





# Lifford Flood Relief Scheme

# APPROPRIATE ASSESSMENT SCREENING REPORT

July 2024



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# 1 Introduction and Background to Project

# 1.1 BACKGROUND

Ryan Hanley was commissioned by the Office of Public Works (OPW) to prepare Stage 1 Appropriate Assessment (AA) Screening Report for the proposed Lifford Flood Relief Scheme (FRS) in east County Donegal on the West (left) bank of the River Foyle.

Lifford has had a history of serious flood events with the most recent significant floods occurring in November and December 2015 (Storm Desmond) and in August 2017. The study area covers approximately 34.3 km<sup>2</sup> encompassing the channel, flood plains and surrounding lands of three watercourses in an area known locally as 'The Three Rivers'.

The purpose of the AA screening is to determine the potential for likely significant effects, if any, that the proposed flood relief scheme in Lifford, Co. Donegal may have, alone or in combination with other plans or projects on European Sites (Special Areas of Conservation (SAC) and Special Protection Areas (SPA), within the potential zone of influence of the works.

This report constitutes an Appropriate Assessment Screening in accordance with Article 6.3 of the EU Habitats Directive (92/43/EEC), for the flood relief works to be completed in Lifford, Co. Donegal.

# 1.2 THE REQUIREMENT FOR APPROPRIATE ASSESSMENT

The requirement for Appropriate Assessment is set out in the EU Habitats Directive (92/43/EEC) in Article 6 (3) which states:

"Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives."

The Habitats Directive is transposed in Ireland by the European Communities (Birds and Natural Habitats) Regulations, 2011 consolidating the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities Birds and Natural Habitats and Control of Recreational Activities Regulations 2010, as well as addressing transposition failures identified in recent Court of Justice of the European Union Judgements (hereafter referred to as the Habitats Regulations) and the Planning and Development (Amendment) Act, 2010.

# 1.3 THE AIM OF THIS REPORT

This Screening for Appropriate Assessment (Stage 1) has been prepared in accordance with current guidance and provides the information required in order to establish whether or not the proposed development is likely to have potential for significant effects on the European sites in the context of their conservation objectives and specifically on the habitats and species for which the sites have been designated.

By undertaking the Screening for AA in a step-by-step manner in relation to the habitats and species of the European sites, this report seeks to inform the Stage 1 Screening for AA process pursuant to Article 6.3 of the EU Habitats Directive.

# 2 THE APPROPRIATE ASSESSMENT PROCESS

# 2.1 GUIDANCE

Article 6(3) of the EU Habitats Directive (92/43/EEC) defines the requirement for Appropriate Assessment of certain plans and projects. In order to inform the requirements of this Screening Report the following guidance documents have been referred to:

- DoEHLG Circular NPWS 1/10 & PSSP 2/10 Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities;
- DoEHLG (2010) Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Department of the Environmental Heritage and Local Government;
- European Commission (2018) Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC;
- European Commission (2000) Communication from the Commission on the Precautionary Principle.
   Office for Official Publications of the European Communities, Luxembourg. European Commission;
- European Commission (2021) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC;
- European Commission (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/49/EEC; clarification of the concepts of: Alternative solutions, Imperative reasons of overriding public interest, Compensatory Measures, Overall Coherence, Opinion of the Commission;
- European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No.477 of 2011);
   and
- Office of the Planning Regulator (2021) Appropriate Assessment Screening for Development Management. OPR Practice Note PN01.

# 2.2 STAGES OF ARTICLE 6 ASSESSMENT

The European Commission's guidance promotes a staged process, as set out below (see **Figure 2.1**), the need for each being dependent upon the outcomes of the preceding stage.

- (1) Screening;
- (2) Appropriate Assessment;
- (3) Assessment of Alternative Solutions; and
- (4) Assessment where no alternative solutions remain and where adverse impacts remain.
- The "IROPI test" (Imperative Reasons of Over-riding Public Interest) and compensatory measures.

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures.

Stage 1 of the process is intended to identify whether the project is 'likely to have a significant effect' upon a European site, referred to as 'Screening for Appropriate Assessment'.

If the screening process identifies effects to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 (AA). Screening is undertaken without the inclusion of mitigation, unless potential impacts clearly can be avoided though the modification or redesign of the plan or project, in which case the screening process is repeated on the altered plan or project.

Section 177U of the Planning and Development Act 2010 states that; "the competent authority shall determine that an appropriate assessment of the proposed development is not required if it can be excluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will not have a significant effect on a European site."

Stage 2 of the process considers any potential impacts in greater detail including whether further mitigation measures are required. If an adverse impact upon the site's integrity cannot be ruled out, then Stage 3 will need to be undertaken to assess whether alternative solutions exist. If no alternatives exist that have a lesser effect upon the European Site/s in question, the project can only be implemented if there are 'imperative reasons of overriding public interest', as detailed in Article 6(4). In essence, the work at Stage 1 will determine whether further stages of the process are required.

This report includes the testing required under Stage 1: Screening for Appropriate Assessment.

# 2.3 APPROACH TO AA SCREENING USING THE SOURCE » PATHWAY » RECEPTOR MODEL

The consideration of likely significant effects upon a European site is based on the Source » Pathway » Receptor Model. This model identifies the following:

- **Source** aspects of the project which are the causes of effects upon the European site and its qualifying interests/conservation objectives, both directly and indirectly.
- Pathway functional link or medium between the proposed development and a European site; pathways can occur via water, as in hydrological and hydrogeological; or via air, as in audible or visual, or by transmission shock, vibration, emissions, or other causes of effects.
- Receptor a European site (SAC/SPA) and its qualifying interests (Qls) or special conservation interests (SCls), including named, defined habitat types or species of flora and fauna.

# 2.4 TRANSBOUNDARY EFFECTS

The United Nations Economic Commission for Europe (UNECE) defines transboundary effects as any significant adverse effect on the environment resulting from human activity, the physical origin of which is situated wholly or in part within an area under the jurisdiction of another State.

The need to consider transboundary impacts has been embodied by The United Nations Economic Commission for Europe (UNECE) Convention on Environmental Impact Assessment in a Transboundary Context, (referred to as the 'Espoo Convention') adopted in 1991 in Finland. Article 2 of the Convention states that:

"The Parties shall, either individually or jointly, take all appropriate and effective measures to prevent, reduce and control significant adverse transboundary environmental impact from proposed activities."

As per Appendix III of the Convention's document, the following criteria has been considered for the proposed flood relief scheme: size, location and effects.

The Espoo Convention is not limited to European countries, and has been ratified by the European Union, Ireland and the United Kingdom of Great Britain and Northern Ireland.

The Conservation of Habitats and Species Regulations 2017 (as amended) and the Conservation (Natural Habitats) Regulations (Northern Ireland) 1995 (as amended), cover the sites of greatest significance and international importance for nature, for which the UK is responsible for. The Regulations provides these sites with protection through the designations of Special Areas of Conservation (SACs), which provide protection to a variety of special species and habitats, and Special Protection Areas (SPAs), which provide protection for rare and vulnerable birds and their habitats.

The Regulations are one of the pieces of law that transposed the land and marine aspects of the Habitats Directive (Council Directive 92/43/EEC) and certain elements of the Birds Directive (Directive 2009/147/EC).

To ensure the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended) are operable after the end of the EU transition period, changes have been made by The Conservation (Natural Habitats, etc.) (Amendment) (Northern Ireland) (EU Exit) Regulations 2019. The changes are largely procedural and affect government and include the transfer of functions from the European Commission to Department of Agriculture, Environment and Rural Affairs (DAERA).

SACs and Special Protection Areas (SPAs) in the UK no longer form part of the EU's Natura 2000 ecological network. The 2019 Regulations have created a national site network on land and at sea, including both the inshore and offshore marine areas in the UK.

There are no policy changes (CIEEM, 2021 and DAERA). Existing and future SACs and SPAS will retain their protected status and continue to function as a UK wide network to provide a key role in delivering the UK's domestic and international biodiversity objectives.

The network objectives are to:

- maintain or, where appropriate, restore habitats and species listed in Annexes I and II of the Habitats Directive to a favourable conservation status (FCS); and
- contribute to ensuring, in their area of distribution, the survival and reproduction of wild birds and securing compliance with the overarching aims of the Wild Birds Directive.

The proposed Lifford Flood Relief Scheme will be transboundary in nature, being located in the River Foyle, partly adjacent to Lifford, Co. Donegal and partly adjacent to Strabane, Co. Tyrone. The site is partially located within the River Finn (002301) and the River Foyle and Tributaries (UK0030320) Special Areas of Conservation (SAC). Transboundary effects to protected and designated sites will be considered as part of this report, based on the regulations and guidance above.

# 2.5 STATEMENT OF AUTHORITY

This report has been completed by Ryan Hanley Senior Environmental Scientist Paola Rodolfi B.Sc, M.Sc and reviewed by Senior Ecologist, Nicholas Duff. Paola has over 10 years' experience in the Environmental Services Sector and has extensive experience in the completion and review of Screenings for AAs for a range of development projects. Nicholas Duff holds a B.Sc. in Ecology and a Diploma in Environmental Impact Assessment Management and has over 40 years professional experience in conservation ecology, ecological surveys, habitat management, impact assessment and related fields.

# 3 DESCRIPTION OF THE PROJECT

# 3.1 GENERAL

The town of Lifford is situated in east County Donegal on the border with County Tyrone at the terminal junction of the National Primary Road N14 and the N15. The town is located on the west bank of the River Foyle immediately downstream of the confluence of the River Mourne and River Finn.

Lifford has had a history of serious flood events with the most significant floods occurring in November and December 2015 and in August 2017. The source of these flood events is due to the confluence of the Rivers Finn, Mourne, Foyle and Deele and convective rainfall in the surrounding area contributing to high river levels and ineffective drainage schemes.

