



**FITZSIMONS
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ENVIRONMENTAL
SUSTAINABLE SOLUTIONS

Construction Environmental Management Plan [CEMP]

***Cuan na Loinge* road coastal flooding mitigation project.**

**Cuan Na Loinge,
Carrowroe West.
Co. Galway**

Report prepared by: Fitzsimons Walsh Environmental Limited

Report Title: Construction Environmental Management Plan [CEMP]
for the proposed Cuan na Loinge Road Coastal Flooding
Mitigation Project.

Revision No	Date	Description
Rev 1	09/06/2025	Issued with the planning application
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1.0 Introduction

It is proposed to undertake road improvement works to alleviate coastal flooding on a 200 metre stretch of the L-52214, including its junctions with two side roads, in Cuan Na Loinge, Ceantar na nOileán, Co. Galway. This 200m stretch of the L-52214 is frequently inundated by seawater during high tides and storm surges events. The objective of the project is to raise the road level to minimise the impact of coastal flooding, without significantly altering the existing road footprint nor tidal patterns and water flows

This preliminary Construction Environmental Management Plan (CEMP) has been prepared to provide a framework that outlines measures necessary to control environmental impacts during the construction phase of the proposed development. The plan has been prepared in accordance with Transport Infrastructure Ireland (TII). (2019). Guidelines for the Preparation of Construction Environmental Management Plans.

The preliminary CEMP identifies the minimum requirements regarding appropriate mitigation, monitoring, inspection and reporting that will be implemented during the project. The CEMP, a live document, will be adopted by the appointed contractor for the works. The CEMP as amended will be maintained by the contractor's representative on site and will be updated as required.

The document has been prepared by ***Fitzsimons Walsh Environmental Consultancy*** and is intended to serve as a practical working document for contractors and regulatory authorities.

1.1 Environmental Objectives

- Prevent pollution of land, air, and water.
- Conserve natural resources and promote sustainable waste management.
- Protect biodiversity and minimise disruption to ecological networks.
- Ensure compliance with statutory obligations.

1.2 Structure of the Report

This report is structured to provide an overview of construction activities and the environmental measures that will be implemented during the project. It includes details on the project design and logistics, roles and responsibilities, environmental risks, mitigation measures, monitoring protocols, and emergency response procedures.

2.0 Description of the proposed development

The site, located at ITM coordinates (E492947, N729964) on local road L-52214, approximately 4km northeast of Leitir Móir, Co. Galway. The site is bounded by transitional waterbodies to the north and west. The site is bounded by privately owned lands to the south and east. Ref figures 2.1 and 2.2

Figure 2.1 Site Location



Figure 2.2 Aerial view. March 2025

2.1 The Proposed Works

The proposed road improvement project, commissioned by Galway County Council, is located on c. 200 metre stretch of Local Road L-52214, including its junctions with two side roads, in Cuan na Loinge, Ceantar na nOileán, Co. Galway.

The objective of the project is to raise the road level to minimise the impact of coastal flooding without altering the existing road footprint or adversely affecting tidal patterns and water flows within the adjacent lagoonal and saltmarsh system.

The scheme is located entirely within the Kilkieran Bay and Islands SAC (site code 002111) and in immediate proximity to Loch Fhada Upper Pools (IL054), a designated 1150* Coastal Lagoon priority habitat of high conservation value. The ecological sensitivity of this location has been a primary design constraint throughout the development of the scheme.

Road Raising and Embankment

The flood containment solution raises the road to finished levels ranging from EL 3.57 mOD to EL 3.99 mOD, representing an average increase of approximately 0.5 m above the existing level, with a maximum increase of 0.8 m at specific locations as shown on the engineering drawings (Langan Consulting Engineers).

A rock armour embankment with a natural stone roadside wall will be constructed along the route, with a parapet wall height of 0.8 m above the new road surface. The embankment slope is 1:1.5 on the fill face. A critical design constraint is that the proposed road edge, stone wall, and all associated works remain entirely within the existing road and embankment footprint at all points along the scheme length.

The proposed embankment toe will not extend beyond the existing embankment toe on the northern (lagoon/SAC) side at any point. The proposed works do not encroach on the Annex I habitat boundary at any station.

Culvert Works

Five existing culverts pass beneath the road, providing the hydrological connections between the lagoon water bodies and tidal channels on either side of the embankment and maintaining the tidal exchange essential to the ecological integrity of IL054.

The proposed works includes to replace five existing culverts and headwalls on a like-for-like basis if required.

It was not possible to carry out site investigation works on the culverts pre-planning. It is intended to expose each culvert during the works. If a culvert is deemed to be functional, it is proposed to retain it. If a culvert is found to be in poor condition, it is proposed to replace it like-for-like.

The existing pipe diameter, invert level, alignment, gradient, and length will be preserved at each location.

The full hydrological and ecological impact assessment of the culvert works is detailed below and in the accompanying Natura Impact Statement (FWE, 2026).

