations as detailed in Table 1 below.

Site Number	Project Code	Project Barrier	County	U28 ID	GPS Co-ordinates
1	0824008	Killeen Bridge, near Louisburgh	Mayo	32_2756_36	53°42'46.5"N 9°52'48.2"W
2	0824009	Feenune Bridge, near Louisburgh	Mayo	32_2850_130	53°42'54.7"N 9°52'19.8"W

Table 1 Barrier Mitigation Project

2.1 Barrier Details

This project aims to restore fish migration by removing or mitigating two bridge apron structures. One of the barriers is located at Killeen Bridge and the second at Feenune Bridge. Photos of the barriers are shown in Figure 2 and Figure 3.



Figure 2 Killeen Bridge Apron Barrier



Figure 3 Feenune Bridge

The locations of the bridges are shown in Figure 4 and Figure 5. Feenune Bridge is on the Derrygarve More River and Killeen Bridge is on the Bunleemshough River, which is a tributary to the Carrownisky River. These bridge aprons have been designated by IFI as a barrier to fish passage on the Carrownisky River system.

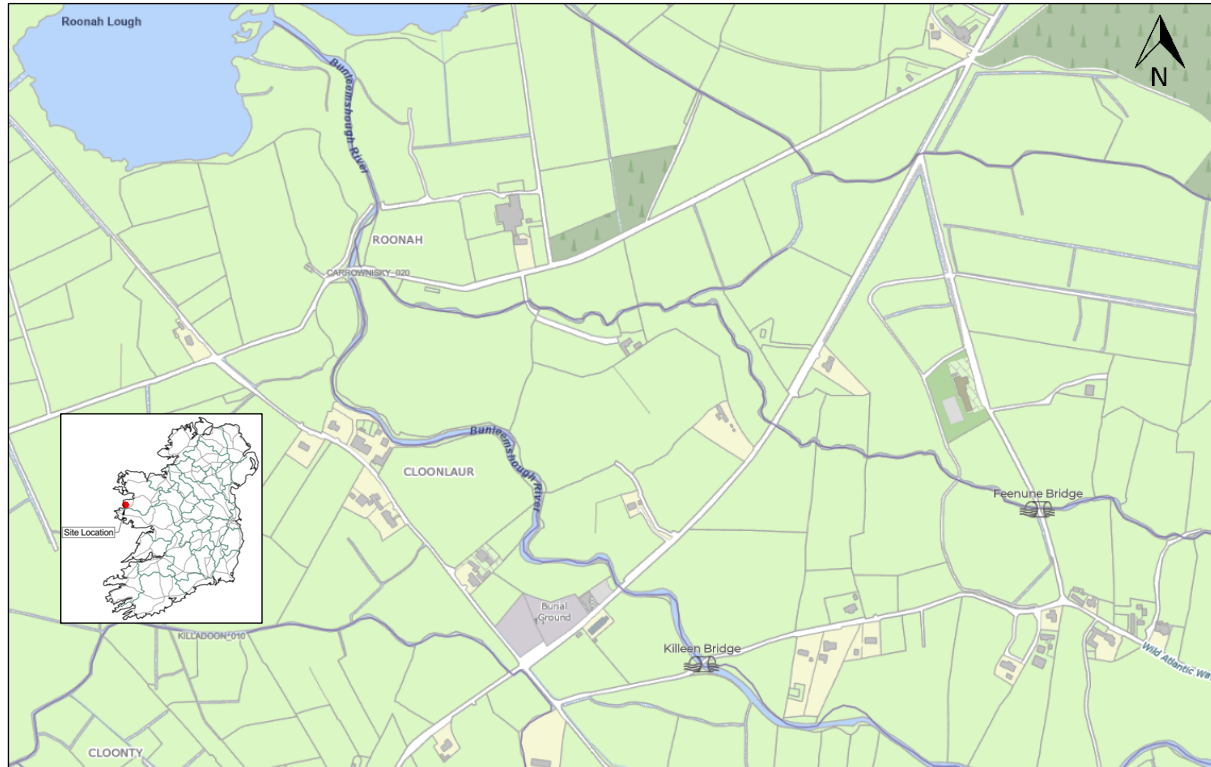


Figure 4 Location Map of Killeen and Feenune Bridge

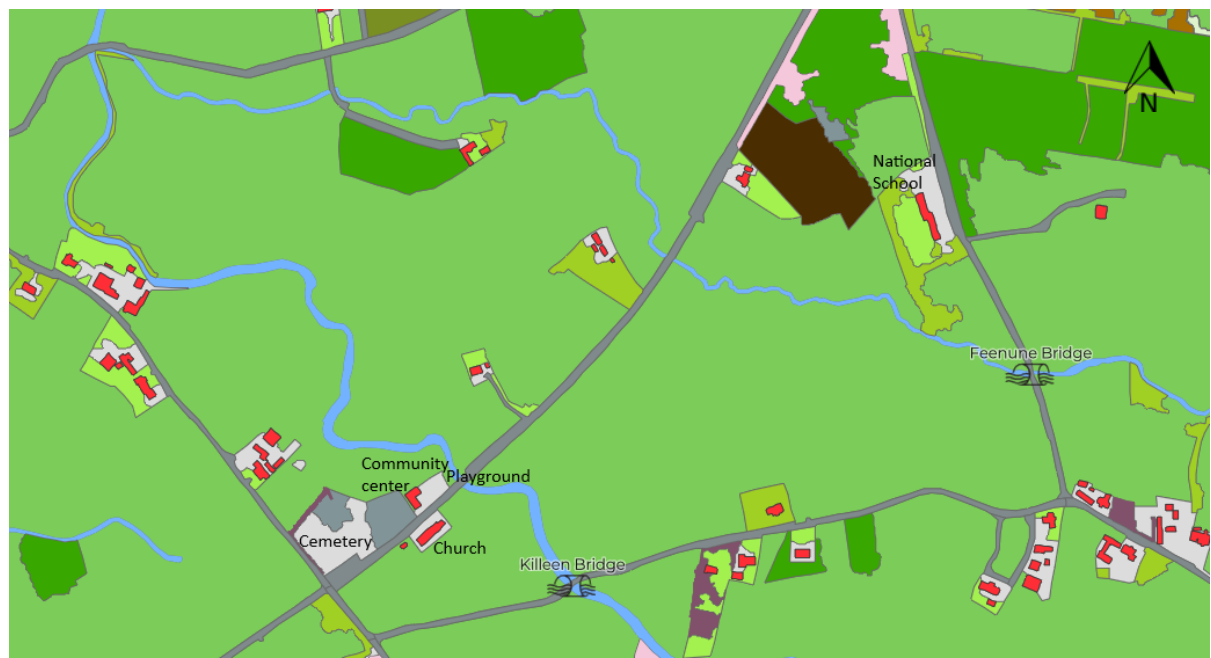


Figure 5 National Land Cover Map (Osi & EPA)

Killeen barrier is a double stepped bridge apron on a Local Road near Killeen, County Mayo and is located on the Wild Atlantic Way. The bridge is owned by Mayo County Council and is likely to have been built during the 20th century.

Feennue Bridge is located close to a local school and there is significant interest amongst the students in the river and its fauna. Works to improve fish passage could foster further engagement with the freshwater environment amongst locals whilst benefitting salmonids and freshwater pearl mussel.

The Carrowniskey river rises in the Mwelrea/Sheefry/Erriff Complex SAC: 001932 where Atlantic salmon are a Qualifying Interest. A key Conservation Objective for salmon relating to this SAC is '100% of river channels down to second order accessible from estuary'. Furthermore, freshwater pearl mussel (which are also QIs for the SAC and critically endangered in Ireland) are known to inhabit the both rivers and are likely present downstream of both structures. The Bunleemshough tributary is in a Margaritifera Sensitive Area. As such, the free passage of salmonids (their host species in this catchment) into the upper river is of the utmost importance. An extant population of freshwater pearl mussel has also been observed downstream of the Feennue Bridge barrier.

The barriers are also located upstream of Roonah Lough. This Lough is part of the pNHA: 001529 - Lough Cahasy, Lough Baun and Roonah Lough and Lough Cahasy, Lough Baun and Roonah Lough SAC 001529 (<https://www.npws.ie/protected-sites/sac/001529>).

The Sites and Monuments Records (SMR) in this area are shown in historical 25" map (1888 – 1913) in Figure 6.