The study area lies within the Foyle catchment, a cross border catchment with a surface area of approximately 2,919 km<sup>2</sup>. The Foyle catchment comprises nine sub-catchments and more specifically the study area is located in the Finn [Donegal]\_030 and Deele [Donegal]\_010 sub-catchments.

The proposed Lifford FRS is being designed to alleviate the flood risk to the town of Lifford and to afford protection to the people of Lifford, their homes, and properties from flooding.

#### 3.2 PROPOSED WORKS

The proposed flood relief project involves the provision of a number of series of flood embankments and walls beside the River Finn/Foyle. These measures include:

- Secant pile wall (SPW);
- Sheet piled foundation Reinforced Concrete (SPRC) wall;
- Embankments;
- Property relocation;
- Road crossings; and
- Drain crossings.

The preferred option involves property relocation of one commercial building in the Townpark area of Lifford and property protection in the form of flood walls and flood embankments for Lifford.

The preferred option consists of 388m of flood walls and 1,797m of flood embankments throughout Lifford. It considers following 635m of the existing Arterial Drainage Scheme embankment. The average defence height for this option is approximately 1.60m above ground level.

# 3.2.1 Defence Type Description

Walls and Embankments are the hard defence types proposed for the Lifford FRS. Where hard defences were identified, various factors were considered to determine the best defence type for any given location. The defence footprint was considered. Flood embankments generally produce a larger footprint than flood walls. Where access is restricted, there may not be space to construct flood embankments. Where restricted access was identified flood walls were proposed. Where space allows, flood embankments were proposed.

The starting position of any hard defence structure is to be set-back as far from the source of flood risk and as close to the receptors to be protected as possible. This minimises the displacement of floodplain and the impact on the waterbody.

# Bridge Street (to east of Healthwise Pharmacy)

The existing earth retaining structure supporting Bridge Street and the Healthwise Pharmacy rises from the riverbank of the Foyle to heights of up to 5m. On top and immediately behind the structure is the

footpath along Bridge Street and the Healthwise Pharmacy building. A visual inspection of the structural condition of the retaining wall structure carried out by the Engineering Consultants indicated that it is in structurally poor condition (RPS, 2022). This assessment concluded that there is insufficient information on the construction of the foundations of the existing wall to safely undertake rehabilitation works. Construction of a new wall running from Lifford Bridge to Healthwise pharmacy is proposed. Owing to an expected shallow depth to bedrock from the river bank and the condition of the existing earth retaining structure it is proposed that a bored or drilled pile type, such as secant will form the basis of a new wall construction.

The secant pile wall section will be constructed in front of the existing wall and will run from Lifford Bridge to Healthwise pharmacy, negating the need for demolition activities that could impact the Foyle. The new structure will be constructed using Secant Pile technology, with pile bores installed using a Continuous Flight Auger. The outfalls to the Foyle in the existing retaining wall will be reinstated. Uncured concrete will be used in construction of the foundation piles and retaining wall. It is assumed that premixed concrete will be emplaced using concrete pumps.

Due to access restrictions the construction of new wall and foundations at this location will require the construction of a Temporary Working Platform (TWP-1) extending from the face of the existing retaining structure into the river channel.

The estimated volume of the working platform is approximately 5,900 m<sup>2</sup> and the design height will be up to 5.7 m high. Either boulders or tonne bags of clean stone will be placed by crane the outside (river channel) edge of the working platform. An impermeable liner will be placed to protect the river bank and bed, wrapped over the top of the clean stone bags/boulders. The working platform will then be constructed with clean stone (no fines) with most material brought in by dumper truck.

It is anticipated that the TWP-1 will be in place for a 16-20 week period at the Bridge Street Section. Once construction of the secant pile walls has been completed the platform will be removed.

# Foyle View to the Diamond

From the edge of the vacant site to the northeast of the Pharmacy, to the rear of residential properties backing onto the Foyle through the DCC Road Design Offices and Lifford Old Courthouse there are earth retaining structures of various ages and conditions. The 2022 structural assessment determined that building on top of the existing structures is not viable.

It is proposed that this section of defence is constructed on driven (sheet) piles to form the foundation below ground of a reinforced concrete wall structure above ground. It is expected that there will be sufficient depth of suitable material to utilise a sheet pile foundation and provide sufficient seepage cutoff. The SPRC will be faced with stone consistent with the local setting.

Construction of the foundations and walls will require uncured concrete. The new wall will be faced in similar stone to the existing retaining structure.

# Foyle View Apartments, Station Road

At the time of writing Donegal County Council are in process of investigating access constraints at this location. A temporary working platform will not be required at this location as most works will be carried out from the high side. However, some access may be necessary from the river bank.

It is proposed that this section of defence is constructed on driven (sheet) pile. The new wall will be faced in similar stone to the existing retaining structure.

# Structures adjacent to the Foyle, Deele and Roughan

The defence type beyond the Sheet Pile Retaining Wall at Station Road (the Roughan Embankment) will consist of flood embankments as sufficient space is available to accommodate an embankment footprint. The route of the new flood embankment will partially follow the same route as the existing Arterial

Drainage Scheme (ADS) embankment line. Approximately 635 m of the existing ADS embankment will be reconstructed. It is assumed that surplus material will be re-used in the construction of the embankment. Temporary flood protection will be implemented along these sections during construction and silt curtains will be installed to prevent water contamination from run-off from demolition and construction areas.

The Gaadoo Drain, which originates in the Ballyduff Park area of Lifford town and flows through the Roughan before discharging to the River Deele, also needs a defence along it to ensure the 1% AEP SoP. This consists of 130m of earth embankment on the left bank of the drain behind properties adjacent to the Lifford Athletic lub. The average defence height required is approximately 0.72m above ground level. Following a freeboard

# 3.2.2 Ancillary works

Ancillary works may be required where there are other flood sources or utility/infrastructure services present which the proposed flood defences will affect. In such cases ancillary works would be required to ensure flood risk is not increased and utility/infrastructure services are not impeded.

Numerous outfalls exist along the walled section of the River Foyle stretching from the N14 bridge to the Old Courthouse, which drain Lifford town. Others exist along the ADS embankment, draining the Roughan area. A lot of these outfalls do not have a non-return (flap) valve in place and hence have potential to back up when water levels are high in the River Foyle and contribute to flooding in Lifford.

To address this, as part of the scheme, non-return flap valves would be placed on the outfalls to avoid the risk of flooding emanating from them back into Lifford. With hard defences proposed, utilities and outfalls within the area will require accommodation/relocation works. This includes water mains and electric cables in the Bridge Street area.

The flood defence in the Roughan will cross the Gaadoo drain. Sufficient culverts will need to be designed to ensure the drain will be able to discharge through the defence without backing up and creating additional flood risk for Lifford. **Figure 3.1** shows the proposed flood relief measures for Lifford.

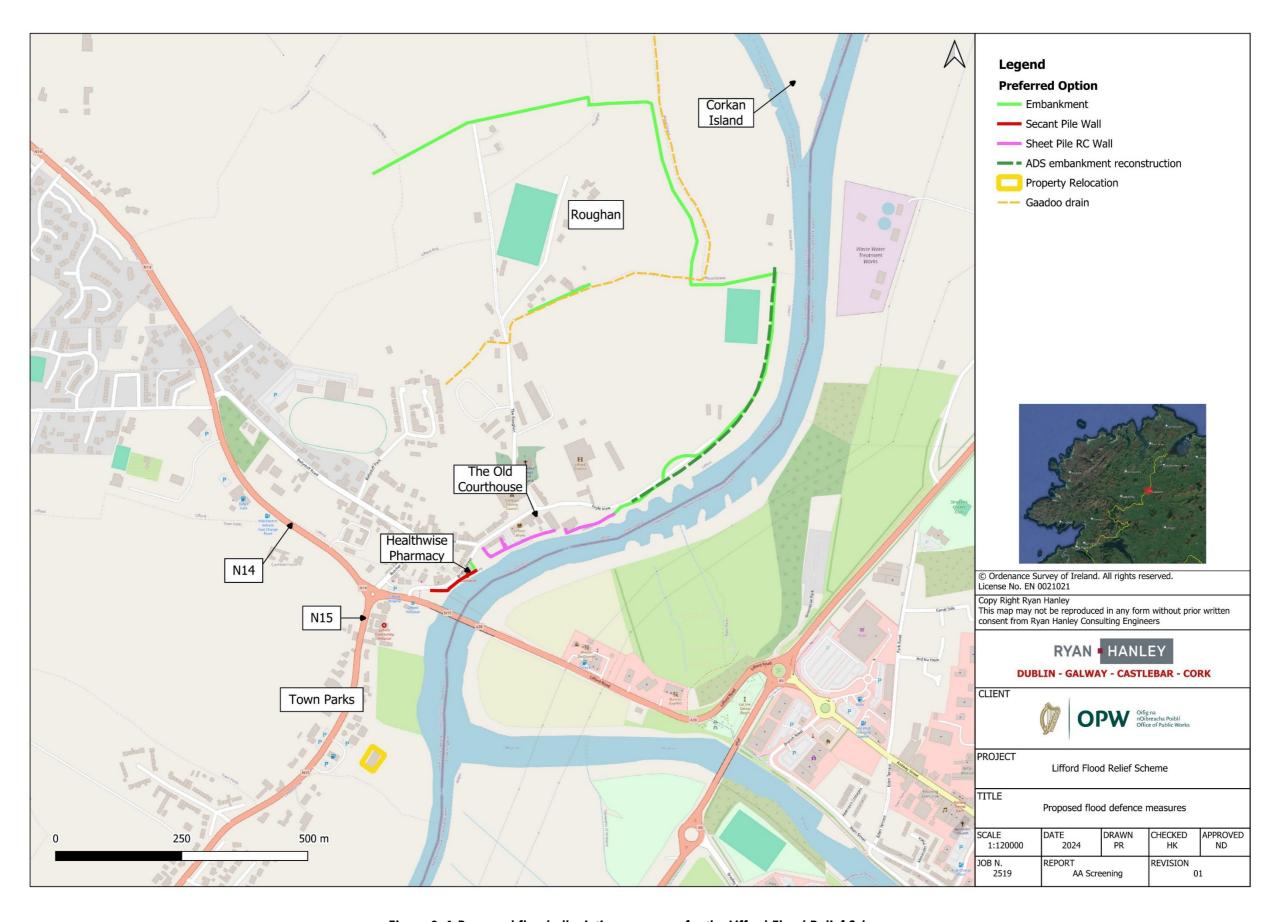


Figure 3. 1 Proposed flood alleviation measures for the Lifford Flood Relief Scheme