Table 2.1 Construction Sequence and Methodology

Phase	Detail
Site Preparation and Traffic Management	Erect temporary traffic signage and barriers in accordance with Chapter 8 of the Traffic Signs Manual. Install silt fencing and sediment traps around works areas to protect adjacent aquatic features, particularly on the northern (lagoon) side of the scheme. Identify and mark utilities using a utility survey and Ground Penetrating Radar (GPR) where required. Establish buffer zones around all five culvert locations prior to commencement of culvert works.
Culvert Renovation	Excavate around existing culverts under controlled conditions. If the culvert is in good condition, no further works will be done. If the culvert is in poor condition, it is proposed to replace it like-for-like, preserving existing diameter, invert level, alignment, and gradient. Headwalls will be dealt with similarly. Then the embankment will be backfilled and compacted in 150 mm layers with 6P graded granular fill material. Works at culverts will be carried out at low tide periods. Where this is not possible, bypass pumping will be implemented to maintain tidal flow continuity. Works at each culvert are to be phased sequentially, with flow restored before works commence at the next location.
Road Raising and Layer Construction	Excavate existing road surface to formation level. Construct road build-up using the following layers: Capping Layer: 600 mm of 6F2 material compacted to 95% MDD; Sub-base Layer: 150–225 mm of Type 1 granular material to Clause 804; Base Course: 60 mm Dense Bitumen Macadam (DBM); Wearing Course: 40 mm Close-Graded Macadam or SMA 10 surface. All layers to be tested for compaction and compliance.
Stone Wall and Rock Armour	Construct a natural stone roadside wall to parapet height of 0.8 m above the new road surface. Place rock armour embankment within the existing embankment footprint, at 1:1.5 slope, not extending beyond existing embankment toe on northern side at any station.
Final Works and Restoration	Install fuel and oil interceptors as part of the road drainage design. Install road markings and signage as required. Remove temporary traffic management and demobilise site. Conduct post-construction inspection of all five culverts to confirm tidal flow and prepare as-built records.