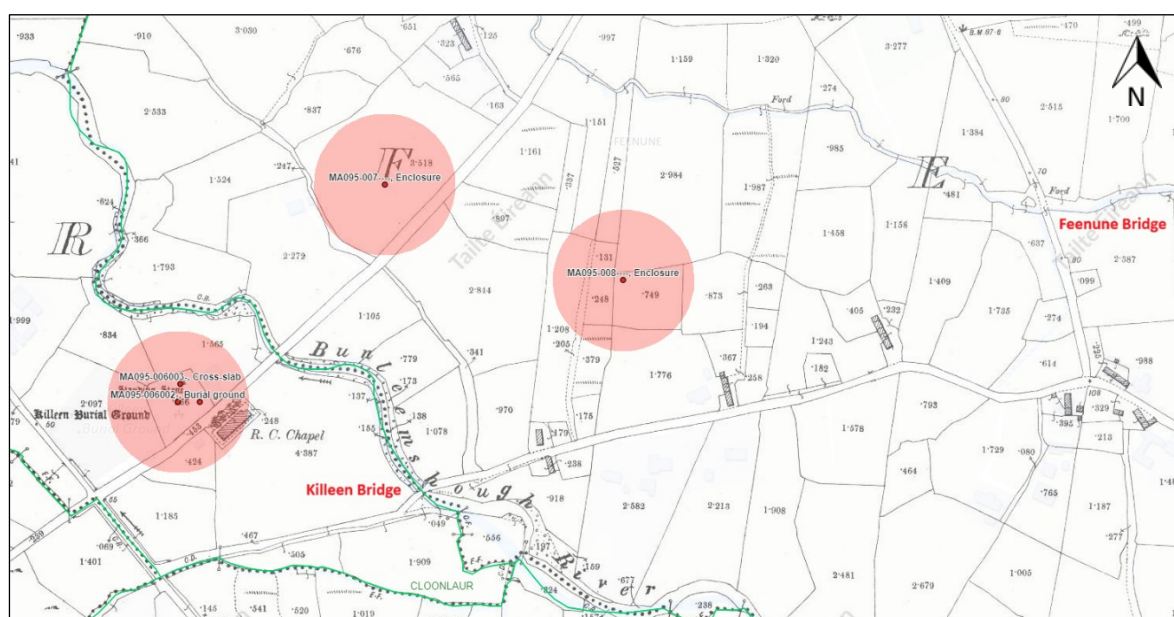


Figure 6 Historical Map of Bridges

2.2 Barrier Impact

AN IFI Barrier Assessment and Screening Tool (I-BAST) determined Killeen Bridge to be 6.0 m long, 5.4 m wide, with a apron drop height of 0.4 m and a plunge pool depth of 0.47 m.

Feenune Bridge was deterred to be 3.1 m long, 3.9 m wide, with a apron drop height of 0.65 m and a plunge pool depth of 0.22 m from a IFI IBAST survey. The barrier impact to key species from these structures is shown in Table 2.

Species	Barrier Impact Killeen Bridge Apron	Barrier Impact Feenune Bridge Apron
Adult Salmon	Impassable	Impassable
Salmon Smolt Downstream	Moderate	High
Adult Eel Downstream	Moderate	Moderate
Eel Elver	High	High
Shad	Impassable	Impassable
Sea Lamprey	Impassable	Impassable
River Lamprey	Impassable	Impassable
Brown Trout	Impassable	Impassable
Pike	Impassable	Impassable
Cyprinids	Impassable	Impassable

Table 2 Barrier Impact

3 Project Constraints

There are a number of principal constraints on the identified project, a non-exhaustive list of which is outlined below.

3.1 Programme

For the purposes of tendering the project commencement date shall be assumed to be 10 working days after the letter of acceptance has issued.

The Project Phases used in this brief are those of Inland Fisheries Ireland's National Barrier Mitigation Programme's bespoke Project Management Process. These are shown in Figure 1 IFI Phases aligned with CWMF key life cycle Stages i-v.

For the successful delivery of Phases 1-3 it is the responsibility of the Consultant to generate, resource and price their own realistic and achievable programme to meet the timelines as detailed in Table 3 Timeframe for Phase Delivery, and to submit this as part of their tender.

The Consultant shall note that if deemed appropriate, and with the approval of the Client, some Phases may run concurrently. The timeframes shown below in Table 3 Timeframe for Phase Delivery align with the Performance Periods in Schedule B to the Form of Tender.

Phase No.	Phase Description	Start Date	Length of Phase (months)	Deadline for Completion
1	Feasibility Study & Option Selection	November 2026	3	January 2027
2	Preliminary Design	February 2027	4	May 2027
3	Statutory Process	June 2027	3	August 2027

Table 3 Timeframe for Phase Delivery

3.2 Instream Works Window

The instream construction works associated with the barrier removal/mitigations are limited to a 3-month window of 1st July to 30th September. Works may be permitted outside of this window providing all temporary works and any necessary mitigation measures are in place prior to the close of the instream works window.

3.3 Construction Works During Changing Weather & Flow Conditions

No construction works shall be undertaken when the river is in flood or close to flood conditions. This condition shall be incorporated into the design, phasing of construction and any works requirements prepared by the consultant.

Prior to and during the course of the construction works, accurate short- and long-term rainfall forecast for the locations shall be obtained from Met Eireann. If a heavy rainfall event is forecasted by Met Eireann within the catchment area, that may result in a flood event at the site of the proposed development, the works should be postponed or interrupted.

It is necessary to include the effects of flood management constraints in the design and construction programme and it should also be noted on the project risk register.

3.4 Site Access

IFI shall carry out the initial contact with landowners in relation to access. It shall be the responsibility of the Consultant to make appropriate access provisions as directed by the Client following their initial contacts with landowners (and any arrangements put in place).

All Consultant's staff or their Contractor's staff entering on landowner's property must be properly authorised by IFI in accordance with their procedures. The costs associated with complying with this and any measures required to comply with the "Code of Practice for the Prevention of the Spread of Animal Disease" shall be included in the fee.

The Consultant shall include in their Design potential site access and compounds for the construction phase. Works may require crossing privately owned land, where temporary access routes shall need to be constructed. The temporary access routes shall be constructed upon the consultation and agreement from the landowners in consultation with IFI. IFI shall be responsible for seeking legal agreement with the relevant landowners.

There will be a requirement for access to the sites from local roads. The consultant and/or any contractor appointed shall ensure that all access road and public roads on approaches to the site are kept free of debris that may have been caused as a result of the works, obtain any necessary consents from the appropriate authority, erect appropriate signage and liaise where appropriate with An Garda Síochána and the Local Authority Roads Engineer (where works are being undertaken).

Access for surveys and any site works needs to be assessed and agreed with the landowners.

The Consultant should note that non-native invasive plant species such as Giant-rhubarb, Japanese Knotweed, Giant Hogweed and Himalayan Balsam may be present within the proposed site area. Care must be taken to prevent the further spread of invasive plants or other noxious weeds whilst undertaking any survey works. Article 49(2) of the European Communities (Birds and Natural Habitats) Regulations 2011 makes it an offence to spread or allow/cause the dispersion of non-native plant species specified in the Third Schedule of the Regulations unless in accordance with a licence granted under said regulations.

3.5 Clients Approval to Proceed

The successful consultant shall be initially appointed to undertake Phases 1 to 3. Following the completion of each Phase, there may be a break in the Consultant's appointment. IFI reserve the right to subsequently reappoint the successful Consultant to undertake the next Phase in the project or to terminate the appointment. In this circumstance, the Consultant would be paid all fees relating to the Phases they have completed. The consultant shall therefore provide separate pricing for each of the phases.

3.6 Client Provided Data

The Client shall endeavour to make available to the Consultant a range of existing information and datasets relevant to the project. The Consultant shall be responsible for reviewing the

data, the Client gives no guarantees to the accuracy, sufficiency, or completeness of any information provided. Information to be made available may include (but is not limited to):

- IFI Guidance Notes on construction works near watercourse
- IFI River Restoration Guidance in an era of climate change
- IFI Guidance on Biosecurity for field surveys
- Carrownisky River Catchment Report
- TÉ vector mapping

4 General Scope of Services

4.1 Overview

Inland Fisheries Ireland (the Client) is seeking to appoint a consultant for Engineering and Environmental Services to assist the Client with the delivery of the proposed Barrier Mitigation Project through the completion of Phases 1-3, as detailed in Figure 1 IFI Phases aligned with CWMF key life cycle Stages i-v **Error! Reference source not found.**

The successful Tenderer (the Consultant) for this project shall provide Project Management Services for each phase of the project, demonstrate proficiency in respect to design, management, monitoring and implementing the proposed barrier mitigation works.

The consultant shall review all documentation. Further to the general duties outlined below, additional tasks will be required at Phases 1 - 3 as detailed in this Scope of Services.

The Consultant will act as the Designer, Project Supervisor Design Process and Employer's Representative during Phases 1 to 3 of the project and carry out all related necessary duties.

4.2 General Services to be Delivered

The following should be read in conjunction with the 'Tender and Schedule' using the 'Standard Conditions of Engagement for Consultancy Services (Technical)' under the [Capital Works Management Framework](#).

The Client wishes to engage a suitably qualified and experienced Design Team for the detailed design and delivery of the Barrier Mitigation project. The Consultant shall be expected to draw on national and international best practice, show initiative and consider all factors in the fulfilment of their role. The Consultant shall propose measures that shall enable a cost efficient and timely delivery of the project.

In addition to the above all Consultants shall comply with the service requirements as detailed below in and Table 4.

	General Duties of all Consultant
GDA.1	The Consultant shall provide and manage a team of suitably qualified and experienced professionals for the efficient, effective delivery of this service. They shall coordinate the production of deliverables from the team members in accordance with the commission programme agreed with the Client.
GDA.2	Provide a single detailed Commission/Project Execution Plan (C/PEP) for the relevant phases of the brief, defining how the project will be developed and actions implemented, outlining roles and responsibilities, setting out project milestones and costs and identifying project risks for the barrier under this commission.
GDA.3	Establish office procedures for drawings and document files, etc.
GDA.4	Interpret to Inland Fisheries Ireland's staff, as necessary, drawing details and specification clauses. Survey and prepare records of parts of the works where specialist or other details may be required for the use of Inland Fisheries Ireland.