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# 3.3 DESCRIPTION OF THE RECEIVING ENVIRONMENT

The scheme area includes both the built environment of Lifford, historic town and modern additions in terms of both commercial and residential development, infrastructure, as well as semi-natural habitats of the flood plain. The habitats include lowland depositing rivers, remnant riparian woodland, reed and tall sedge swamp, freshwater marsh and wet grasslands associated with the flood plain, as well as dry grassland on glacial drift, cultivated land, improved agricultural grassland, hedges and treelines. Baseline surveys on habitats, wintering and breeding birds, aquatic ecology, fish and otters have been carried out between May 2020 and March 2022 plus added information gathered on site visits up to the present time. Further information has been gathered from existing data sources and reports, including those published or available from the Loughs Agency and other authorities. The Study Area for the proposed FRS is centred on the town of Lifford and its surrounding areas including the rural area directly North of the town known locally as the Roughan.

A number of invasive alien plant species (IAPS) (includes 3<sup>rd</sup> schedule species in S.I. 477 of 2011), Giant hogweed (*Heracleum mantegazzianum*), Himalayan balsam (*Impatiens glandulifera*) and Japanese knotweed (*Fallopia japonica*) are widespread in the riparian areas of the River Foyle system and tributaries, which are surveyed and monitored annually since 2020 within the study area of the proposed flood relief scheme. Control management of IAPS stands, including limited herbicide treatment, is undertaken annually and documented via annual revision of the Invasive Species Management Plan for the Lifford FRS.

The proposed works will take place in Lifford town along the Western banks of the River Finn (EPA Code: UKGBNI1NW010104074) and the Foyle and Faughan Estuary (EPA Code: UKGBNI5NW250010) transitional waterbody, herein referred to as the River Foyle. In addition, works will also take place in the Roughan, some of which are adjacent to the Deele (Donegal)\_050 or "Roughan Stream" (EPA Code: IE\_NW\_01D010650) and the Deele (Donegal)\_050 known as the "Gort Stream" (EPA Code: IE\_NW\_01D010650) which both flow into the River Deele. The Finn, Foyle, Mourne and Deele rivers are part of the North Western River Basin District (NWRBD), which covers an area of 12,731 km².

See Figure 3.2 for the waterbodies in proximity to the proposed works.

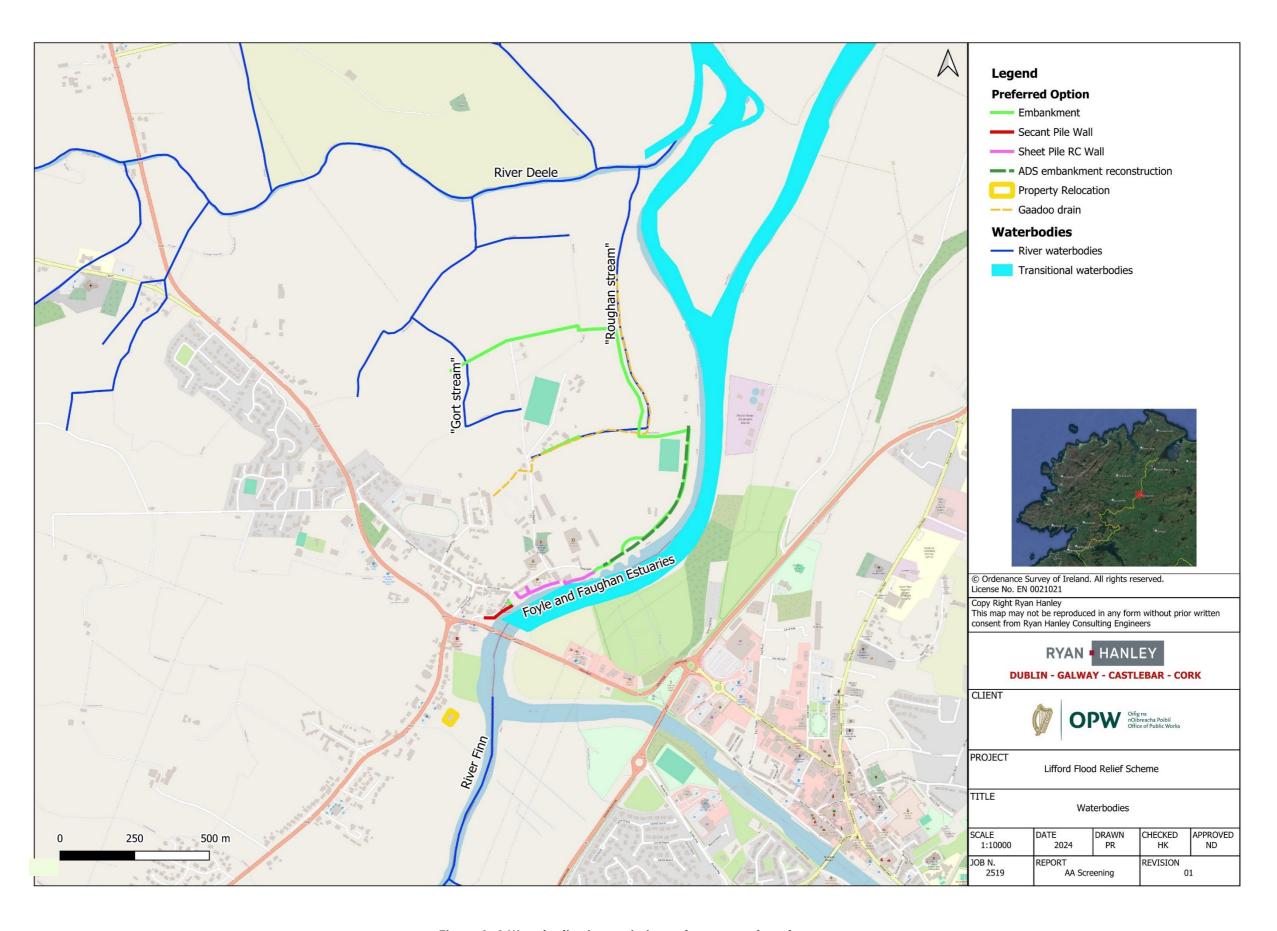


Figure 3. 2 Waterbodies in proximity to the proposed works

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# 3.3.1 Habitats and Flora

The following paragraphs describe the terrestrial and aquatic habitats and dominant and rare flora within and adjacent to each of the proposed works, according to the classification detailed in 'A Guide to Habitats in Ireland' (Fossitt, 2000) and cross referenced with Annex I habitats where required. See Figures 3.3.

South from Lifford Bridge and upstream from the proposed works the River Finn channel is modified with a broad margin >10m wide within flood defence embankment (BL2). Vegetation recorded included tall grassy herbaceous vegetation (like GS2), composed of Agrostis stolonifera, Phalaris arundinacea, Dactylis glomerata, Sweet Vernal Grass (Anthoxanthun odoratum), Yorkshire Fog (Holcus lanatus), Meadow Foxtail (Alopecurus pratensis), with Nettles (Urtica diocia) Cow Parsley (Anthriscus sylvestris), Bush Vetch (Vicia sepium), Docks (Rumex obtusifolia, Rumex spp), among other species.

Occasional riverside trees were found, singly and in clumps, along the riverbank, mainly willows Salix fragilis, S cinerea, S viminalis and Ash (Fraxinus excelsior).

Wet grassland (GS4) follows the banks of the River Finn, with improved agricultural grassland (GA1) patches located slightly further away from the river's edge. Drainage ditches (FW4) run along these fields and discharge into River Finn. One of the drainage ditches appeared to show evidence of pollution, carrying grey fine matter and sediment deposits.

The wet grassland pasture occurs along the flat riparian zone which contains a range of species including Sweet Vernal Grass, Creeping Bent, locally frequent Marsh Foxtail (Alopecurus geniculatus); Creeping Buttercup (Ranunculus repens) is widespread and abundant in the sward, while others including Field thistle (Cirsium arvense) and Marsh Thistle (C. palustre), Germander Speedwell (Veronica chamaedrys), Marsh Ragwort (Senecio aquatilis), Cuckoo Flower (Cardamine pratensis), Common Mouse-ear (Cerastium fontanum) are widespread or locally frequent.

Treelines (WL2) included species of old tall mature spruce (*Picea sp*), Ash, Hawthorn and willow spp. Further back from these treelines, wet grassland takes over dominated by tussocks of rushes and Soft Rush (*Juncus effusus*). In some places, there is permanent inundation and standing water, drains are blocked and retain water in some situations. In many areas tussocks of Tufted Hair Grass (*Deschampsia cespitosa*) are co-dominant while patches of Reed Canary Grass occur locally. Floating Sweet Grass is widespread and abundant where the water table is at or above the surface, as well as Water Cress (Nasturtium officinale). Meadowsweet is scattered and widespread.