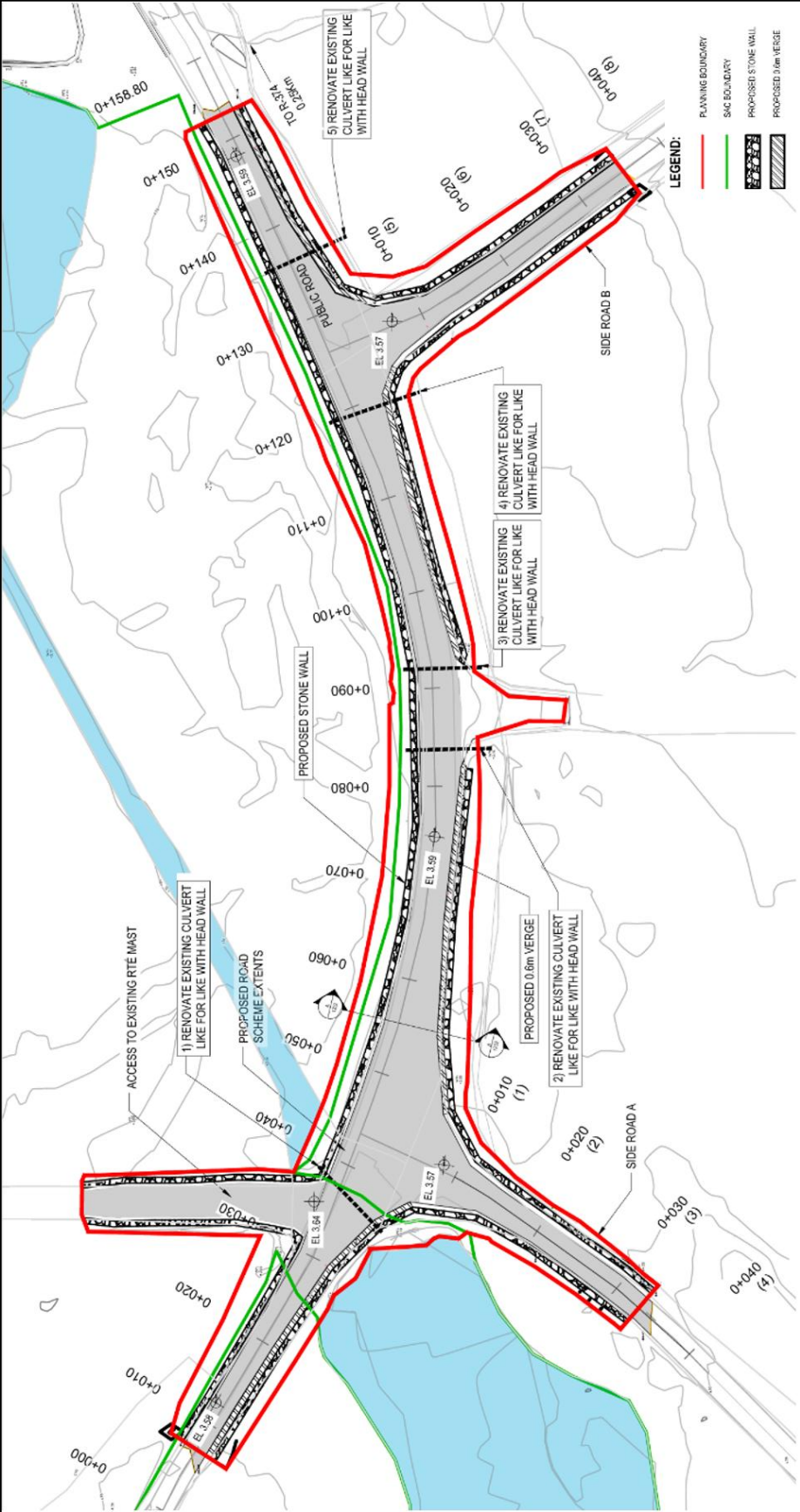


Figure 2.3 Site layout

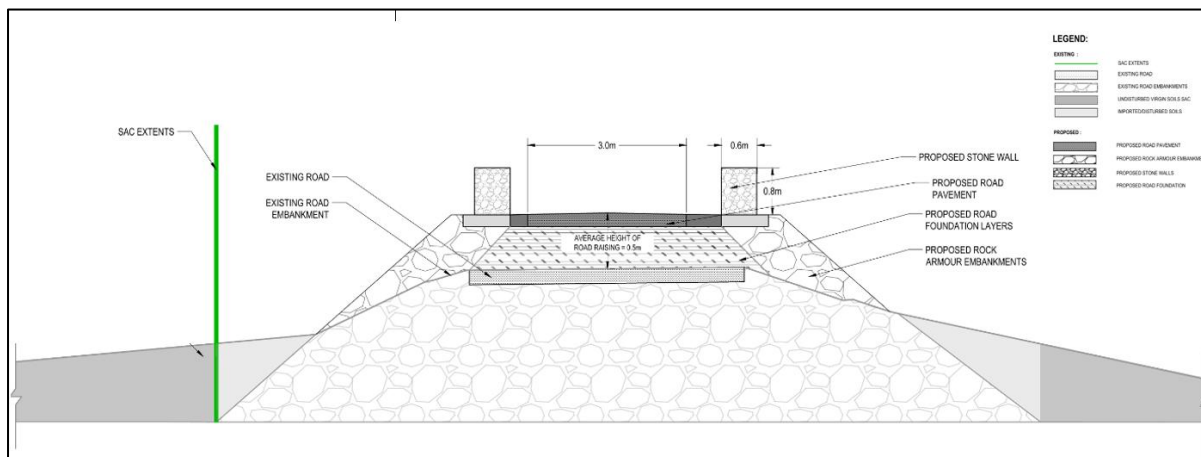


Figure 2.4 Typical cross-section

Excavations

A survey shall be carried out at the site to identify the presence and location of any invasive species by a suitably qualified ecologist prior to site excavation works. If invasive species are identified onsite at any stage of the works an invasive species management plan shall be prepared and adhered to.

The main excavation works will include the stripping of the existing road surface and the maintenance/upgrade of the existing drainage channels in use.

The following measures shall be implemented:

- Prior to excavation works, the area shall be surveyed and all existing services identified.
 - All relevant bodies i.e. ESB, Gas Networks Ireland, Eir, Galway County Council etc. shall be contacted and all drawings for existing services sought.
- All plant operators and general operatives shall be inducted and informed as to the location of any services.
 - All plant operators and general operatives shall be inducted and informed as to the identification of invasive species.
- It is envisioned that a wheeled excavator will be used to excavate the existing road surface and 8 wheeler trucks used to transport the excavated material to a licenced disposal facility.
- Alternatively, excavated material may be transported to the site compound prior to disposal at a licenced waste facility.
 - Stockpiles shall be positioned at a minimum setback of 30m from any watercourse.
- The transport of crushed stone infill material shall be delivered to site under tarpaulin-covered vehicles where necessary.

Traffic Management

A Traffic Management Plan shall be developed prior to commencement of the works as the roadway is to remain online throughout the construction period. It will be the responsibility of the Contractor to undertake the works in a manner that will cause the least amount of traffic disruption.

The haulage of materials to and from the site will create a temporary impact to both road users and to residents living in the area. The Contractor shall ensure that the construction process is planned to accommodate the existing traffic flows.

The proposed traffic management plan shall include the following measures at minimum:

- Warning signs/Advanced warning signs shall be installed at appropriate locations in advance of construction works.
- Construction and delivery vehicles shall be instructed to use only the approved and agreed means of access.
- The parking of site vehicles shall be managed and shall not be permitted along the public roadway unless previously agreed with GCC.
- A road sweeper shall be on standby to clean the roadway of any residual debris that may be deposited on the road.
- Safe and secure pedestrian access shall be provided. These measures shall facilitate the movement of vulnerable users including mobility and impaired persons.

3.0 Roles, Responsibilities, and Communication

The successful implementation of this Construction Environmental Management Plan (CEMP) depends on a clearly defined organisational structure in which roles and responsibilities are assigned to competent individuals. A collaborative and transparent communication framework is also essential to ensure that environmental controls are understood, implemented, and maintained throughout the project lifecycle.