GDA.5	Attend all project and health and safety meetings (a H&S update to form part of the monthly progress meeting agenda) as required by the Client including the preparation of agendas, progress reports, meeting minutes, technical notes, risk registers etc. Prepare draft minutes for all meetings attended and issue to the client within one week after the meeting. All project and technical meetings shall be attended by the relevant members of the design team as required.
GDA.6	Develop a single Risk Management System for the project. A single Risk Register shall be established at the start of the commission, (with project specific risks clearly outlined in the document), and maintained throughout the project lifecycle. Assess and mitigate project risks and health & safety risks in consultation with the PSDP and other team members. Furthermore, the Consultant is to pay special attention to highlight and include environmental risks in the register.
GDA.7	Develop a single Cost Management System to identify and mitigate, where feasible, all risks to quality, cost, and delivery of the commission to the designated completion date, with project specific risks clearly outlined in the document. Update as required and inform the Client as appropriate throughout the duration of the contract (process update to form part of the monthly progress meeting agenda).
GDA.8	Maintain correspondence files including letters, emails, minutes of meetings, telephone notes, SMS messages etc and make available to Inland Fisheries Ireland on request. All correspondence should assign the exact project naming convention as provided.
GDA.9	Duties are to include the preparation and submission of reports detailing any incidents, unusual circumstances, information required as necessary to the Client.
GDA.10	Record the details of any occurrence or situation thought likely to cause delay or of any delays which do occur in relation to the contract and inform the Client.
GDA.11	Develop a single Consultation and Stakeholder Engagement Plan for the commission, with project specific information clearly outlined in the document where necessary, including the identification of all relevant stakeholders and statutory bodies, a detailed schedule for engagement and details of how the engagements will be managed and monitored. Landowners and the Local Authority will be the primary Stakeholders. This can form a section within the C/PEP. IFI shall assist with identifying landowners and landowner engagements.
GDA.12	Prepare all works or other service tender documents as required under the contract in draft format initially for Client review and comment and final version. The final version to be submitted in both a redline format (showing comments addressed and updated text in red, where applicable) and standard final version to easily review changes made by the consultant for final review and approval. An additional version may be required where comments haven't been addressed, or additional comments arise from changes.
GDA.13	Fully comply with Irish Language requirements in accordance with the Official Languages (Amendment) Act (2021) as necessary through the course of the project.

GDA.14	Provide all services and resources necessary to deliver services for each Phase as listed under this scope of services document.
GDA.15	Fully comply with General Data Protection Regulations (GDPR) .

Table 4 General Duties of all Consultants

	Health & Safety and PSDP
HSA.1	Complies with the requirements of the Safety, Health and Welfare at Work Act 2005, as may be amended or supplemented from time to time; and the Safety Health and Welfare at Work (Construction) Regulations 2013.
HSA.2	Advise the Client on health and safety matters.
HSA.3	The Consultant shall be responsible for the management (regarding health and safety) of all works/surveys/assessments/investigations to be carried out during each phase of each project. In addition, the Consultant shall assess the competencies of any (sub)contractors/surveyors/designers to carry out the works safely, and make recommendations to the Client on the competencies of all Project Supervisor Construction Stage (PSCS) appointments.
HSA.4	Fulfil the role of Designer in compliance with Safety, Health and Welfare at Work (Construction) Regulations 2013 for all elements of the contract as appropriate. Comply with all the requirements of a Designer as set out in the Health and Safety Authorities ' Guidelines on the Procurement, Design and Management Requirements of the Safety Health and Welfare at Work (Construction) Regulations 2013 '
HSA.5	Manage the health and safety requirements of any works/surveys/assessments to be carried out and assess the competency of those appointed to carry out the works safely.
HSA.6	The Consultant(s) shall immediately advise the Client verbally, and afterwards in writing of any accidents or dangerous occurrences, loss or damage to any personnel, third parties or property arising during the execution of their duties in relation to this project. Such accident reporting to the Client shall not relieve the Consultant of his statutory responsibilities for accident reporting to the relevant statutory authorities and/or insurers.
HSA.7	Assist the client in identifying, obtaining and collating the pre-construction information and provide pre-construction information to designers.
HSA.8	Ensure that all designers including that of temporary work designers and permanent work designers comply with their duties and co-operate with each other. Maintain a single register of all designers involved in the commission, with project specific information clearly outlined in the document.
HSA.9	Identify hazards arising from the design or from the technical, organisational, planning or time related aspects of the project. Maintain a register of all hazards and mitigations. Issue to all designers and maintain record of information and directions issued by the PSDP to any designer.

Table 4 Health & Safety & PSDP Duties of all Consultants

Please Note table 4 and 5 are a non-exhaustive list of services.

4.3 Health & Safety Requirements

The Consultant shall perform all duties required under Health and Safety legislation. The Consultant shall advise the Client on any Health and Safety matters particularly in relation to current law, which may have implications for the Client, or require action by, or on behalf of, the Client in connection with the commission. The Consultant is required to prepare a project Safety File at the commencement of the commission and maintain and update the Safety File for the full duration of the commission. The Consultant will be required to include Health and Safety as an item on the agenda for each progress meeting and shall address any safety item that arises during the project. All matters relating to safety shall be included and updated on the Safety File. The PSDP shall on completion of the commission provide the Client with the Safety File for the commission.

The Consultant will be appointed as Project Supervisor for the Design Process (PSDP) for the Project under the Safety, Health, and Welfare at Work (Construction Regulations) 2013. The PSDP shall fulfil all relevant obligations of the PSDP as defined in Safety, Health, and Welfare at Work (Construction Regulations) 2013 for the duration of the Project.

4.4 GDPR and Data Processor Management

IFI retains overall responsibility for the protection of personal data under its control. Any data processor with whom IFI engages has an important role to play to enable IFI to comply with its regulatory obligations, which includes personal data breach notifications, where they may occur. IFI shall ensure that processing by a processor is governed by a contract. Included in this contract shall be a stipulation that the processor shall assist IFI in ensuring compliance with its obligations to implement appropriate security and to assist IFI in handling personal data breach notifications, where required.

Any processor which becomes aware of a breach of personal data it is processing on behalf of IFI must notify IFI without undue delay. This obligation on the processor allows IFI to address the personal data breach in a timely manner, determine the severity of the breach and assess its requirement to notify the supervisory authority and possibly affected individuals in the case of a high-risk breach.

4.5 Progress Reports

The Consultant shall prepare Progress reports for presentation at each monthly progress meeting. Progress reports shall be issued three working days prior to the applicable progress meeting. Progress reports shall include as a minimum detail on the progress/issues under the following headings as a minimum:

- Health & Safety Issues
- Progress update
- Finances
- Programme look-ahead for next period
- Stakeholder management - Consultation in the period and look-ahead for next period
- Risk management
- Register of Issues and Actions

4.6 Meetings & Workshops

The Consultant shall attend monthly progress meetings with the Client. Meetings are to include the preparation and issue of progress reports, minutes and Action/Decision lists of meetings with financial updates. Meetings to be attended by Project Director, Project Manager and other key personnel as required.

The initial progress meeting and quarterly thereafter shall be in-person in the IFI Galway Teach Breac Office unless otherwise agreed. All other monthly progress meetings shall be held online via MS Teams, unless stated otherwise.

Monthly progress meetings shall be held online via MS Teams, unless stated otherwise.

The Consultant shall also allow for 3 no. landowner meetings for the project and 2 no. pre-planning meetings with Mayo County Council for the purpose of this tender. These are to be in-person meetings.

4.7 Programme

It is anticipated that the commission shall commence in November 2026.

The Consultant shall prepare, provide and maintains a master programme. The Consultant shall submit to the Client within 10 working days from appointment a detailed master programme for the project that shall outline the various components of each phase at commencement. The master programme shall be in Microsoft Office Project or a format agreed with the Client.

The master programme shall be updated and reissued to the Client on the completion of each Phase or Sub-Phase and as when requested by the Client. The programme shall outline the critical path in the delivery of the project to completion, highlight risks to the programme and any milestone dates that have to be achieved, e.g. seasonal surveys, etc. and shall as a minimum (non-exhaustive list) show the following:

- The planned commencement date for each Phase of the Services.
- The planned date for completion of the Services within each Phase.
- The order and timing of any activities which the consultant plans to do in order to provide the Services and meet the Milestones.
- Other information which this Scope of Services requires to be shown in the programme.

The programme shall be actively monitored, it shall be the responsibility of the Consultant to ensure the programme is on track and where required provided additional project resources to bring the programme back on track, at no additional cost to the Client.

Changes to the initial agreed programme or revisions shall be agreed with the Client and the programme revised and submitted to the client within 5 working days.

As part of monthly progress reports and meetings, the Consultant shall submit to the client the most recent agreed programme with actual progress to date marked on it and report on

performance, activity, current status and progress. Any slippages and risks to the programme shall be reported on corrective action to be taken by the consultant at each progress meeting.

4.8 Consultation & Stakeholder Engagement

The Consultant will be required to undertake extensive consultation during the development of the projects. At the outset of the project the Consultant shall prepare a Stakeholder Engagement Plan, setting out the objectives, methodology, programme, and responsibilities for all consultation activities. A list of stakeholders shall be identified at an early stage and reviewed regularly to ensure it is current and accurate. Records shall be kept, which will include details of potential issues, potential accommodation works requested and details of proposed mitigations if necessary.

The Consultant shall also allow for a minimum of 1 no. meetings with stakeholders in addition to landowners and the local authority (as set out in Section 4.6). The following parties shall be engaged as a minimum:

- Inland Fisheries Ireland - Operations (IFI Ops)
- National Parks and Wildlife Service (NPWS)
- Office of Public Works (OPW)
- River Basin Management Services (RBMS / Formerly LAWPRO)
- Local Angling societies and interest groups
- Killeen National School
- Utility Service Providers (if required)

4.9 Public and Media Relations

The Consultant shall report immediately to the Client and assist in providing information regarding public and media relations issues that arise throughout the project. All media releases shall be undertaken by IFI directly.

The Consultant shall seek prior approval from IFI before publishing any details of the project(s) on any platform even if it is for their own company promotion.