Species noted along the margins of River Finn also included Tutsan (Hypericum androsaemum), Wild Angelica (Angelica sylvestris), Marsh Marigold (Caltha palustris), Primrose (Primula vulgaris), fern spp. A scour effect can be seen at some of the lower ends of the drains whereby soil is lost to the river. Floating aquatic plants in the River Finn were also recorded including the White Water-lily (Nymphaea alba).

Within the town of Lifford, buildings and artificial surfaces (BL3) occupy a significant surface along the banks of the River Foyle. The banks of the River Foyle support fragments of Riparian woodland (WN5) associated with Tall herb swamps (FS2), mobile deposits of sand, gravel or till (ED1), exposed at low water, indicating typical processes of erosion and deposition along the riverbanks. Some areas of residual riparian woodland (WN5) comprise trees and understorey species representative of this habitat, including Salix cinerea, S. fragilis, S.viminalis, Viburnum opulus, Oenanthe crocata, Angelica sylvestris, Phalaris arundinacea, Filipendula ulmaria and others. Land use contraints, such agricultural management adjacent to the river limits the extent of the woodland to a narrow linear corridor in some parts of the

scheme area. WN5 habitat is broader at locations in the south and north of the study area. There are elements of FS1, FS2 and WN5 which are contiguous and overlapping in terms of plant communities.

Continuing north, approaching Corken Island, the habitats turn mostly into Arable crops (BC1), Improved agricultural grassland (GA1) and Wet grassland (GS4). Drainage ditches (FW4) and hedgerows (WL1) can be found at the boundaries of these agricultural fields.

# 3.3.2 Salmon

Atlantic salmon (Salmo salar) has experienced long term decline in global populations and significant decreases in numbers returning to Irish rivers since 1970 falling from over 1.5 million to under 200,000. In less than 20 years, the number of wild salmon in Irish rivers has declined by almost 80%. The species has been listed as Vulnerable in the last assessment of its status in Ireland, in accordance with International Union for the Conservation of Nature (IUCN) criteria (King et al, 2011). Poorer survival at sea and the need for salmon to travel further north to marine feeding areas, owing to climate change, are cited as main reasons for the decline. Pressures at sea include exploitation at sea in commercial fisheries, interceptory fisheries in coastal waters, aquaculture and predation. Pressures and threats in their breeding river systems on the island of Ireland include barriers in channels such as dams and large wiers, water quality decline, pollution mainly from agriculture and wastewater, siltation of gravels for breeding (redds), while parasites such as sea lice sourced from farm salmon inshore are implicated.

Gargan et al (2022) state that there are currently 40 rivers or river tributaries of the designated in Special Areas of Conservation (SACs) where salmon are a qualifying interest under the EU Habitats Directive. Of these, only 22 are above their Conservation Limits (CL), "the spawning stock level that produces long-term average maximum sustainable yield as derived from the adult to adult stock and recruitment relationship". The target is based on the Standing Scientific Committee on Salmon (SSCS) – see NPWS, 2017. However, it is considered that overall range and habitat is stable and sufficient in Ireland to support a viable salmon population, while the overall assessment is unfavourable-inadequate on account of future prospects (NPWS, 2019).

In respect of salmon, it is a Conservation Objective of the River Finn SAC that the CL for each river system be consistently exceeded. However, monitoring via the counters on the Finn and Mourne rivers upstream of Lifford indicates that salmon numbers have fallen far below the management targets for these main rivers of the Foyle system since before 2012 (as per annual data available from the Fish Counter Programme on the Lough's Agency website: What We Do - Protection - Fish Counter Programmes - Loughs Agency (loughs-agency.org). Earlier counter data is published in Lough's Agency reports, including Nivan and McCauley (2017), showing that the CL has not been met since 2006 (except in 2009) and that despite year-to-year fluctuations in the numbers of returning salmon, the 3-year rollover mean values from counter data indicate consistent continuing declines in returning adults registered at the counters.

Field studies have been conducted by Ecofact at ten sites for water quality and aquatic ecology during August-September 2022. A summary of results related to salmon in the survey area are shown in the table below.

Table 3. 1 Aquatic survey results - Baseline Aquatic Ecology Survey (Ecofact, v. 3-3-23)

Ref	Description	Habitat	Fish population
F1	River Foyle west of Corkan Island	Sub-optimal	None. Likely juvenile present in suboptimal foraging habitat
F2	River Foyle east of Corkan Island	No suitable spawning areas	None

Ref	Description	Habitat	Fish population
D1	River Deele at Foyle Confluence	No suitable spawning areas	None
D2	River Deele	No suitable spawning areas	None
D3	River Deele	No suitable spawning areas	None
F3	River Foyle upstream of Corkan Island	No suitable spawning areas	None
F4	River Foyle downstream of Lifford Bridge	No suitable spawning areas	Likely adult salmon resting area. Likely juvenile salmon present in suboptimal foraging habitat
F5	River Foyle at Lifford bridge	Likely salmon spawning area. Ideal juvenile salmon habitat	Only site with possible juvenile salmonid habitat present. Juvenile salmon (1+) recorded but none captured.
M1	River Mourne at Strabane	No suitable spawning areas	None
FN1	Lower River Finn	No spawning habitats present	None

The survey results (Ecofact, 2023) concluded that overall there is no optimal salmon spawning habitat within the study area. The main importance of the study area is as a fish migration corridor.

### 3.3.3 Otter

With regard to otter (*lutra lutra*), a comprehensive otter survey has been carried out to collect presence/absence data and observed activity and behavior of Otter within the study area relevant to the location and footprint of the proposed flood defenses for Lifford. Field surveys occurred through 2021 following the methodology of the 'Standard Otter Survey' outlined in the National Otter Survey publication (IWM76, Reid et al, 2013).

The survey data are tabulated in the Otter Survey Report for Lifford FRS. The main otter walkover surveys were carried out over four main visits from September 2021 to February 2022. Prior to these site visits, observations and data on otters were also gathered from walkovers during bird, habitat, or invasive species surveys, initially in May 2020, and then from October 2020 to July 2021 using a similar survey route along the rivers and providing an additional year of data, including many direct sightings and observations as well as evidence of otter movements between the main rivers and adjacent terrestrial habitats or smaller watercourses. The surveys were concentrated mainly along the rivers (left bank of the Finn and Foyle; right bank of the Deele); other tributary watercourses, including drains and ditches were included where and when possible but not on every visit. Sightings and observations of otters were made 15 times over the 2020 to 2022 period, mostly on separate dates though some were made on the same day concerning different individuals. Four of these were sightings were of otter onshore, initially at least, and the remainder were sightings of otter swimming and/or foraging in rivers. Further incidental sightings on the Foyle included observation of an otter foragingat Greenbrae on 1st December 2023 and on 16th May 2024, an otter sighted feeding on small fish c. 100 meters upstream from the Strabane WwTP. Most sightings were of a single otter, though up to three otters were observed at the same time, on three separate dates. This verifies a minimum number of otters residing in the study area, likely two adult females and one immature on those occasions.

Furthermore, data recorded over the period has indicated a peak of sprainting along the Foyle bank close to the river in late March. Much of this sprainting is within or beside existing shrub and tree cover

(gorse, broom, bramble, crack willow (Salix fragilis) and alder. There are otter trails linking these sprainting sites along the riverbank and there are associated indications of frequent use, rest (couch) sites and slides accessing the river. The were occasional sightings of otters along the bank or in the water in this stretch of the River Foyle. Kruuk (2006) states that breeding holts tend not to be advertised by sprainting sites near the holt, that breeding females are very discrete accessing a breeding holt, leaving little or no trace or evidence, and that holts may be located 1km to 2km away from the river or waterbody habitat that otters frequent. Whilst otters were observed in the Foyle on several separate instances and evidence of otter has been recorded along the river side adjacent to the proposed works, there is no evidence that a breeding holt exists along the bank of the river here, as the area is prone to disturbance from adjacent residential and business premises along with walkers, dogs, and angling. Further details can be found in the Otter Survey Report for Lifford FRS (Ryan Hanley, 2023).

In respect of conservation measures and status, a total of 44. No SACs have been designated for the otter comprising river channels, coastline (including off-shore islands), lakes and blanket bog systems. The main threats to otters in Ireland include pollution and accidental deaths (road traffic and fishing gear). The Irish population is considered to be increasing and none of the threats or pressures identified is considered likely to impact significantly on the species. The Overall Status (Article 17 reporting) of otter is therefore considered to be Favourable, unchanged since the previous reporting period (NPWS, 2019).

#### 3.3.4 Water

The River Foyle is a cross-border river that separates part of County Donegal from parts of both County Derry/Londonderry and County Tyrone. It is formed at the confluence of the River Finn and River Mourne at the towns of Lifford, Donegal (ROI) and Strabane, Tyrone (NI).

The River Foyle has been significantly modified in the Lifford/Strabane area, for the purposes of land reclamation, flood alleviation, and fisheries development (Ecofact, 2023). Downstream of Lifford the River Foyle flows around a 5km long island. The island is divided up into the two neighbouring townlands of Corkan Island to the North and Island More to the south.

According to the latest Water Framework Directive (WFD) classification (Environmental Protection Agency, 2021), the Foyle Transitional Waterbody has a moderate overall status, with good chemical status and moderate ecological status. The main pressures affecting the water body are diffuse pollution from agriculture, point source pollution from urban wastewater and industry, and physical modifications from drainage, dredging and flood protection. Species of particular importance in this waterbody include the population of Atlantic Salmon (Salmo salar), which is one of the largest in Europe and Otter which is found throughout the system.