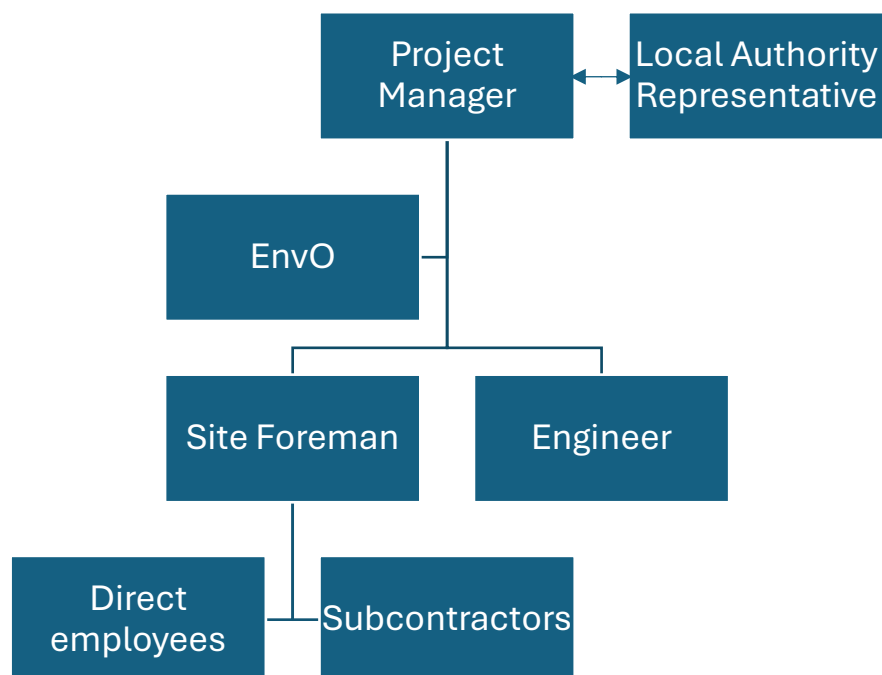
Environmental Personnel

Due to the environmental sensitivity of the site location, it is critical that all mitigation measures identified in the supporting environmental assessment reports be implemented to the highest standard.

The employment of a suitably qualified Environmental Specialist or Environmental Clerk of Works (ECoW) by the contractor is therefore recommended to ensure that these measures are not only correctly applied but also adapted responsively to site-specific conditions as they arise during construction. An ECoW can provide on-the-ground oversight, liaise with statutory bodies where required, and ensure that works are carried out in a manner that prevents or minimises harm to sensitive receptors.

This person is identified as the “**EnvO**” in the details below

Organisational Structure and Key Personnel



A clear hierarchy of responsibility will be established at the outset of the construction phase to ensure effective environmental governance. The project team will include the following core roles:

- **Project Manager (PM):** The PM holds overarching responsibility for the successful delivery of the project, including compliance with environmental commitments and legal obligations. The PM will liaise with the client representative (Galway Co CO). The PM will ensure that the necessary resources, personnel, training, and equipment are in place to support environmental objectives.
- **Site Foreman:** Responsible for day-to-day operations on-site. The Site Foreman will ensure that construction activities are carried out in accordance with the CEMP and that mitigation measures (e.g., dust suppression, waste segregation) are actively implemented.
- **Site engineer.** Reporting to the PM
- **Environmental Officer/Environmental Clerk of works**
 - The EnvO will have responsibility for occupational health and safety and environmental management.
 - A fully qualified Environmental Scientist and Env. Clerk of works will be available on demand
 - The EHSO will conduct weekly site audits, manage the environmental aspect register, and oversee the reporting of environmental incidents and near misses
- **Direct employees:** Direct employees will be made aware of the requirements of the CEMP and their roles and responsibilities through routine company training.
- **Subcontractors:** All subcontractors will be made aware of the requirements of the CEMP and their roles and responsibilities through site induction and toolbox talks. Subcontractors are obliged to adhere to the environmental mitigation measures in the CEMP.

3.1 Training and Induction

A comprehensive training and induction programme will be implemented to ensure that all personnel understand their environmental responsibilities. Key elements of the programme include:

- **Site Induction:** All staff and visitors will undergo a mandatory site-specific induction before commencing any activities. The induction will cover environmental procedures, location of sensitive receptors, spill response procedures, and waste segregation requirements.
- **Toolbox Talks:** Regular toolbox talks will be delivered by the Site Foreman or EnvO on key topics such as dust control during dry periods, protection of watercourses, and correct procedures for hazardous material handling.
- **Specialist Training:** Personnel involved in tasks that pose elevated environmental risks (e.g., machinery refuelling, handling of concrete washout) will receive specialist training.

3.2 Communication and Reporting Mechanisms

Open and structured communication is fundamental to the effective implementation of this CEMP. The following channels will be employed to ensure transparency and collaboration:

- **Weekly Environmental Meetings:** The PM will convene routine meetings with the team to review environmental performance and track progress against mitigation measures.
- **Stakeholder Engagement:** The EnvO will liaise with local residents or their representative relating to ongoing project works. Residents will be made aware of any issue that may affect the including but not limited to : road works, power disruption.
- **Incident Reporting:** Any environmental incidents, near misses, or non-conformances must be reported immediately to the EnvO. A formal Environmental Incident Report Form will be completed, detailing the nature of the incident, root cause, corrective actions, and follow-up measures. Incident reviews will be undertaken at routine site meetings.

3.3 Site Inspections

Daily site inspections will take place to cover the following:

- Water Quality - Surface Water Controls/Groundwater Controls
- Waste Management
- Noise
- Materials Management
- Air Quality
- Operation and Maintenance of Plant and Machinery
- Pollution Control

3.4 Documentation and Record-Keeping

All environmental documents including training records, inspection reports, waste transfer notes, and monitoring data will be maintained in a centralised document control system, available for review during audits.

4.0 Potential Environmental Impacts

A Natura Impact Statement (NIS)¹ and an Ecological Impact Assessment (EclA²) have been undertaken for the proposed works. The NIS concludes that the proposed works will not adversely affect the integrity of the Kilkieran Bay and Islands SAC, either alone or in combination with other plans or projects. The mitigation measures set out in this CEMP give effect to those conclusions and are therefore mandatory.

4.1 Water Contamination

The Natura Impact Statement identifies the Kilkieran Bay and Islands SAC as potentially at risk due to the proposed development. The proposed development intersects and lies adjacent to hydrologically sensitive features including Loch Fhada Upper Pools, Loch Fhada, and downstream transitional waters leading to Camus Bay.