4.10 Public Information Day

The Consultant shall undertake a non-statutory public information day in relation to any proposed works. The purpose of this shall be to clearly communicate the details of the proposals and to elicit feedback on any issues or concerns arising in relation to them.

The Consultant shall assume that one Public Information Day in person event open to the public shall be held at a suitable venue within the locality of the scheme commencing at 3pm and finishing at 8.00pm on a weekday. The Consultant shall be responsible for all organisation, publicity and running of the public consultation in person event. The Client will provide a list of suitable venues.

The Consultant shall be responsible for the preparation of information, posters, pull-ups, drawings, and brochure, including provision of publicity information. Include for attendance and recording and analysis of information gathered. The cost of venue and printing of brochures

are to be borne by the Consultant. IFI will supply the mounting boards for A1 size drawings and information panels (10 no).

The Consultant will develop one number photomontage of the proposed works for display at the Public Information Day for each barrier.

4.11 Preliminary Business Case

The Consultant shall prepare a Preliminary Business Case (PBC) in accordance with the Infrastructure Guidelines 2023, incorporating the requirements of the Strategic Assessment stage. A template document is provided in the background information data folder. The PBC will confirm the strategic rationale for intervention, demonstrate alignment with national and sectoral policy, and assess the identified preferred option. It will include environmental analysis, a structured appraisal of costs, benefits, risks and sensitivities, and an outline procurement and implementation strategy. The PBC will also allow for optimism bias, and set out the proposed governance, monitoring, and evaluation framework. The outputs will enable the Sponsoring Agency and Approving Authority to make an informed decision on whether the project should proceed. It shall inform the client of the appropriate approach to the Statutory Process.

4.12 Cost and Risk Management

The Consultant shall undertake the management of cost, value, and risk throughout the commission and provide a report at progress meetings to the client. The Consultant shall prepare an outline cost plan in accordance with the Capital Works Management Framework (CWMF) for each barrier separately. Estimates shall be benchmarked against comparable recent projects, with allowances for risks, inflation, and optimism bias, as recommended in the Infrastructure Guidelines 2023 Strategic Assessment and Preliminary Business Case.

The Consultant shall appoint a Risk Manager (this role may be assigned to a suitability competent existing project team member i.e. Project Manager or Lead Civil/Structural Engineer) for the duration of the commission and shall be responsible for completing and managing all risk management processes and deliverables. Services shall include a Risk Management Strategy and a live Risk Register developed at the commencement of the commission, monitored and amend the risk register throughout each Phase.

4.13 Procurement

Where a service provider or contractor is to be directly contracted to the client, then the Consultant shall comply with and carry out the procurement process in accordance with the timelines as detailed in Table 5 IFI Procurement Timeframes and the financial thresholds as detailed in Table 6 IFI Procurement Thresholds, unless otherwise instructed by the client. Cost for this service provider or contractor or utility provider shall be paid separately by Client.

Choice of procedure and stage (all tendering through E-Tenders)	Standard timescale Below EU Threshold	Standard Timescale Above EU Threshold (OJEU)
OPEN		
Publish RFT to receipt of responses	21-30 days, dependent on complexity	30 days
Standstill	As stated in RFT (Min 7 days)	14 days
RESTRICTED		
Publish EOI to receipt of responses	21-30 days, dependent on complexity	30 days
RFT to receipt of bids	21-30 days, dependent on complexity	25 days
Standstill	As stated in RFT (Min 7 days)	14 days

Table 5 IFI Procurement Timeframes

Inland Fisheries Ireland Procurement Thresholds (Red, Amber, Green denoting relative risk classification)

Procedure	Goods & Services Supplier or IFI Terms & Conditions	Works Related Services CWMF Terms & Conditions	Works CWMF Terms & Conditions
No quotes	Less than €500 No quotes required Endeavour to ensure best value by appropriate market research.		
Verbal Quotes	€500 - €1,000 Needs analysis and seek 3 Verbal Quotes from interested and competent providers.		
Written Quotes	€1,001 - €5,000 Needs analysis and seek 3 Written Quotes from interested and competent providers		
Select Tenders (direct invitation)	€5,000 - €50,000 Business case, conflict of Interest and seek 3 Written Tenders from interested and competent providers. Use www.etenders.gov.ie Simplified Procedure for select tendering.	Up to €50,000 Business case, conflict of Interest and seek 5 Written Tenders from interested and competent providers. Use www.etenders.gov.ie Simplified Procedure for select tendering.	Up to €200,000 Business case, conflict of Interest. Use www.supply.gov.ie or seek 5 Written Tenders from interested and competent contractors. Use www.etenders.gov.ie Simplified Procedure for select tendering.
Public Tender	€50,000 - €216,000 (EU Threshold) Business case, conflict of Interest and public tender with a Contract Notice published on www.etenders.gov.ie	€50,000 – €216,000 (EU Threshold) Business case, conflict of Interest and public tender with a Contract Notice published on www.etenders.gov.ie	€200,000 – €5,404,000 (EU Threshold) Business case and public tender with a Contract Notice published on www.supply.gov.ie or www.etenders.gov.ie
Public Tender (OJEU)	Above €216,000 (EU Threshold) Business case, conflict of Interest and public tender (open or restricted) with a Contract Notice published on www.etenders.gov.ie and in the OJEU	Above €216,000 (EU Threshold) Business case, conflict of Interest and public tender (open or restricted) with a Contract Notice published on www.etenders.gov.ie and in the OJEU	Above €5,404,000 (EU Threshold) Business case, conflict of Interest and public tender (open or restricted) with a Contract Notice published on www.etenders.gov.ie and in the OJEU

Requisitioners **must** aggregate expenditure where possible to ensure effective use of resources and achieve best value for money outcomes.

The estimated value of a contract is based on the total amount payable including any proposed extensions or renewal options listed in the tendering documents.

Where the estimated contract value is within 10% of an upper threshold, then the upper threshold should be applied.

Table 6 IFI Procurement Thresholds

4.14 Statutory Consent

4.14.1 Planning General

The Consultant shall review existing and proposed plannings/zonings in a 10km area around the project. The Consultant shall provide the Client with full planning advice on other development/proposals and the impact they may have on the project or vice versa.

The Consultant shall prepare all necessary statutory process documentation, including application forms, planning report, statutory notices, maps, drawings, and supporting technical and environmental reports (e.g. Preliminary Design Report, Environmental Report, Section 50 application).

The Consultant shall ensure inclusion of all relevant environmental assessments — AA Screening, NIS, and where planning exemption route is applicable, EcIA, EIA and WFD Screening Reports and Environmental Report — and coordinate with Mayo County Council to confirm submission requirements, timelines, and validation standards. Support shall be provided for statutory and public consultation, ensuring alignment between Planning Act procedures and project-level engagement. The Consultant shall attend meetings and workshops with Mayo Co Co, and statutory consultees (IFI Ops, NPWS, RBMS, OPW, EPA) as required, and respond to clarifications, further information requests, or required modifications during the determination. The scope and fee for responding to such further information requests shall be agreed with the Client once their scale is known.

The Consultant shall undertake the following as part of the planning process:

- The consultant shall devise the planning strategy and review and refine as matters progress to enable planning consent to be obtained in a timely fashion. The aim shall be to seek a planning exemption where possible.
- Visit the site.
- Review all previously prepared planning documentation relating to existing planning history, planning brief and planning policy.
- Attend the project/design team briefing and review meetings.
- Support and evaluate the design options arising from any options appraisal process for the development site.
- Support and evaluate the consultation strategy.
- Lead on the pre-planning application discussions and negotiations with the Planning Authority and where necessary and other key consultees.
- Advise on the need for other specialist consultants for the planning process, and provide briefing, co-ordination and liaison as required.
- Advise on the need for consultation prior to submission with amenity groups and other statutory bodies. Attend meetings as appropriate, including public exhibitions.
- Liaise with other consultants regarding other specialist reports and documents required for the planning submission.
- Advise on the need for any supplementary supporting information.
- Advise on the need for supplementary presentation material and other supporting information.
- Co-ordinate and prepare the planning application ensuring provision of supporting information to enable validation of the planning application at the first opportunity.
- Administer and monitor the planning application process; provide regular progress reports.
- Arrange and attend post-submission meetings with the relevant authorities and/or IFI and other interested parties.
- Act as the lead at any planning committee meetings and report upon the outcome, recommending a course of action, as necessary.

- Obtain and comment on any planning Notification of Decision and/or conditions and negotiate variations as necessary.
- Obtain final planning decisions and advise IFI regarding any consequential planning matters.

4.14.2 Planning Exemption

The consultant shall produce all project documentation as required to seek exemptions under Section 5 of the Planning and Development Regulations 2001, as detailed below:

CLASS 35 Development consisting of—

(a) the carrying out by or on behalf of a statutory undertaker of any works for the maintenance, improvement, reconstruction or restoration of any watercourse, canal, river, lake or other inland waterway, or any lock, quay, mooring, harbour, pier, dry-dock or other structure forming part of the inland waterway or associated therewith, and any development incidental thereto,

(b) the erection or construction by or on behalf of a statutory undertaker of facilities required in connection with the operation, use or management of a watercourse, canal, river, lake or other inland waterway.

The Consultant shall liaise with the relevant Authorities with regard to obtaining planning exemptions. A minimum of two in-person meetings, per project, shall be included for this.

Where a planning exemption is not granted, the Consultant shall review and advise on the appropriate course of action. The Client shall determine the course of action and issue any necessary instructions in accordance with the Conditions of Engagement.

One line items have been included in the pricing document for:

- 1. Preparation of a planning exemption**
- 2. Preparation of a full planning application**

If a planning exemption is granted then the requirement for full planning preparation and submission shall be descoped from the scope of services, and no costs will be payable for preparing a full planning application.