The River Finn flows in a predominantly easterly direction and flows through Lough Finn and the towns of Castlefinn, Ballybofey and Stranorlar until its confluence with the tidal River Foyle in the Lifford/Strabane area. It is underlain by boulder clays of low permeability, allowing for a high proportion of the incident rainfall to be conveyed as surface runoff. The River Finn's aquatic environments are subject to several anthropogenic pressures according to River Finn Catchment Characterisation (Catchment Care). These pressures include sand/ gravel removal, water abstraction, sewage treatment, diffuse and point source pollution, invasive plant species, urban sprawl and flood defences.

The latest WFD Classification (Environmental Protection Agency, 2021) for the River Finn shows a moderate overall status with continuous improvement over the previous River Basin Management Cycles (RBMC). The Finn system is one of Ireland's premier salmon waters. The Finn is important in an international

context in that its populations of spring salmon appear to be stable, while they are declining in many areas of Ireland and Europe.

The River Deele and tributaries are surrounded by pockets of native woodland, with lowland land use dominated by arable and pasture farmland.

The River Deele has an overall status of moderate based on WFD classification (EPA, 2021). Much like the River Finn, this waterbody has improved over the course of the RBMCs with the improvement of the biological status from poor in the first cycle to moderate in the third cycle, attributable to the recovery of macroinvertebrates, indicating reductions in pollution levels. The River Deele is traditionally known for its trout populations.

The River Mourne is located in Co. Tyrone (NI) and joins with the River Finn to create the River Foyle at Lifford/Strabane. The Mourne/ Foyle catchment is noted for its physical diversity and naturalness of the banks and channels, especially in the upper reaches (Ecofact, 2023).

The Mourne River has been classified as moderate status (EPA, 2021). According to the UK Technical Advisory Group (UKTAG), the trend in WFD status of the Mourne water body is uncertain, as there is no statistically significant difference between the two periods: 2009-2012 and 2015-2018. This means that the improvement observed by the Northern Ireland Environmental Agency (NIEA) may not be sustained or may not reflect a real change in the water quality. The Mourne is a large, fast flowing river, which is more than 20 metres wide for almost all of its entire length. Sea trout and salmon populations are known to swim though this river.

The WFD status of a groundwater body is determined by two criteria: the chemical status and the quantitative status. The chemical status reflects the degree of pollution of the groundwater by human activities, such as nitrate, pesticides and/or metals. The quantitative status reflects the balance between the abstraction and recharge of the groundwater, and the impact on the associated surface water and ecosystems.

According to the latest WFD assessment the Foyle Gravels Groundwater Body has an overall status of Poor, due to its quantitative status indicating that it is at risk over over-exploitation.

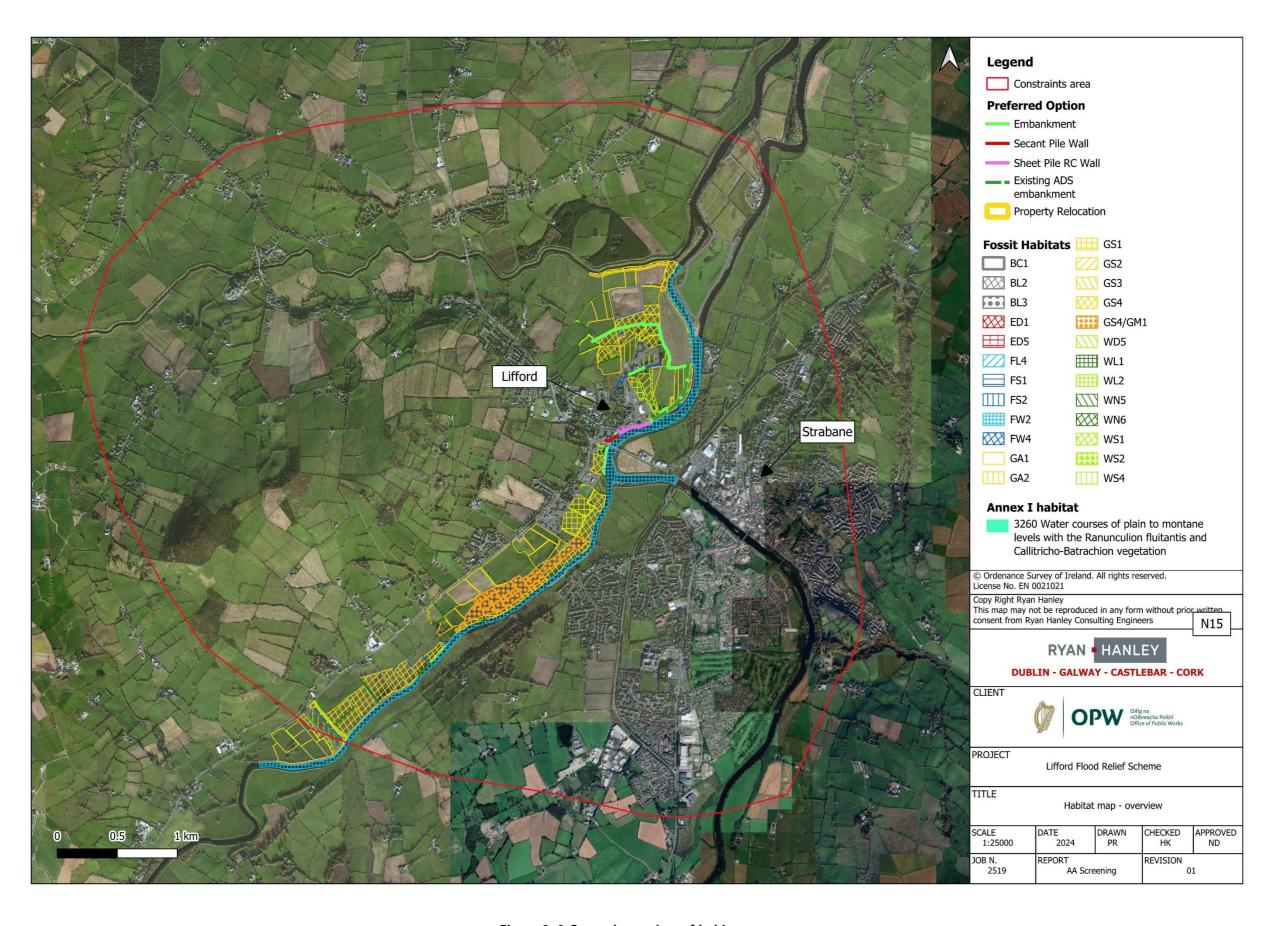


Figure 3. 3 General overview of habitats map

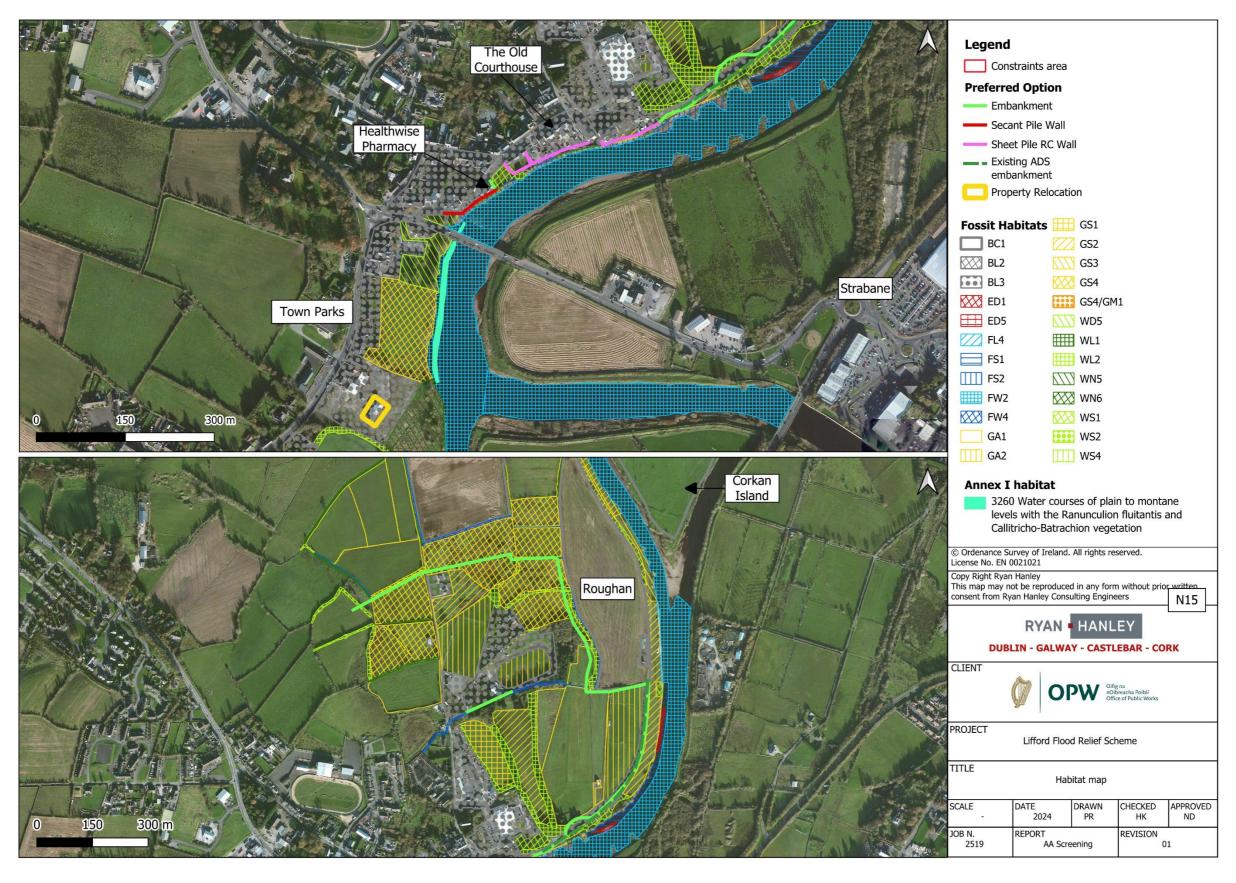


Figure 3. 4 Fossitt Habitats Identified in the proximity of the proposed works

# 4 **EUROPEAN SITES**

# 4.1 DESIGNATED SITES IN THE VICINITY OF THE PROJECT

Section 3.2.3 of the Guidance for Planning Authorities (DoEHLG, 2010) states that the approach to screening can be different for different plans and projects and will depend on the scale and the likely effects of the project. A key variable that will determine whether or not a particular European Site is likely to be negatively affected is its physical distance from the project site and whether there are any pathways for effect linking the project to these sites.