Many of the conservation objectives of the qualifying interests of the SAC are directly, or indirectly, dependent on water quality.

Uncontrolled surface water runoff can lead to sediment loading of nearby streams, ditches, or drains. Spillages of fuels, oils, or concrete washings can contaminate watercourses and impact aquatic ecosystems. Dewatering activities may also impact groundwater levels.

- Silts and soils
- Cementitious residues
- Hydrocarbons – fuel, Oil and grease
- Other Chemicals

4.2 Other Environmental Impacts

- Air Contamination
 - Dust, emissions from diesel powered plant and equipment
- Noise
- Waste

¹ FWE, 2025. Natura Impact Statement to inform Appropriate Assessment

² FWE, 2025. Ecological Impact Assessment Report. Proposed Cuan na Loinge road coastal flooding mitigation project

5.0 Control and Mitigation Measures

5.1 Pre-construction Survey Requirements

5.1.1 Otter Survey

A targeted Otter Survey will be conducted prior to works commencing to assess the use of the site by Otter and identify any additional mitigation for the protection of this Annex II and Annex IV species. The survey will be conducted in accordance with standard Irish otter survey methodology and will cover a minimum of 250 m either side of the scheme along the lagoon margin and tidal channel network.

Survey results will inform any additional mitigation required for the protection of this species during construction and will determine whether works timing restrictions relative to the otter breeding season are necessary.

5.1.2 Invasive Species

An Invasive Species Survey will be conducted prior to works commencing to confirm the presence or absence of schedule 3 species listed under the European Communities (Birds and Natural Habitats) Regulations 2011.

Should invasive species be identified an Invasive Species Management Plan will be required to inform the Construction Environmental Management Plan (CEMP).

5.2 Mitigation for the Construction Phase

While the proposed works are located adjacent to the SAC boundary, all construction activities are confined to the existing road footprint and embankment. No direct loss or encroachment into Annex I habitats will occur. All mitigation measures are designed to prevent indirect impacts via hydrological pathways.

5.2.1 *General good practice and pre-commencement measures*

The appointed construction contractor will be made aware of the ecological sensitivity of the site and the mitigation measures required to protect habitats, groundwater, and surface water quality prior to commencement of any works on site. All measures will be implemented from initial site works until the completion of all construction and demobilisation from the site.

Prior to the commencement of works, the site engineer and all contractors must be made aware of the ecological sensitivity of the site, its location within the Kilkieran Bay and Islands SAC, and its direct hydrological connection to Loch Fhada Upper Pools (IL054), a priority 1150* Coastal Lagoon habitat of high conservation value. A site-specific environmental briefing will be delivered to all site personnel by the Environmental Clerk of Works (ECW) before any works commence.

Given the environmental sensitivity of the site location and the Annex I habitats, it is a requirement that the contractor employs a suitably qualified Environmental Clerk of Works (ECW). The ECW will be present on site throughout all works in close proximity to the lagoon and culvert locations, will implement and oversee all stipulated mitigation measures, and will have authority to direct a work pause if any risk of environmental impact is identified. The ECW will maintain a daily site environmental log for the duration of the works.

Site preparation and construction must be confined to the road works site only. Work areas will be kept to the minimum area required to carry out the proposed works and will be clearly marked out in advance. No works, materials storage, plant movement, or vehicle access will occur within the SAC boundary beyond the existing road and embankment footprint.

Guidelines in the following best practice documents will be adhered to throughout:

- CIRIA (2005). Environmental Good Practice on Site (C692)
- CIRIA (2001). Control of Water Pollution from Construction Sites: Guidance for Consultants and Contractors (C532)
- IFI (2016). Guidelines on the Protection of Fisheries during Construction Works in and Adjacent to Water
- IFI (2020). Planning for Watercourses in the Urban Environment
- CIRIA (2000). Environmental Handbook for Building and Civil Engineering Projects (C512)

The guidelines published by Inland fisheries Ireland on the protection of fisheries during construction works in and adjacent to waters shall be referred to when drafting construction procedures/method statements (Refer to [www.fisheriesireland.ie/Construction Guidelines](http://www.fisheriesireland.ie/Construction%20Guidelines)).

The IFI guidelines identify potential construction related impacts and measures to mitigate them. The guidelines set out requirements specific to bridges and culverts and emphasises the necessity for these structures to be constructed and maintained in a manner that allows unhindered movement of aquatic species.

5.2.2 Mitigation Measures during culvert renovations

The culvert works are designed on a like-for-like basis and **will not result** in any alteration to the hydraulic regime, tidal exchange characteristics, or connectivity between lagoon and tidal systems.

The renovation of the existing culverts is highlighted as a high-priority, ecologically sensitive element of the proposed construction works. Culvert 1, as the primary hydrological connection between Loch Fhada Upper Pools (IL054) and the tidal system to the north, requires the most careful environmental management.

The following project-specific mitigation measures apply to all culvert renovation works and are in addition to the general good practice measures above.