4.14.3 Review of Planning Approval Outcome

The Consultant shall include in their price a review of and report on the outcome of the statutory approval process where there are comments or conditions attached that require design amendments or significant capital outlay for fees. The report shall outline the likely cost, time and design implications of such comments and conditions. Where additional work is required to the preliminary design following this review, the scope and fee for this element shall be confirmed and agreed between the Client and the Consultant once the extent and nature of any required work becomes known.

4.15 Licenses and Copyright

Royalty-free, perpetual, non-exclusive, irrevocable, assignable license to amend/reproduce and/or use all information, drawings and reports prepared by the Consultant and their sub-consultants/specialists during the course of the project without liability to the original Designer(s) is to be included in the cost of the commission.

5 Phase Specific Requirements

5.1 Phase 1 Feasibility and Options selection

The consultant shall undertake the feasibility and option selection design, including any preliminary design necessary to deliver a safe, practical and cost-effective barrier mitigation solution. The consultant shall refer to the IFI/OPW DESIGN GUIDANCE For Fish Passage On Small Barriers. The design shall comply with relevant Eurocodes and best practice for in river works.

- a) Conduct a full review of all past site history, any safety files, previous designs, planning documentation for the site and any other relevant data sets.
- b) Provide Project Management services including attending Project Meetings, providing Progress Reports and perform Safety & Health Duties.
- c) Conduct a Preliminary Environmental Assessment.
- d) Visiting the Site and carrying out an initial appraisal.
- e) Assisting in the development of the Initial Project Brief and incorporating in to a final Feasibility and Options Selection Report including, but not limited to:
 - Project Objectives
 - Quality Objectives
 - Project Outcomes
 - Sustainability Aspirations
 - Project Budget
 - other parameters or constraints
- f) Undertaking development of Project Risk Register, with project specific risks clearly outlined in the document and maintained throughout the commission lifecycle.
- g) Assisting assembly of project team including contributions to the Design Responsibility Matrix, Information Exchanges and the Project Execution Plan.
- h) Compiling, revising and editing the Initial Project Brief on behalf of the Client.
- i) Carrying out preliminary surveys and investigations necessary for development of the Feasibility and Option Selection Report.
- j) Development of proposed mitigation options for the barrier, to include a hierarchy of preferred mitigation measures appropriate to the barrier type which may include (list below is for a weir):
 - i) Full removal
 - ii) Partial Removal or Breech
 - iii) Rock Ramp or Pool and Boulder Pass
 - iv) Bypass Channels
 - v) Technical Fish Pass
- k) Scope the requirements for any necessary assessments and surveys for the development of the preferred option, i.e. Geotechnical, Environmental, Hydraulic, Structural, etc.
- l) Completion of the Business Case – Preliminary

5.1.1 Option Selection Process

The Consultant shall undertake an Options Selection Process to identify, evaluate, and recommend the preferred approach to barrier mitigation at the location. The Consultant should note that some or all of the elements listed in Preliminary Design phase of report may need to be carried out at option selection stage to properly inform option development, assessment and selection of the preferred option.

The objectives of the Options Selection Process are to:

- Develop a range of viable options for each location suitable to the nature of the barrier, including, inter alia, full removal, partial removal, structural modification, Rock Ramp, Pool and Boulder Pass, low flow channel in the bridge apron, bypass channels, technical fish pass installation or integrated river restoration measures.
- Assess the environmental, technical, social, heritage, and economic implications of each option in line with the Water Framework Directive, Habitats Directive, and relevant national policy including assessment of a do-nothing option.
- Ensure that sediment management, utilities, landownership, and cultural heritage constraints are considered.
- Provide an evidence-based comparison of options through Multi-Criteria Analysis (MCA), supported by stakeholder input and public consultation.
- Identify and recommend a preferred option (or suite of options) for progression to preliminary design and statutory approval.

5.1.2 Options Development

The Consultant shall develop a comprehensive set of feasible options to address fish passage at the barrier locations.

In developing options, the Consultant shall:

- Consider an appropriate range of barrier mitigation approaches suitable to the barrier that includes but is not limited to:
 - Installation of technical fish passes (e.g. pool-and-boulder pass, rock ramps, rock ramp with staggered array).
 - Bypass channel
 - Creating a in channel in / reducing Invert level of the bridge apron
 - Regrading of river bed with addition roughening elements
 - Replacement of structure where appropriate
 - Hybrid solutions combining structural modification with ecological and river restoration measures.
 - A “Do Nothing” option for baseline comparison.
- Assess the feasibility of sediment management solutions in parallel with each structural option, ensuring compliance with circular economy principles and regulatory requirements.
- Take account of landownership, utility constraints, access requirements, and cultural heritage assets etc.

- Identify opportunities for wider ecological and social benefits, including riparian habitat restoration, biodiversity enhancement, improved public safety, and amenity integration.
- Develop outline drawings, descriptions, and indicative cost estimates for each option, supported by risk registers and construction considerations.

5.1.3 Options Assessment

The Consultant shall undertake a comprehensive assessment of all options developed. The assessment shall consider the technical feasibility, environmental implications, social acceptability, cultural heritage sensitivities, and economic efficiency of each option.

The assessment shall, inter alia:

- Evaluate each option against the project objectives, with a focus on restoring longitudinal connectivity, reinstating natural sediment and hydromorphological processes, enhancing ecology, addressing redundant infrastructure, and delivering value for money.
- Consider potential environmental effects on designated sites, protected species, habitats, and water quality, drawing on outputs from the Preliminary Environmental Assessment.
- Assess technical feasibility, including constructability, engineering constraints, sediment management requirements and existing infrastructure.
- Identify social and amenity implications, including effects on recreation, public safety, and community perceptions in the direct area.
- Assess heritage impacts, including effects on archaeological and architectural assets.
- Undertake a cost appraisal for each option, prepared in accordance with the Capital Works Management Framework (CWMF) and TII's Requirements for Measuring and Pricing (RMP), including allowances for risks, contingencies, and optimism bias.
- Highlight risks, uncertainties, and dependencies and mitigation measures supported by an updated risk register.

5.1.4 Multi-Criteria Analysis

The Consultant shall carry out a Multi-Criteria Analysis (MCA) of the assessment of the options. The MCA shall enable an understanding of the relative performance of each option and lead to the identification of a preferred option for mitigation of each barrier.

The MCA shall:

- Be structured around the project objectives, including restoration of fish passage, reinstatement of sediment and hydromorphological processes, ecological enhancement, public safety, heritage protection, and value for money.
- Include a balanced set of criteria covering, inter alia:
 - Technical feasibility and constructability
 - Environmental and ecological outcomes
 - Compliance with legislation and policy (WFD, Habitats Directive, Eel Regulation)

- Social and amenity benefits, including recreational and community value
- Cultural heritage impacts
- Flood risk and hydrological resilience
- Cost, value, and risk considerations
- Apply weightings to reflect the relative importance of criteria, to be agreed with the Client.
- Assign scores to each option based on the outcomes of surveys, assessments, consultation, and professional judgement.
- Provide a clear audit trail showing how scores and weightings were derived.
- Identify options with unacceptable environmental or technical impacts, which shall be screened out at this stage.

The MCA shall be documented in an Options Assessment Report. A sample MCA scoring table is provided in Table 7 to guide the format and structure of the analysis. The final MCA scoring matrix will be established in agreement with the Client. The MCA results shall be used to recommend a preferred option for each project location.

On completion of the Multi-Criteria Analysis, the Consultant shall identify and recommend a preferred option for each of the locations. The Consultant shall present the preferred option(s) in an Options Selection Report, including supporting drawings, indicative costs, and an updated risk register. This report shall form the basis for progression to Phase 2 Preliminary Design.

An example of the objectives and scoring are listed in Table 8. An option that fully achieves its objective should be awarded a score of 5. An option that fails to achieve its objective should be awarded a score of 0. Other options that have a positive impact should be awarded a score proportional to the degree to which they achieve the objective. An option that creates a disbenefit should be awarded a negative score up to a value of -5. If the option has an unacceptable impact, for example it leads to frequent flooding of properties or to a deterioration of protected habitats, it should receive a score of -999. Scores should be based upon the outcome of the assessments carried out, cost estimates, public consultation, and professional judgement.

MCA Objective	Descriptor
Improves passage of all relevant fish species	Improves passage of salmon, trout, lamprey and eel during migration season.
Option is operationally robust with minimal maintenance required.	Will withstand flood and drought conditions. Requires minimal intervention to ensure correct operation and will require limited maintenance over predicted lifespan.
Allows longitudinal connectivity and improved hydromorphology of the watercourse locally, includes sediment transfer and temperature change to comply with Water Framework Directive	Allows all river processes to operate naturally to include the movement of riverbed material, sediment and non-fish biodiversity above and below the proposed structure.

Flood risk post works is not increased.	A change to the risk of flooding upstream or downstream of the proposed structure.
Impact on Material Assets	The proposed scheme impacts on the material assets in the vicinity.
Option has minimal impact on or enhances potential for community infrastructure / amenity.	The proposed option enhances the amenity to the public.
Option positively effects species and habitats protected by the Habitats Directive. Options should consider both temporary (construction impacts) and long-term effects.	No predicted decline in habitat or species range or conditions for the protected species over the option lifespan.
Protects or where possible enhances visual amenity, landscape zones and views into /from designated scenic areas.	Protected views as delineated in the Local Area Plan remain unchanged due to the chosen option.
Option avoids damage to or loss of features of architectural heritage or their settings	Architectural heritage remains unchanged.
Option avoids damage to or loss of features of archaeological value or their settings	Built archaeological heritage is unimpacted by the predicted works.
Climate Change Adaptation	The option's carbon footprint and its resilience and adaptability to future flood risk and drought arising from climate change.