Using the Source » Pathway » Receptor approach (OPR, 2021) and having regard for the location and the nature, size and scale of the proposed works; it is considered for the purpose of this screening exercise that the likely Zone of Influence (ZoI) on designated sites is the zone immediately around the construction site and any sites with a hydrological connection downstream of the works, where distance would be dependent on the qualifying interests of the site. **Table 4.1** below details European sites with potential Source » Pathway » Receptor links to the proposed works and whether a potential interaction has been identified.

Table 4.1 European Sites Downstream of the Proposed Development

European Site Name	Site Code	Distance from Works	Potential Interaction
River Finn SAC	002301	Direct crossing/adjacent to the proposed works (Okm within works)	Yes, the proposed works are located in lands adjacent to the River Finn and the Foyle and Faughan Estuaries that form part of the River Finn SAC. Temporary working platforms within the river are proposed as part of the works. There is a potential interaction between the works and this site and therefore this site is screened in for further assessment.
Lough Foyle SPA	004087	29km Northeast and 33km downstream, hydrological distance	No. There is a hydrological connection between the proposed works and the Lough Foyle SPA as the works are being undertaken in lands adjacent to the Foyle and Faughan Estuaries transitional waterbody which forms part of the SPA approximately 33km downstream of the works. Owing to the significant distance between the proposed works and this designated site, and the high dilution of the River Foyle, it is considered that any potential discharges (silt/sediment/hydrocarbon) resulting from the works will not result in any negative interactions with the qualifying interests of this SPA and this site is screened out for further assessment.

European Site Name	Site Code	Distance from Works	Potential Interaction
River Foyle and Tributaries SAC	UK0030320	Adjacent to	Yes, there is a direct connection between the works and this protected site as two temporary working platforms are proposed to be installed within the Foyle, resulting in a direct and indirect potential interaction with the SAC features, including salmon and otter, via potential deterioration of water quality, changes in the channel morphology, sediment run-off.
Lough Foyle SPA	UK9020031	25 km Northeast and 31 km downstream, hydrological distance	No. There is a hydrological connection between the proposed works and the Lough Foyle SPA as the works are being undertaken in lands adjacent to the Foyle transitional waterbody which forms part of the SPA, c. 31 km downstream. Owing to the significant distance between the proposed works and this designated site, and the high dilution of the River Foyle, it is considered that any potential discharges (silt/sediment/hydrocarbon) resulting from the works will not result in any negative interactions with the protected features of this SPA and this site is screened out for further assessment.

As outlined in **Table 4.1** above, there is potential for interactions to occur between the proposed works and one European Site in the Republic of Ireland, the River Finn SAC and one protected site in the UK, the River Foyle and Tributaries SAC, given that the proposed works will occur adjacent to and within these protected sites. As such, the River Finn SAC and the River Foyle and Tributaries SAC, are considered for further assessment with regards to their Conservation Objectives and Qualifying and/or Special Conservation Interests. The remaining European sites are not considered further in this report due to the significant distance and high dilution potential of the waterbody, based on the SPR model.

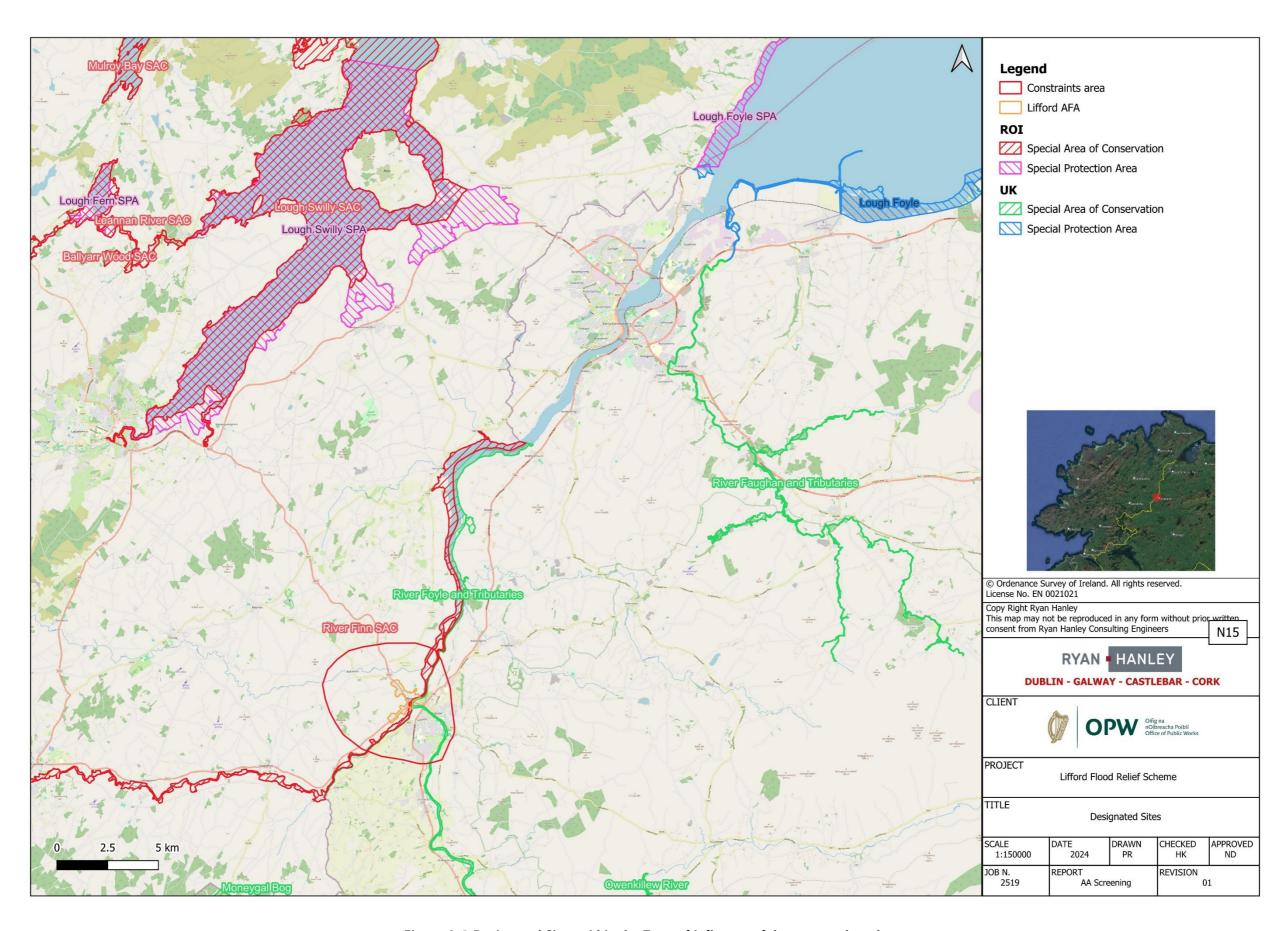


Figure 4. 1 Designated Sites within the Zone of Influence of the proposed works

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# 4.2 DESCRIPTION OF EUROPEAN SITES AND CURRENT TRENDS IN THE ABSENCE OF THE PROPOSED SCHEME

# River Finn SAC (Abstracted from the Site Synopsis, dated 06/01/2014)

This SAC contains good examples of the Annex 1 habitats lowland oligotrophic lakes, blanket bog, transition mires and wet heath. Water quality of the lakes is good, as is that in most of the rivers and streams (majority classified as unpolluted). The blanket bog, which is best developed in the Owendoo/Cloghervaddy area, is typical upland bog and is fairly extensive in area. The Finn is an important system for Salmon (Salmo salar), being an excellent grilse river with extensive spawning habitats. The Finn system sustains one of the only stable spring salmon populations in the country. The rivers and lakes support important populations of Otter (Lutra lutra). The upland habitats support a number of important bird species, notably Peregrine falcon (Falco peregrinus) and Merlin (Falco columbarius) (Annex I species) and Red grouse (Lagopus lagopus) and Ring ouzel (Turdus torquatus) (both Red Data Book species). Lough Derg supports the largest colony of Lesser black-backed gull (Larus fuscus) in Ireland. The section of the River Foyle within the site, along with a contiguous stretch in of the river in Northern Ireland, supports important populations of waterfowl in autumn and winter, with an internationally important population of Whooper swan (Cygnus cygnus), and nationally important numbers of Greylag goose (Anser anser), Common teal (Anas crecca) and Cormorant (Phalacrocorax carbo). Arctic char (Salvelinus alpinus) occurs in Lough Finn and possibly Lough Derg. A Red Data Book plant species, Helleborine (Cephalanthera longifolia), is known from the site.

The Qualifying interests for the River Finn SAC are listed below:

- Oligotrophic Waters containing very few minerals of sandy plains (Littorelletalia uniflorae)
   [3110];
- Northern Atlantic wet heath with Erica tetralix [4010];
- Blanket bogs (\*if active bog) [7130];
- Transition mires and quaking bogs [7140];
- Salmon (Salmo salar) [1106]; and
- Otter (Lutra lutra) [1355].