Pre-works Assessment and Condition Survey

Before commencement of culvert renovation works, an inspection of each culvert will be undertaken to:

- Confirm existing pipe diameter, invert level, and structural condition at each location
- Record existing water levels on both sides of the embankment at each culvert
- Confirm tidal exchange is occurring through each culvert and document the tidal cycle characteristics at Culvert 1
- Photograph the existing condition of each culvert inlet and outlet for baseline record and as-built comparison
- Confirm that the bypass pumping arrangement for Culvert 1 is in place and operational before any works commence at that location

Phased Working Programme

Culvert renovation works will be strictly phased to ensure that tidal connectivity is maintained throughout the construction programme:

No more than one culvert will be under active construction at any one time

Tidal flow will be confirmed as passing freely through each culvert before works commence at the next location

Culvert 1 (primary lagoon connection) will be treated as the highest ecological priority location. Works at Culvert 1 will be scheduled during a period of settled weather and will not commence if significant storm surge or extreme high tide conditions are forecast within the working period

The ECW will confirm in writing that each culvert renovation is complete and flow is restored before works at the next culvert location commence

Bypass Pumping at Culvert 1

To maintain tidal exchange through Culvert 1 during headwall construction, a bypass pumping arrangement will be installed prior to any excavation at that location. The bypass system will:

- Provide continuous bidirectional flow capacity equivalent to the existing culvert flow during the period of active headwall works
- Be designed and specified by the scheme engineer to ensure hydraulic equivalence with the culvert capacity
- Be inspected by the ECW at the start and end of each working day and following any storm or tidal surge event
- Remain in place until the headwall works are complete, the culvert has been backfilled and reinstated, and tidal flow through the renovated culvert has been confirmed by the ECW

Where bypass pumping cannot maintain adequate flow continuity, for example, during a tidal surge event works at Culvert 1 will be paused until conditions stabilise and flow equivalence can be confirmed.

Tidal Window Working

Where practicable, headwall construction at Culvert 1 will be timed to coincide with low tide periods to minimise the hydraulic head differential across the embankment during active working. The ECW will monitor tidal predictions and direct construction timing accordingly.

Protection of Lagoon Water Body During Culvert Works

The following measures will be implemented to prevent disturbance to the IL054 lagoon water body and its lagoonal specialist species assemblage during culvert renovation works:

- Silt barriers will be deployed on the lagoon face of the embankment at Culvert 1 prior to any excavation, to intercept any sediment mobilised during headwall construction before it enters the open water body
- Exclusion zone will be established on the lagoon side of the embankment at Culvert 1, extending a minimum of 5 m into the water from the embankment face, within which no plant, machinery, or materials will be permitted during active works
- Excavated material from headwall trenching will be removed immediately from the working area and will not be stockpiled within the tidal or lagoonal zone
- The ECW will monitor water clarity in the lagoon at Culvert 1 during headwall excavation and construction. If significant turbidity is observed in the lagoon water body, works will pause until clarity is restored
- No in-situ concrete will be poured in conditions where concrete or cement slurry could enter the lagoon water body. Pre-cast concrete headwall units will be used wherever practicable to eliminate this risk. Where in-situ concrete is required, sealed shuttering will be used and pours will take place only in dry weather conditions

Post-Renovation Confirmation at Each Culvert

On completion of renovation works at each culvert location, the ECW will conduct a post-works inspection to confirm:

- The renovated culvert pipe is clear and unobstructed through its full length
- Tidal flow is passing freely through the culvert in both directions
- The headwalls are structurally sound and properly tied into the embankment
- No construction material, spoil, or debris remains within or adjacent to the water body
- Water clarity in the lagoon at Culvert 1 has returned to pre-works baseline conditions

A written confirmation signed by the ECW will be prepared for each culvert location and retained as part of the construction environmental management record

5.2.3 Measures to protect surface water integrity

The primary ecological risk during the construction phase is compromise of water quality in the lagoon and tidal channel systems. The following measures will be implemented throughout the construction period.

Silt and Sediment Management

- Silt fencing and sediment traps will be installed around all works areas prior to commencement of any earthworks, with particular attention to the northern (lagoon) side of the scheme
- All machinery will be checked for oil leaks before entering the site each day
- Works will be carried out in dry conditions wherever practicable. Weather forecasts will be monitored daily by the ECW. Works involving significant excavation or earthmoving will not commence if sustained rainfall is forecast within the working period
- Suitable sized plant and machinery will be selected to minimise disturbance to the embankment and adjacent ground
- Excess spoil from excavations will be removed from site immediately to a suitably licensed facility. No excess soil will be stockpiled on site

Hydrocarbon and Fuel Management

- Fuel will be delivered to site as required rather than stored on site. Refuelling will take place at a designated impermeable area located a minimum of 50 m from any water body
- An effective spillage procedure will be in place before works commence, with all staff briefed. Any waste oils or hydraulic fluids will be collected, stored in appropriate containers, and disposed of off-site by a registered waste contractor
- Hydrocarbon spill kits of appropriate capacity for the contaminants in use will be maintained on site throughout the construction period
- A hydrocarbon oil boom will be available on site for immediate deployment in the event of any spillage adjacent to the water body

Concrete and Cement Management

- Pre-cast concrete will be used for all headwall construction wherever practicable, eliminating the risk of wet concrete or cement leachate entering the water bodies
- Where in-situ concrete is unavoidable, all pours will be undertaken in dry conditions with sealed shuttering, fully isolated from any watercourse or tidal zone
- No direct discharge to water will be made where there is potential for cement or concrete residues
- Designated impermeable cement washout areas will be provided at a minimum of 50 m from any water body
- All concrete washings will be collected and disposed of off-site

Temporary diversion of watercourse:

For any temporary works in or adjacent to watercourses, the following measures will apply:

- Unnecessary vegetation clearance will be avoided. Site clearance will be phased to avoid exposing large areas of ground simultaneously
- Buffer zones of a minimum of 5 m will be established around all watercourses and around the lagoon water body prior to works commencing, clearly delineated by fencing or barrier tape
- Temporary flow barriers and diversion structures will be inspected by the ECW at the start and end of each working day and following any storm event
- No works in or immediately adjacent to any watercourse will proceed if significant rainfall or tidal surge is imminent

Prior to works commencing, buffer zones around watercourses and protected habitats/species shall be established and suitably isolated from works using fences, barriers, screens and signage.