Table 7 Sample MCA objectives and descriptor

The MCA scores should be used to guide the selection of the preferred barrier mitigation option and will depend on the Consultant's professional judgement and input from the Client. See Table 8 for an example of the MCA's objective weightings.

No.	Criterion	Weighting	Score	Wtd score	Comment
1	Option improves passage of all relevant fish species during migration season.	1			
2	Option is operationally robust with minimal maintenance required.	1			
3	Option allows longitudinal connectivity and improved hydromorphology of the watercourse locally, includes sediment transfer to comply with Water Framework Directive	2			
4	Flood risk post works is not increased. (Floods Directive)	2			
5	Impact on Material Assets	1			
6	Option has minimal impact on or enhances potential for community amenity.	1			
7	Option positively effects species and habitats protected by the Habitats Directive.	2			

8	Option protects or where possible enhances visual amenity, landscape zones and views into /from designated scenic areas.	1			
9	Option avoids damage to or loss of features of architectural heritage value or their settings	1			
10	Option avoids damage to or loss of features of archaeological value or their settings	1			
11	Climate Change Adaptation	2			
TOTAL					

Table 8 Example of MCA objective weighting and scoring

The comparative assessment shall comprehensively assess the key relevant criteria in accordance with best industry practice and professional judgement. Arising from this assessment, the Consultant shall identify a preferred option.

5.1.5 Options Selection Report

The Consultant shall prepare an Options Selection Report setting out:

- The full option development and assessment process.
- The outcomes of the Multi-Criteria Analysis (with scoring tables and weightings).
- A summary of consultation feedback and how it was addressed.
- Justification for the recommended Preferred Option(s).
- Outline drawings, indicative construction methodologies, and preliminary cost estimates.
- An updated programme and risk register.

The Preferred Option for each project shall be reviewed and agreed with the Client through a formal meeting with the Head of Barrier Mitigation or the Steering Group prior to progression to Phase 2 Preliminary Design.

The outcomes of the Options Selection Process will provide the evidence base for the Preliminary Business Case, ensuring that the recommended Preferred Option is fully justified in terms of strategic fit, technical feasibility, environmental sustainability, and value for money.

5.2 Phase 2 Preliminary Design

The consultant shall undertake the preliminary design necessary to deliver a safe, practical and cost-effective barrier mitigation solution. The design shall comply with relevant Eurocodes and best practice for in river works.

- a) Provide Project Management services including attending Project Meetings, providing Progress Reports and perform Safety & Health Duties.
- b) Gap analysis of existing assessments and documentation including topographical and bathymetric surveys, civil, structural, geotechnical, hydraulic and environmental surveys to identify any additional assessments/surveys that may be required to apply for planning exemptions.
- c) Provide preliminary civil, structural, hydraulic and any other necessary drawings, design notes and method statements for inclusion in the preliminary design report. (Refer to sections 6 Civil and Structural Design and 7 Hydrology and Sediments)
- d) Undertake a constructability assessment for the proposed mitigations solutions to confirm the proposed barrier mitigation can be delivered safely, efficiently and with minimal environmental impact. The assessment should consider required access, site logistics and the need for any temporary works.
- e) Preparation of an outline cost plan in accordance with the CWMF for each barrier mitigation option.
- f) Scope and prepare tender and contract documents to procure any additional surveys identified. Manage any consultant and/or contractor appointed.
- g) Develop the Preliminary Construction Environmental Management Plan (CEMP).
- h) Develop an appropriate hydraulic model (1D) to evaluate the effects of the proposed barrier mitigation measure on river hydraulics and flood risk and to enable the application of a Section 50 licence to include a bank scour assessment of any proposed works.
- i) Identify, assess and manage all utility services that may be affected by the barrier mitigation project and liaise with relevant utility providers.
- j) Assist IFI in identifying all land and structure ownership and directly engage with them to secure in-principle access agreements.
- k) Undertake and complete Ecological Surveys and AA screening, NIS, Ecological Impact Assessment (EclA) and Screening for Environmental Impact Assessment (EIA) and Water Framework Directive Assessment (WFD).

5.3 Phase 3 Statutory Process

The consultant shall undertake all services necessary to seek exemptions from planning /or planning approval from the relevant Local Authorities as detailed in Section 4.14 Statutory Consent:

- a) Prepare all planning documentation including application forms, maps, drawings and supporting technical and environmental reports as required to seek exemptions from planning.
- b) Where Planning exemption is not granted following approval by the Client, prepare all full planning documentation including application forms, maps, drawings and supporting technical and environmental reports as required to seek full planning.
- c) Attend meetings and workshops with local authority and statutory consultees (may include but not be limited to Mayo County Council, IFI Ops, NPWS, RBMS, EPA, OPW) and respond to clarifications and further information requests as required.
- d) Seeking approval from Mayo County Council for any proposed barrier mitigation works.
- e) Seek consent under the Arterial Drainage Works 1945 Act for a Section 50 application.
- f) Review and report on the outcome of the exemption from statutory approval process and any conditions attached.

6 Civil and Structural Design

6.1 Design General

The Consultant shall undertake the preliminary design of the project to inform the planning process. The Preliminary Design Phase will refine the preferred solution. Building on feasibility assessments and scoping studies, this phase will translate project objectives into design solution necessary to deliver safe, practical, and cost-effective solutions for the removal, modification, or adaptation of the barriers identified. The design shall include condition assessments of the barriers (bridge aprons) and associated structures (i.e. piers, abutments and wing walls) develop a design to include for any demolition or modification or new structure. The design shall include methodologies as necessary, and consideration of sequencing, a bridge scour assessment of any proposed works, temporary works, and site access. Risks such as uncontrolled collapse, scour, or bank destabilisation shall be identified and mitigated, and ancillary works such as bank stabilisation and reinstatement shall be incorporated.

Key tasks will include the development of engineering design options for possible demolition, sediment management, and river channel restoration, supported by hydrological and hydraulic modelling. Environmental surveys and assessments, including the Ecological Impact Assessment (EclA), will be integrated into the design process to ensure that environmental constraints and opportunities are fully considered.

The design will also incorporate constructability, health and safety, and risk management measures. The design shall consider opportunities for reuse of suitable waste material arisings from the design in line with circular economy principles, and public safety improvements through removal of redundant hazards. All designs shall align with hydraulic, sediment and ecological requirements and comply with relevant Eurocodes, Building codes, relevant standards and codes of practice for in-river works.

Where applicable the [Design Guidance for Fish Passage on Small Barriers](#), produced by OPW in conjunction with IFI shall be followed.

Reference: [EPA Best Practice Guidelines for the preparation of resource & waste management plans for construction & demolition project](#).

6.2 Design Checking

It shall be the Consultants responsibility to ensure that all permanent and temporary design works undergo a Category 1 check as per TII's standard DN-STR-03001. A Category 1 check is defined as *'an independent check by another engineer who may be from the Design / Assessment Team.'*

The proposed independent checker(s) shall meet minimum requirements by the Client including the right to request CV's of the proposed team member(s) for this role.

The checker(s) will be required to sign a certificate to record that they have undertaken an independent check of the design elements. This certificate will be submitted to the Employer with the Design Issue as identified below.

A Chartered Structural Engineer with professional indemnity insurance as per the form of tender requirements shall sign off any proposed design to ensure that the structural integrity of the bridge is not comprised.

6.3 Documents and Drawings

6.3.1 Format

The Consultant shall be required to submit documents and drawings to the Client in digital format and if requested all documents shall also be provided in a hard copy format.

- All drawings in both PDF and CAD format.
- All documents shall be submitted to the Employer digitally in a Microsoft Office programme (Word, Excel, Project etc.) and in PDF format.
- All documentation shall be in English and Irish where required by the Official Languages Act.
- S.I. units shall be used in all cases.
- All models/drawings shall be set to Irish Transverse Mercator (ITM) coordinates and Ordnance Datum, Malin.

6.3.2 Mapping Information

The Client shall where available, provide to the Consultant, the Ordnance Survey Ireland (OSI) dataset for the project at the scales and formats for which the Employer holds a licence. The Consultant may avail of the sub-consultant licence for the dataset for use only on this Project. The Client does not accept any responsibility for errors and omissions in any information or map data provided to the Consultant. The Consultant shall complete a third-party license agreement for the use of OSI digital mapping under IFI's license from Ordnance Survey of Ireland (OSI).

6.4 Utilities

The Consultant shall in co-ordination with the PSDP identify all potential services, within and on the approaches to the site(s). The Consultant shall also include for undertaking site(s) services search. The Consultant shall liaise and make arrangements for temporary or permanent relocation if deemed necessary for completion of the permanent works. Cost for utility provider(s) shall be paid separately by Client.

7 Hydrology and Sediments

7.1 Hydrology & Flood Risk Assessment

The Consultant shall prepare a Hydrological and Flood Risk Assessment (FRA) for the barrier mitigation project to ensure that proposed barrier mitigation measure(s) do not increase flood risk and that all hydrological impacts are fully understood. The assessment shall establish baseline hydrology using OPW Flood Studies Update (FSU) methodologies, supplemented by gauged flow records, rainfall–runoff analysis, and any available data from the OPW. Design flows and climate change allowances shall be determined in accordance with OPW and national guidance.

A Flood Risk Assessment shall be undertaken in line with *The Planning System and Flood Risk Management Guidelines* (2009) to demonstrate compliance with policy and confirm that works will not exacerbate flood risk. The study shall assess changes in upstream and downstream water levels, floodplain interaction, and local infrastructure impacts, while also identifying potential benefits such as improved conveyance or floodplain reconnection. The Consultant shall complete a Hydrology and Flood Risk Assessment Report.