The Conservation Objectives of the River Finn SAC are to maintain or restore the favourable conservation condition of the habitats and species listed as Special Conservation Interests for this SAC.

Details on this European site can be found at National Parks & Wildlife Service | River Finn SAC.

# River Foyle and Tributaries SAC (Abstracted from Conservation Objectives document (27/07/2017)

The SAC includes the River Foyle and its tributaries i.e. that part of the River Finn which lies within Northern Ireland, the River Mourne and its tributary the River Strule (up to its confluence with the Owenkillew River) and the River Derg, along with two of its sub-tributaries, the Mourne Beg River and the Glendergan River.

In total, the area encompasses 120km of watercourse and is notable for the physical diversity and naturalness of the banks and channels, especially in the upper reaches, and the richness and naturalness of its plant and animal communities. Of particular importance is the population of Atlantic Salmon (Salmo salar), which is one of the largest in Europe.

Although the banks may have been modified in the past, the channels are natural and composed of large cobble substrate with scattered boulders and sandy marginal deposits.



Otter (*Lutra lutra*) is found throughout the system. A small population of the now rare Freshwater Pearl Mussel (*Margaritifera margaritifera*) was still present in the Mourne River in the mid-nineties.

The protected features of the River Foyle and Tributaries SAC are:

- Atlantic salmon (Salmo salar);
- Water courses of plain to montane levels with the Ranunculus fluitans and Callitricho-Batrachion vegetation; and
- Otter (Lutra lutra).

The Conservation Objectives of the River Foyle and Tributaries SAC are to maintain or restore the favourable conservation condition of the habitats and species listed as protected features for this SAC.

Details on this protected site can be found at <u>Department of Agriculture, Environment and Rural Affairs</u> <u>River Foyle and Tributaries SAC.</u>



# 5 SCREENING FOR LIKELY SIGNIFICANT EFFECTS (LSE) WITH REGARDS TO CONSERVATION OBJECTIVES OF EUROPEAN SITES

In order to determine whether the proposed works are likely to have a significant adverse effect on European Sites, the project and its potential impacts are assessed and followed by a determination of whether there is a risk that the effects identified could be significant.

If the effects of a proposal are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated then the process must proceed to a full Appropriate Assessment and the provision of a Natura Impact Statement.

A desk study, summarised in the previous section, has been carried out to determine the potential Source » Pathway » Receptor chains which could have a significant adverse effect on the qualifying interests and conservation objectives of the River Finn SAC. An evaluation of the potential for the proposed works to give significant effects on the Qualifying Interests for the River Finn SAC is detailed in **Table 5.1** and below.

# 5.1 CONSTRUCTION AND OPERATIONAL STAGE IMPACTS

There are a number of potential Source » Pathway » Receptor chains, which could impact on the conservation objectives within the zone of impact of the proposed works.

In assessing the proposed project, the following general potential impacts have been considered during the works stage with regard to the screening for impact, in the absence of mitigation measures, on the conservation objectives of the River Finn SAC:

- Direct loss or damage of habitats or species;
- Impacts from surface water runoff or water quality impacts as a result of sediment and pollutants released during construction;
- Changes to the nature and character of the riverbank habitat for otters as a result of the works, the current ground and vegetation conditions including deadwood piles and cover created from seasonal flood events;
- Spread of invasive species; and
- Disturbance of species which are Qualifying Interests (QI) namely otters or salmon during works.

Table 5.1- Screening of Likely Significant Effects in relation to Site Specific Conservation Objectives (SSCO) of European Sites

European Site	Qualifying Interests	Site Specific Conservation Objectives (SSCO) Targets	Likely Significant Effect (LSE)	Screening for LSE
River Finn SAC (002301)	Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorge) (3110)	<ul> <li>Habitat area and distribution: no decline, stable or increasing subject to natural processes.</li> <li>Typical species present in good condition.</li> <li>Vegetation composition as specified.</li> <li>Vegetation distribution as specified.</li> <li>Hydrological regime as specified.</li> <li>Lake substratum quality: as specified.</li> <li>Water quality: phytoplankton, transparency, nutrients, algae, macrophytes as specified.</li> <li>Acidification status as specified.</li> <li>Water colour as specified.</li> <li>Dissolved Organic Carbon as specified.</li> <li>Turbidity as specified.</li> <li>Fringing habitat area and condition, maintained.</li> </ul>	Oligotrophic lake habitats are likely to occur in the larger lakes within the SAC, such as Loughs Derg, Finn and Belshade. All other lake habitats over 1 ha have been mapped as potential 3110 habitats in the SSCO document (NPWS, 2017). No oligotrophic lake habitats were identified within or directly downstream of the study area. Given the significant distance between the works and oligotrophic lake habitats associated with this SAC and that there are no direct hydrological links between the proposed works and this habitat, it is considered that there are no likely significant effects on 3110 habitats associated with this SAC as a result of the proposed works.	Screened out
	Northern Atlantic wet heaths with <i>Erica tetralix</i> (4010)	<ul> <li>Habitat area and distribution: stable or increasing/no decline subject to natural processes.</li> <li>Ecosystem function: soil nutrients. As specified.</li> <li>Community diversity: as specified.</li> </ul>	Bogs and associated habitats have not been mapped in detail for this site. However, the total area of wet heath habitats is estimated to be approximately 187 ha and blanket bog habitat is estimated to be approximately 519 ha while the total area of transitional mires and quaking bog habitats are unknown.	Screened out

European Site	Qualifying Interests	Site Specific Conservation Objectives (SSCO) Targets	Likely Significant Effect (LSE)	Screening for LSE
		<ul> <li>Vegetation composition: cross-</li> </ul>	No blanket bogs, wet heaths and transition mires habitats were	
		leaved heath, positive indicator	identified within or directly downstream of the study area and	
		species, lichens and bryophytes,	these habitats are known to occur in the upland areas of the SAC,	
		ericoid species and crowberry,	a significant distance upstream of Lifford town.	
		negative indicator species, native		
		tress and shrubs, bracken, soft	Given the significant distance between the proposed works and	
		rush, as specified.	blanket bogs, wet heaths and transitional mires habitats	
		<ul> <li>Vegetation structure: Sphagnum</li> </ul>	associated with this SAC and that there are no direct hydrological	
		condition, signs of browsing,	links between the works and these habitats, it is considered that	
		burning. As specified.	there are no likely significant effects on blanket bogs and	
		Physical structure: disturbed bare	associated habitats within this SAC as a result of the proposed	
		ground, drainage. As specified.	flood defences.	
		<ul> <li>Indicators of local distinctiveness,</li> </ul>		
		as specified.		
		Habitat area and distribution:		
		stable or increasing/no decline		
		subject to natural processes.		
		<ul> <li>Ecosystem functions: soil nutrients,</li> </ul>		
		peat formation, hydrology, as		
		specified.		
		<ul> <li>Community diversity: as specified.</li> </ul>		
	Blanket bogs (*if active	<ul> <li>Vegetation composition: positive</li> </ul>		
	bog) (7130)	indicator species, lichens and		
		bryophytes, potential dominant		
		species, negative indicator		
		species, non-native species, native		
		trees and shrubs, Sphagnum		
		condition, signs of browsing,		
		burning. As specified.		

European Site	Qualifying Interests	Site Specific Conservation Objectives (SSCO) Targets	Likely Significant Effect (LSE)	Screening for LSE
		<ul> <li>Physical structure: drainage, disturbed bare ground, erosion.</li> <li>As specified.</li> <li>Indicators of distinctiveness: as specified.</li> </ul>	Transition mires and quaking bogs have not been mapped in detail for River Finn SAC and thus total area of the qualifying habitat is unknown. Transition mires and quaking bogs can occur in a variety	
	Transition mires and quaking bogs (7140)	<ul> <li>Habitat area and distribution: area stable, increasing, no decline, subject to natural processes.</li> <li>Ecosystem function: maintain soil nutrients.</li> <li>Community diversity: maintain variety, subject to natural processes.</li> <li>Vegetation composition: positive indicators, core positive indicator species, cover of species, nonnative species. As specified.</li> <li>Vegetation structure: height. As specified.</li> <li>Physical structure: bare ground, drainage. As specified.</li> <li>Local distinctiveness: as specified.</li> </ul>	of situations, related to different geomorphological processes: in flood plain mires, valley bogs, basin mires and the lagg zone of raised bogs, and as regeneration surfaces within mires that have been cut-over for peat or areas of mineral soil. Most frequently reported highly important pressures include modification of hydrological flow, mixed pollution sources to groundwater and surface water, land use changes, drainage for use of agricultural land, invasive species, physical alteration of water bodies, drainage, road infrastructure, among others.  An extensive area of this habitat is found at Owendoo/Cloghervaddy to the west of the Owendoo River. It is also though to occur in quaking areas associated with Cronakerny and Cronamuck. Other locations that support this habitat include Tullytresna and the lake edges of Lough Fad, Lough Finn, Lough Gulladuff and the small lakes south of Lough Belshade.  This habitat not within the zone of influence of the proposed works, attributed mostly to the significant distance. It is considered that there are no likely significant impacts on this habitat and associated habitats within this SAC as a result of the proposed flood defences.	Screened out