The watercourses shall be protected to prevent debris from falling into the water.

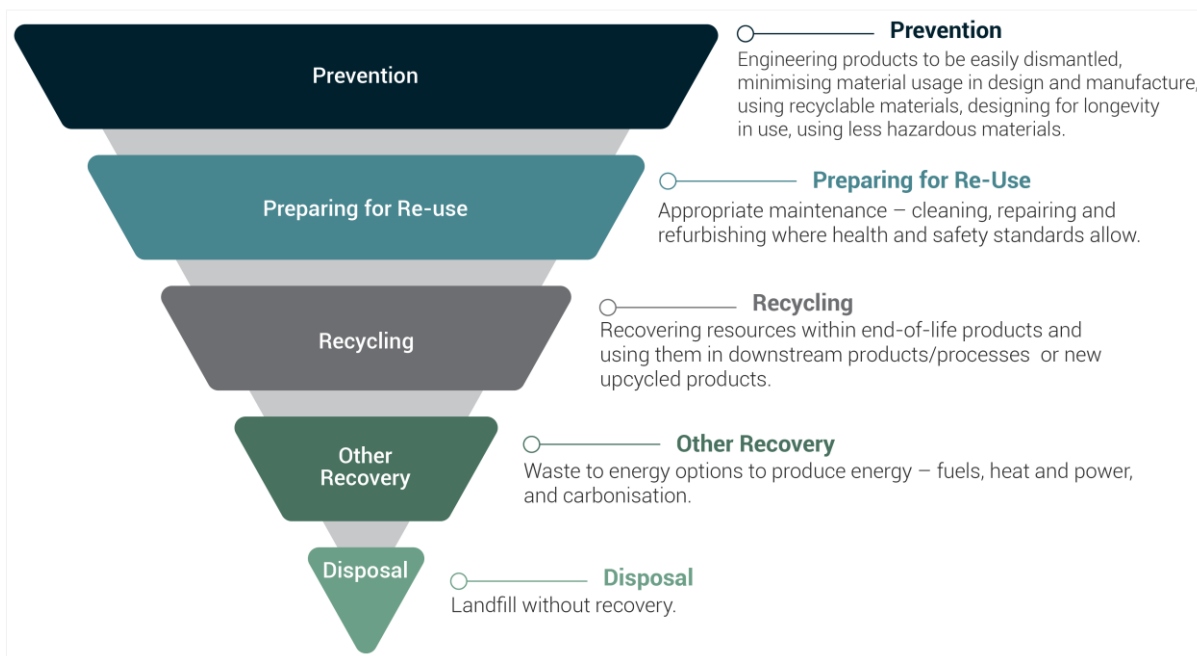
Further guidance is available in:

- CIRIA Control of Water Pollution from Construction sites – Guidance for Consultants and Contactors (2001).
- NRA Guidelines (2006) NRA Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes.

5.2.4 Management of Waste

The project will generate various waste streams including construction and demolition (C&D) waste, packaging, off-cuts, and hazardous substances (e.g., paint, adhesives, contaminated soils). Improper disposal poses environmental risks and regulatory non-compliance.

Waste management practices will be in line with the Waste Management Hierarchy³



- Housekeeping will be prioritised and highlighted during the site induction and during toolbox talks.
- Waste storage will be available in the site compound and waste segregation will be encouraged.
- Waste removed from the site will be disposed of at an authorised waste facility,, depending upon the waste stream.
- The authorised waste facilities used will be selected from the Waste Permit and Certificate of Registration Database (NWCPO Local Authority Waste Facility Register)
- Stockpile areas for gravel or other such construction materials will be kept to a minimum size, well away from all waterbodies and watercourses.

5.2.5 Biosecurity

In order to comply with Regulations 49 and 50 of the European Communities (Birds and Natural Habitat) Regulations (2011), the appointed Contractor will ensure biosecurity

³ Waste Management Hierarchy as outlined in the Directive 2008/98/EC on Waste (EC, 2008)

measures are implemented throughout the construction phase to ensure the introduction and translocation of invasive species is prevented.

The appointed contractor must have a biosecurity statement. The biosecurity statement should take cognisance of:

- The Inland Fisheries guidance document on invasive species and their management, available at: <http://www.fisheriesireland.ie/Research/invasive-species.html>.
- The IFI Biosecurity Protocols, including: 'IFI Biosecurity Protocol for Field Survey Work (December 2010)'.

Biosecurity measures must be strictly adhered to throughout the proposed works. Measures must be in accordance with IFI (2010) Biosecurity Protocol for Field Survey Work. Where staff are working in-stream, staff footwear and PPE should be inspected on daily completion of the works and vegetation or debris removed.

- All PPE and machines entering the water will be power washed before entry to the site and sprayed with a suitable disinfectant (e.g., 1% virkon aquatic solution or another proprietary disinfection product).
- Visually inspect all equipment that has come in contact with the water for evidence of attached plant or animal material, or adherent mud or debris. This will be carried out before leaving the site.