Hydraulic modelling software packages other than those listed in section 7.2.2 shall not be used in undertaking this element of the Project, unless agreed in advance by the Client. It shall be the Consultant's responsibility to demonstrate that any alternative modelling software package proposed is of an equivalent standard to those listed above.

7.2 1D Hydraulic Modelling

7.2.1 General Modelling Objectives

The Consultant shall develop a 1D hydraulic baseline model for the specified watercourses and its associated floodplains, for the purposes of:

- Establishing the existing hydraulic conditions across a range of flows;
- Calibration and validation, of both the hydrological inputs and the hydraulic conditions;
- Identifying flood extents and hazards, such as depths and in-channel flow velocities, for current and potential future scenarios across a range of flows ;
- Mapping velocity and depth distributions across the proposed fish passage design for determining suitability for a range of species;
- Establishing attraction flows, resting places, and velocity controls across the fish passage structure;
- Identifying flood extents and hazards, such as depths and in-channel flow velocities, for current and potential future scenarios across a range of flows;
- Modelling a suitable channel bed design profile to accommodate fish in low flow scenario;
- Fulfil all requirements for completion of OPW Section 50 application;
- Perform a bridge scour assessment for both bridges for any proposed works.

The Consultant shall develop dynamic hydraulic / hydrodynamic model for the watercourse as required for the purposes specified herein. The hydraulic model shall take account of the potential for long duration or multiple flood events and low flows. The Consultant shall extend the models sufficient distances upstream and downstream,

to eliminate the potential impact of any instabilities or other effects, such as downstream boundary effects or upstream overland flow path routes, from within the area of the scheme.

The digital model files and a report on the hydraulic model shall be handed over to the client on completion of this work.

7.2.2 Software

The hydraulic models shall be developed using one of the following preferred modelling software packages:

- HEC-RAS
- Flood Modeller Pro, TUFLOW
- Mike 11, Mike 21, Mike Flood
- AutoDesk ICM
- Delft3D
- TELEMAC-MASCARET

7.2.3 Model Runs

The Consultant shall run the fluvial models to determine flood levels, low flows, extents, flows and other parameters as necessary for IFI to evaluate the mitigation options.

The Consultant shall run the models for design events of the full range of probabilities for the current scenario (10%, 1%, 0.1% AEPs), the MRFS (10%, 1% AEPs) and HEFS (0.1% AEP) for fluvial models or as otherwise specified.

Furthermore, the consultant will provide results for water level and water velocity for Q1, Q5, Q30, Q50 and Q95.

7.2.4 Hydraulic Model Boundary Conditions

The Consultant shall develop boundary conditions in the hydraulic models based on appropriate flow and/or water level values.

7.2.5 Hydraulic Model Parameters

The Consultant shall determine and input to the model appropriate values for all hydraulic model parameters, including roughness, loss parameters and structure coefficients, based on:

- Survey data;
- Expert modeller judgement;
- All other relevant data and information.

7.2.6 Representation of Buildings and Structures

The Consultant shall include in the models all hydraulically significant features/structures and existing flood defences, which they deem to be affected. The Consultant may employ various methods to represent buildings, basements and their perimeter walls, where appropriate within the hydraulic models as most appropriate to the local context and the model structure /

parameters, but the Consultant shall choose an approach that is appropriate to the level of detail specified herein, and provide justification of their choice within the hydraulic reporting.

The model shall allow the assessment of flood risk to properties that are located within the floodplain. The Consultant shall include full details in the Hydraulics Report of overland flow paths, for the range of events analysed that result in flood risk to properties.

Buildings shall be shown as flooded on the flood maps only if their determined floor levels are less than the predicted flood level; similarly bridges are only to be shown as flooded if the deck level (obtained from the topographical survey or LiDAR) is below the predicted flood level.

7.3 OPW Section 50 Approvals

In accordance with the Arterial Drainage Act 1945, consent is required from OPW under Section 50 for any construction / alteration works on bridges and culverts. The design and construction of these structures should be such that flood risks up- and / or down-stream are not increased, or, where no other viable options exist, are restricted to acceptable levels, and should comply with any flood risk management objectives and plans established for the area.

The Consultant shall undertake all necessary assessments, prepare and submit applications for Section 50 approvals to the OPW. The Consultant shall include for all necessary consultation in relation to these approvals. The Consultant shall refer to OPW document Construction, Replacement or Alteration of Bridges and Culverts – A Guide to Applying for Consent under Section 50 of the Arterial Drainage Act, 1945.

8 Ecological Surveys

The purpose of these surveys are to establish baseline conditions, and ensure that the potential for impacts on animals, flora and fauna, especially protected species are fully considered. The Consultant shall undertake the ecological surveys as detailed below, as a minimum, to help understand the impact of the proposed barrier mitigation on the species

All surveys shall be undertaken by a suitably qualified ecologist/specialist in accordance with best practice guidelines and statutory requirements for the particular survey being undertaken. The Consultant shall be responsible for obtaining of any licenses required to undertake such surveys.

The Consultant shall undertake as a minimum, ecological site surveys of the following in the proposed works area to inform the Ecological Impact Assessment (EclA):

- Fossitt Habitat Survey
- Invasive and Non-Native Flora Survey (INNS)
- Mammal Survey
- Bat Roost Assessment
- Bank-Nesting Bird Habitat Survey
- Freshwater Pearl Mussel

The Consultant shall be responsible for determining the extent of the survey area potentially affected by the proposed barrier mitigation measure selected from Phase 1 and ensure the survey area for each survey is appropriate for assessing potential impacts. The survey areas shall as a minimum, include for 200m of the river channel upstream and downstream of the barrier, as well as the river banks, riparian zone and floodplain, as well as the proposed construction access route(s).

The Consultant shall for all site ecological surveys, map their spatial extent (using GPS or other mapping tools) within and/or adjacent to the project site and submit GIS data to the client.

8.1 Fossitt Habitat Survey

The Consultant shall undertake a Fossitt Habitat Survey in accordance with the Heritage Council's *Guide to Habitats in Ireland* (Fossitt, 2000). The survey shall provide a standardised classification and mapping of habitats within the project area, using the recognised Level 1–3 categories to identify and describe terrestrial, freshwater, and riparian habitats.

8.2 Invasive and Non-Native Flora Survey (INNS)

The Consultant shall survey invasive and non-native flora and identify any invasive species listed under relevant legislation (e.g., the Third Schedule of S.I. No. 477/2011 in Ireland, or species of Union concern under Regulation (EU) No. 1143/2014) that occur within or near the project site.

8.3 Mammal Survey

The Consultant shall carry out a survey for signs of mammals (badger, otter, stoat, pine martin, etc.) within the proposed works area that may use the site for breeding, feeding, foraging,

commuting, etc. along the section of the river likely to be affected by the proposed works. With otter (*Lutra lutra*) being a species of primary concern due to being listed under Annex IV of the Habitats Directive 92/43/EE, otter activity survey at each location shall include, but not be limited to, the identification of holts, couches, spraints, latrines, slides and prints, together with any other evidence of otter activity within the study area.

Where otters are recorded, the Consultant shall ensure compliance with relevant licensing requirements and recommend appropriate mitigation or enhancement measures, such as exclusion zones, timing restrictions, or riparian habitat restoration.

8.4 Bat Roost Assessment

The Consultant shall undertake a Bat Survey to identify any potential or confirmed roosting sites within trees, structures, bridge or other features in the vicinity of the structure and its associated works area, including possible construction access routes. Seasonally timed surveys shall employ dusk/dawn transects, static detectors, and roost inspections where appropriate.

The Consultant shall recommend mitigation or enhancement measures such as timing restrictions, sensitive lighting design, and roost protection or creation, and shall obtain all required derogation licences before undertaking any works that may affect roosts.

8.5 Bank-Nesting Bird Habitat Survey

The consultant shall carry out an inspection to identify physical signs that indicate the presence or potential presence of nesting birds in river banks within the vicinity of the proposed works. This may include banks and associated nest holes/burrows used by birds nesting in the riparian zone such as Kingfisher and Sandmartin. The inspection should focus on detecting features such as burrow entrances, excavation spoil, feathers, droppings, nest material, or other field signs associated with species that utilise soft or vertical banks for breeding. All surveys shall be undertaken by a suitably qualified ecologist in accordance with best practice guidelines and statutory requirements.

8.6 Freshwater Pearl Mussel

The Consultant shall undertake a Stage 1 Freshwater pearl mussel survey, and if necessary, Stage 2 survey following NPWS Guidelines¹. The survey shall establish whether mussels are present within or downstream of the proposed works area. The survey shall be sufficient to recommend mitigation measures that may be required to protect the species during construction works. All surveys shall be undertaken by a suitably qualified Ecologist and shall be conducted under license in accordance with NPWS and the requirements of the Wildlife Act (as amended).

9 Environmental Reports & Data

9.1 Appropriate Assessment (AA) Article 6(3)

9.1.1 AA Screening Report

An AA Screening Report shall be prepared and shall assess the likely significant impacts on the qualifying interest of a Natura 2000 site via the pathways of air, water, or land, and recommend whether an AA/NIS Report is necessary. The AA Screening should provide assurance beyond scientific doubt about the nature and significance of potential impacts arising from the proposed barrier mitigation works.

If the project is screened out, a determination on the need for AA shall be published on IFI's database for AA Determinations following the recommendation of the AA Screening Report.