5.2.6 Noise

To minimise disturbance, construction noise will be controlled in accordance with the guidance and procedures set out in BS 5228-1:2009+A1:2014 – Code of practice for noise and vibration control on construction and open sites – Part 1: Noise.

Noise control will be implemented through a combination of best practicable means (BPM), including but not limited to:

- Selection of quiet plant and equipment: Prioritising use of equipment with low-noise emissions or fitted with effective silencers, mufflers, or acoustic covers.
- Operation scheduling: Limiting high-noise activities to standard daytime hours (typically 08:00–18:00, Monday to Friday; 08:00–13:00 on Saturdays), with no work on Sundays or public holidays unless otherwise agreed.
- Operator training: Ensuring all operatives are trained in noise reduction practices and adhere to established protocols for switching off equipment when not in use.

According to BS 5228⁴, (Using the ABC Method detailed in BS5228 Annex E) impact 'significance thresholds' depend on ambient sound levels at nearby sensitive receptors.

The thresholds for significant impact [Noise Limits] are presented in table 6.1 below:

⁴ BS 5228-1:2009+A1:2014. Code of practice for noise and vibration control on construction and open sites - Noise

Table 6.1 Construction Noise Limits

Days & Time	$L_{Aeq(1hr)}$ dB
Monday to Friday 07:00 to 19:00	65
Monday to Friday 19:00 to 22:00	55
Saturday 08:00 to 16:30	60

Noise control measures

During the site induction program, operators will be trained to employ appropriate techniques to keep site noise to a minimum.

During the works the foreman will ensure that best working practice in respect of noise reduction is followed.

Noise control will be implemented through a combination of best practicable means (BPM), including but not limited to:

- Selection of quiet plant and equipment: Prioritising the use of equipment with low-noise emissions or fitted with effective silencers, mufflers, or acoustic covers.
- Operation scheduling: Limiting high-noise activities to standard daytime hours (typically 08:00 -18:00, Monday to Friday; 08:00-13:00 on Saturdays), with no work on Sundays or public holidays unless otherwise agreed.
- Operator training: Ensuring all operatives are trained in noise reduction practices and adhere to established protocols for switching off equipment when not in use.

6.0 Incident Management

An effective emergency preparedness and response framework is essential for minimising the environmental impact of unplanned incidents such as fuel or chemical spills, fires, or extreme weather events during the construction phase. This section outlines the proactive measures that will be in place to prevent environmental emergencies and describes the procedures to be followed should such incidents occur.

Objectives

- To ensure rapid and coordinated response to environmental incidents.
- To minimise the severity and duration of adverse environmental impacts.
- To protect the health and safety of site personnel and the surrounding community.
- To comply with relevant environmental legislation and best practice guidance.

Types of Environmental Incidents

- Spillage of fuels, oils, or chemicals.
- Uncontrolled surface water runoff or flooding.
- Damage to watercourses or protected habitats

6.1 Emergency Response Procedures

Spill Response

- Spill kits containing absorbent pads, booms, and PPE will be located at key risk areas, including fuel storage areas, refuelling points, and the site compound.
- In the event of a spill, personnel must immediately stop the source if safe to do so, contain the spill using the spill kit materials, and notify the Environmental Manager.
- The Environmental Officer will assess the scale of the incident and, where necessary, escalate the response to involve emergency services or specialist clean-up contractors.
- Contaminated materials will be disposed of as hazardous waste using licensed contractors.
- All spills and corrective actions will be recorded in the Environmental Incident Log.

Communication

- A site-specific Emergency Contact List, including key personnel and statutory authorities, will be prominently displayed in the site office.
- All incidents must be reported to the EHSO and the site foreman immediately.
- Significant incidents must be reported to the Local Authority.

Training and Preparedness

- All employees will receive induction training on emergency response protocols, including hands-on training in the use of spill kits and fire extinguishers.
- Emergency drills will be conducted quarterly to test the site's readiness and identify improvements in procedures.
- The Emergency Response Plan will be reviewed and updated annually or following any major incident.

Documentation and Records

- Records of all environmental incidents, responses, training exercises, and communications with regulators will be retained in the Environmental File.
- Lessons learned will be documented and used to improve future planning and preparedness.

7.0 Conclusion

This Construction Environmental Management Plan (CEMP) provides a comprehensive framework for managing and mitigating the environmental impacts associated with the proposed road improvement/flood remediation works at Cuan Na Loinge.

The plan outlines procedures for pollution prevention, noise and dust control, waste management, biodiversity protection and emergency response. Roles and responsibilities are defined, with site-specific mitigation measures aligned with relevant legislative and best practice guidance.

By adhering to this CEMP the construction team will ensure that all activities are conducted in an environmentally responsible manner, maintaining compliance and protecting local receptors throughout the duration of the project.

The CEMP is a live document which will be adopted by the appointed contractor for the works. The CEMP as amended will be maintained by the contractor's representative on site and will be updated as required.

References

- CIRIA (2001). Control of water pollution from construction sites – Guidance for consultants and contractors (CIRIA C532). CIRIA.
- Eastern Regional Fisheries Board (2006). Requirements for the protection of fisheries habitat during construction and development works at river sites. Eastern Regional Fisheries Board.
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- Inland Fisheries Ireland (2016). Guidelines on the protection of fisheries during construction works in and adjacent to waters.
- Transport Infrastructure Ireland. (2019). Guidelines for the Preparation of Construction Environmental Management Plans. TII Project Management Guidelines.



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