9.1.2 Natura Impact Statement (NIS)

If the findings of the Appropriate Assessment (AA) Screening determine that the proposed works are likely to have a significant effect on a Natura 2000 site (Special Area of Conservation (SAC) or Special Protection Area (SPA)), either alone or in combination with other plans or projects, the Consultant shall prepare a Natura Impact Statement (NIS) in accordance with Article 6(3) of the EU Habitats Directive (92/43/EEC) and relevant national guidance, including the Department of Housing, Local Government and Heritage (2021) "Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities."

9.2 Ecological Impact Assessment (EcIA)

An EcIA shall be prepared for the project. The EcIA shall present a robust baseline assessment of the ecology of the site, evidenced by a desktop assessment and site walkover survey(s).

The EcIA shall present a map of the habitats found on site following the Fossitt (2000) classification. It shall identify any potential impacts to habitats with emphasis on impacts to any protected or threatened habitats listed as Annex 1 or Priority Annex 1 of the Habitats Directive.

The EcIA shall address potential impacts, and recommend mitigation (if required) to any species protected under Annex IV (namely otter, bats) and their breeding/resting places. The EcIA shall specify the nature of any derogation licenses or wildlife licenses that may be required in order to undertake the proposed works in compliance with Regulation 54 and Articles 12 and 16 of the Habitats Directive which requires member states to establish a system of strict protection and derogation for the animal species listed in Annex IV.

For invasive species, the EcIA shall assess potential risks in terms of spread (through water, soil, equipment, transport etc.), ecological impact (native biodiversity, habitats, water quality), and legal obligations. The EcIA shall recommend management, mitigation, or control measures and best practices to prevent introduction or further spread, or to eradicate/control where established, in order to protect native species, habitats, and compliance with legislation. It should inform design and implementation of the proposed works so that invasive species are considered early to avoid unnecessary disturbance or spread.

9.3 Environmental Impact Assessment (EIA) Screening

The Consultant shall take account of the EU Directive on Environmental Impact Assessment (EIA) transposed into Irish Law. The Consultant shall conduct an EIA screening. In the first instance the Consultant shall prepare a report for the Client addressing whether an Environmental Impact Report may be required for the scheme on the basis that the scheme does not exceed the EIA threshold. If subsequently requested by the Client, the Consultant shall produce a report of sufficient standard for the Client to forward to An Coimisiún Pleanála seeking a Direction whether a statutory EIA is required for the scheme.

Where the conclusion is that an EIA is not required, the Consultant shall provide a EIA Screening report with a robust justification to withstand legal and regulatory scrutiny. Where an EIA is deemed necessary, the Consultant shall outline the likely scope of the Environmental Impact Assessment Report (EIAR) including details of any necessary additional surveys and associated cost estimates for review by the client. The Client shall determine the course of action and issue any necessary instructions in accordance with the Conditions of Engagement.

9.4 Water Framework Directive (WFD) Screening

A WFD Screening Assessment shall be prepared to determine whether the proposed project has the potential to cause a deterioration in the waterbody status of any waterbody, in terms of the overall Ecological Status, or at the scale of individual quality elements. The screening should conclude whether a further detailed assessment is required based on potential deterioration, or potential significant impact that may arise as a result of the proposed project.

9.5 GIS Data

The Consultant shall compile and submit all GIS shapefiles generated or collected during the baseline ecology surveys. All spatial data must be provided in the format, attribution structure, and file organisation specified by the client. Deliverables shall include fully attributed, clean, and georeferenced shapefiles compliant with the client's data standards. Details of GIS Data standards to be used are contained in .

9.6 Preliminary Construction Environmental Management Plan (CEMP)

The Consultant shall prepare a Preliminary Construction Environmental Management Plan (CEMP) to support the planning and design development of the barrier mitigation project. IFI's Guidelines on [Protection of Fisheries During Construction Works in and Adjacent to Waters \(2016\)](#) shall be incorporated into the design of the works and CEMP where appropriate. The preliminary CEMP shall as a minimum consider the following areas:

- Roles, Responsibilities & Communication
- Environmental Risk Assessment
- Ecology & Biodiversity Protection Measures
- Water Management & Pollution Prevention Measures
- Sediment Management Measures
- Waste & Materials Management Measures
- Air Quality & Dust Control Measures

- Noise & Vibration Management
- Working hours and Seasonal Restrictions
- Traffic & Transport Management
- Monitoring, Inspections & Reporting

9.7 Waste Management & Circular Economy

The Consultant shall consider as part of the design and for inclusion as part of the preliminary CEMP a waste and circular economy plan for the project, setting out how construction and demolition arisings, retained sediments, and other materials shall be managed sustainably in accordance with the Waste Management Acts 1996–2023, the European Communities (Waste Directive) Regulations 2011, and relevant EPA guidance. The Consultant as part of their design prioritise waste prevention, reuse, and recycling in line with Ireland’s Circular Economy Act 2022 and the Waste Action Plan for a Circular Economy (2020–2025), ensuring that project delivery aligns with national sustainability and climate objectives.

The plan shall identify and quantify all waste streams likely to arise from the works, including masonry, concrete, metals, sediments, vegetation, soils, and potential hazardous materials such as asbestos or contaminated sediments. It shall assess opportunities for reuse and recycling, such as incorporating suitable demolition arisings into river restoration or fish-pass construction, or beneficial reuse of uncontaminated sediments in landscaping and floodplain enhancement and set out a materials management hierarchy identifying disposal routes only where reuse or recycling is not feasible. The Consultant shall ensure full compliance with waste permitting and licensing requirements (EPA, local authority, NPWS) and integrate pollution prevention and waste minimisation measures into the Preliminary CEMP.

Reference: [EPA Best Practice Guidelines for the preparation of resource & waste management plans for construction & demolition project](#).

Appendix A GIS Data Standards

Habitat Shapefiles

Layer geometry: Polygon and/or line layer

Coordinate system: Irish Transverse Mercator EPSG:2157

Layer name: Projectname_Habitats_SurveyDate.shp, e.g.

Annacottyweir_Habitats_04112025.shp

Field name	Data Type	Description
Project	Text	Project name, e.g. Annacotty weir
Surveyor	Text	Surveyor initials, e.g. ER
Date	Text	Date of survey, e.g. DD/MM/YYYY
Fossitt	Text	Fossitt code, i.e. GA1, WS1
Habitat	Text	e.g. Improved agricultural grassland, Scrub
Annex	Text	Potential Annex 1 Habitat codes as set out under the EU Habitats Directive (92/43/EEC), or NA, e.g. 3260 floating river vegetation In the case of mosaic habitats, use pipe () separated entries, e.g. '111023 sandbanks 1130 estuaries ...
Comments	Text	Any additional observations or notes
Photo_ref	Text	File name or photograph reference (if applicable)
Org	Text	Survey company initials, e.g. IFI

Appendix A Table 1 List of attributes for Habitat Survey Shapefiles

Mammal Shapefiles (Otter, Badger, ect.)

Layer geometry: Point layer

Coordinate system: Irish Transverse Mercator EPSG:2157

Layer name: Projectname_Otter_Survey_SurveyDate.shp, e.g.

Annacottyweir_otter_survey_04112025.shp

Field name	Data type	Description
Project	Text	Project name, e.g. Annacotty weir
Surveyor	Text	Surveyor initials, e.g. ER
Date	Text	Date of survey, e.g. DD/MM/YYYY
Feature_type	Text	e.g. slide, latrine, holt, couch, sighted otter, path, etc.
Status	Text	e.g. active, potentially active, not recently active, abandoned
Signs	Text	e.g. paw print, spraint/jelly, etc.
Comments	Text	Any additional observations or notes
Photo_ref	Text	File name or photograph reference (if applicable)
Org	Text	Survey company initials, e.g. IFI

Appendix A Table 2 List of attributes for Otter Survey Shapefiles

Preliminary Bat Roost Shapefiles

Layer Geometry: Point layer

Coordinate System: Irish Transverse Mercator EPSG:2157

Layer Name: Projectname_PBR_Survey_SurveyDate.shp, e.g.

Annacottyweir_pbr_survey_04112025.shp

Field name	Data Type	Description
Project	Text	Project name, e.g. Annacotty weir
Surveyor	Text	Surveyor initials, e.g. ER
Date	Text	Date of survey, e.g. DD/MM/YYYY
Structure_type	Text	Structure where PBR is found e.g. tree, bridge, etc.
Feature_type	Text	Roost feature type, i.e. crack under stone bridge, tree tear out
Roost_pot	Text	Roost potential, e.g. negligible, low, moderate, high, confirmed
Roost_type	Text	Roost type, e.g. day, night, maternity, hibernation, unknown
Signs	Text	Signs of habitation, e.g. individuals present, droppings, staining
Comments	Text	Any additional observations or notes
Photo_ref	Text	File name or photograph reference
Org	Text	Survey company initials, e.g. IFI

Appendix A Table 3 List of attributes for Preliminary Bat Roost Survey Shapefiles

INNS Shapefiles

Layer Geometry: Point layer and/or Polygon layer

Coordinate System: Irish Transverse Mercator EPSG:2157

Layer Name: Projectname_INNS_SurveyDate.shp,

e.g. Annacottyweir_INNS_04112025.shp

Field name	Data Type	Description
Project	Text	Project name, e.g. Annacotty weir
Surveyor	Text	Surveyor initials, e.g. ER
Date	Text	Date of survey, e.g. DD/MM/YYYY
Species	Text	e.g. Himalayan balsam, Giant hogweed
Comments	Text	Any additional observations or notes
Photo_ref	Text	File name or photograph reference (if applicable)
Org	Text	Survey company initials, e.g. IFI

Appendix A Table 4 List of attributes for INNS Survey Shapefiles