European Site	Qualifying Interests	Site Specific Conservation Objectives (SSCO) Targets	Likely Significant Effect (LSE)	Screening for LSE
	Salmon Salmo salar (only in freshwater) (1106)	<ul> <li>Distribution: extent of anadromy remains at 100% of river channels down to second order accessible from estuary</li> <li>Conservation limit (CL), of adult spawning fish, for each system is consistently exceeded</li> <li>Maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry/5 minutes sampling</li> <li>No significant decline in outmigrating smolts</li> <li>No decline in number and distribution of spawning redds due to anthropogenic causes</li> <li>At least Q4 at all sites sampled by EPA</li> </ul>	The River Finn is a designated salmonid river under the (SI 185 of 2023) European Union Habitats (River Finn Special Area of Conservation 002301) Regulations 2023 upstream of the River Foyle at Lifford. The EU Water Framework Directive also contains biological quality elements for surface waters that need to be met for fish (QE1-4).  Instream works are proposed as temporary working platforms within the SAC. There exist within the river holding areas for both adult salmon during in-migration and migratory pathways for outmigrating juvenile salmon.  Risk of hydrocarbon spillage and silt release during works can have a direct impact on the water quality of the Foyle and Foughan transitional waterbody. A water quality of Q4 'good' is one of the targets for salmon conservation.  The construction and installation of working platforms within the river can result in a direct effect to salmon habitats and migratory routes by creating a partial barrier. Furthermore, there will be a temporary change in the hydromorphological features and conditions of the River Foyle. The proximity of construction works to the river where salmon are migrating upstream may be a cause of visual and physical disturbance, shock and vibration and may deter fish from travelling past the hazard.  This evaluation takes account of the baseline environmental conditions of the works site and the sensitivity of salmon to any potential change in water quality which could reasonably arise in the local context within the SAC. The River Foyle is known to have suitable habitat for salmon and it constitutes an important migration route for this species. Given this information, field and desk studies, it is concluded that there are likely significant effects to salmon and	Screened in

European Site	Qualifying Interests	Site Specific Conservation Objectives (SSCO) Targets	Likely Significant Effect (LSE)	Screening for LSE
			its habitats and the project is screened in for appropriate assessment.	
	Otter Lutra lutra (1355)	<ul> <li>No significant decline in distribution</li> <li>No significant decline in area of terrestrial habitat. Area mapped and calculated as 390ha along river banks/lake shoreline/ around ponds</li> <li>No significant decline in extent of freshwater (river) habitat. Length mapped and calculated as 182.2km</li> <li>No significant decline in extent of freshwater (lake) habitat. Area mapped and calculated as 354ha</li> <li>No significant decline in couching sites and holts</li> <li>No significant decline in fish biomass available</li> <li>No significant increase of barriers to connectivity</li> </ul>	Otters occur throughout the Foyle catchment. Otter surveys undertaken for the flood relief scheme EIA have identified the presence of otter in the area via a number of otter signs including spraints, footprints, slides and direct sightings. No otter holts were identified within the vicinity of the works. Suitable otter habitat is recorded along the Foyle and near the proposed works' area.  The works propose temporary working platforms within the River Foyle and works in certain areas will be adjacent to its banks. The works could result in physical damage or modification to bankside and riparian habitats within the River Finn SAC. During the construction of the proposed flood relief measures, construction activities can result in disturbance of otters in the area. Risk of hydrocarbon spillage and silt release and potential runoff could affect water quality and indirectly prey availability for otters.  This evaluation takes account of the baseline environmental conditions of the works site and the sensitivity of otter prey and habitat to any potential change in water quality which could reasonably arise in the local context and within the SAC boundary. On the basis of objective information provided in the Project Description, which outlines the proposed work elements and nature of construction requirements, likely significant effects on this qualifying interest cannot be excluded.	Screened in

Protected Site	Protected Features	Feature Objective Requirements	Likely Significant Effect (LSE)	Screening for LSE
River Foyle and Tributaries SAC (UK0030320)	Salmon Salmo salar (only in freshwater) (1106)	<ul> <li>Maintain and if possible expand existing population numbers and distribution (preferably through natural recruitment) and improve age structure of population.</li> <li>Maintain and if possible enhance the extent and quality of suitable salmon habitat – particularly the chemical and biological quality of water and the condition of the river channel and substrate.</li> </ul>	The site is of particular importance for the population of Atlantic salmon, which is one of the largest in Europe. As mentioned above in the River Finn SAC section, there exist holding areas for both adult salmon during in-migration and migratory pathways for out-migrating juvenile salmon.  Although the boundary of this site on the opposite river bank from where the proposed works will be undertaken, the instream works, as temporary working platforms, can result in a temporary change in the hydromorphological features and conditions of the River Foyle, potentially affecting the habitat and migration route of salmon. During construction activities, the risk of hydrocarbon spillage and silt release could result in a deterioration of water quality and have an effect on salmon habitat.  Given this information, field and desk studies, it is concluded that there are likely significant effects to salmon and its habitats in the entire river channel.	Screened in
	Otter Lutra lutra (1355)	<ul> <li>Maintain and if possible increase population numbers and distribution.</li> <li>Maintain the extent and quality of suitable otter habitat, in particular chemical and biological quality of the water and all associated wetland habitats.</li> </ul>	Otter (Lutra lutra) is found throughout the system.  As outlined in the appropriate section of the River Finn SAC above, dedicated otter surveys have found otter signs including spraints, footprints, slides and direct sightings.  Although the proposed works are on the opposite bank of the River and boundary of the protected site, the proposed works, particularly the instream temporary working platforms, can have a direct (disturbance) and indirect effect (habitat alteration, prey availability) on otters using the river and its supporting habitats.  On the basis of objective information provided in the Project Description and further details in the table above, which outlines the proposed work elements and nature of construction requirements as well as potential impacts on the River Finn SAC which is adjacent to the River Foyle and Tributaries SAC, the	Screened in

Protected Site	Protected Features	Feature Objective Requirements	Likely Significant Effect (LSE)	Screening for LSE
Protected Site	Watercourses of plain to montane levels with the Ranunculus fluitans	Maintain and if possible enhance extent and composition of community.  Improve water quality.	Likely Significant Effect (LSE)  likely significant effects on this qualifying interest cannot be excluded.  Floating mats of these white-flowered species are characteristic of river channels in early to mid-summer. They may modify water flow, promote fine sediment deposition, and provide shelter and food for fish and invertebrate animals.  Main pressures to this habitat include modification of hydrological flow, physical alteration of waterbodies, discharge of urban wastewater, pollution from surface run-off, invasive alien species, among others.	
	and Callitricho- Batrachion vegetation (3260)	<ul> <li>Improve channel substrate quality by reducing siltation.</li> <li>Maintain and if feasible enhance the river morphology.</li> </ul>	The habitat description and locations in the River Foyle and its tributaries are not yet published. Small areas of this habitat in the form of floating water crowfoot was recorded in the baseline surveys, between Lifford Bridge and the Finn-Mourne confluence below the left (western) bank. This is within the possible Zol of the works and the possibility of LSE on this QI as a result of the scheme cannot be ruled out at this stage.	

# 6 CUMULATIVE IMPACTS WITH OTHER PLANS/PROJECTS

In order to fully assess the potential impact of the proposed works on European Sites, the project must be assessed alone and in combination with existing activities and proposed plans for the region. Myplan.ie, the Donegal County Council planning register, the County Donegal Development Plan 2018-2024, the Derry City and Strabane Draft- Local Development Plan 2032 and the Derry City and Strabane Planning Service were consulted in order to determine if there are or will be any other plans or projects in the area which could result in negative cumulative impacts to these European Sites.

The County Donegal Development Plan has a number of objectives relating to the protection, conservation management and restoration of European Sites. The development plan is accompanied by a Natura Impact Report (NIR) that identified policies and objectives which were not likely to cause potential adverse effects and screened them out. The NIR also identified policies and objectives which had a potential significant adverse effect and as a result, amendments were made to a number of policies and objectives to mitigate against adverse effects and to ensure the protection and conservation of qualifying interests and special conservation interests for European Sites. The potential for cumulative effects on European Sites was screened against the relevant plans and programs for the County. The NIR concluded that the settlement and zoning strategy of the Plan is robust and evidenced based in relation to environmental considerations and has the capacity to absorb proposed development. It allows development to be directed to appropriate areas avoiding vulnerable and sensitive areas, in particular Natura 2000 sites. Based on the NIR assessment and conclusion, it is not predicted that potential cumulative impacts from the proposed works in conjunction with the County Donegal Development Plan will occur and will not compromise the conservation objectives of any European Sites and their qualifying interests. .

The Derry City and Strabane District Council Draft- Local Development Plan (LDP) 2032 was also consulted as part of the transboundary consideration. The LDP includes in its main vision and objectives the protection of the natural environment, its ecosystem services, flora and fauna. In its environment strategy section, it highlights the conservation and protection of European and International sites (SAC, SPA and RAMSAR), stating that planning permission will only be granted if there are no likely significant effects on these sites, individually or in combination with existing and/or proposed plans or projects. It includes a related policy for European Protected Species, specifying that planning permission will be granted for a development only if it is not likely to harm a European protected species. The proposed flood relief scheme will not compromise the objectives of the LDP in relation to the protection of European and International sites.

Uisce Éireann (UÉ) have made a planning application which includes the expansion and upgrade of their existing Wastewater Treatment Plant (WwTP) at Lifford to increase its capacity up to 3,000 population equivalent (PE), increased stormwater storage capacity and improve the quality of treated wastewater. The Lifford WwTP is located directly adjacent to the River Foyle and a section of the proposed embankment. The construction stage for the project is almost complete therefore there is no potential for cumulative impacts to occur between the WwTP and the proposed flood defence scheme. The proposed upgrade works will provide greater treatment of wastewater generated and consequently may reduce baseline water quality impacts to the receiving areas of the River Foyle. The WwTP upgrades was subject to an NIS which proposed mitigation measures that ensure that the proposed WwTP upgrades on its own, or in combination with other plans or projects, will not have any significant adverse impacts on European Sites (including the River Finn SAC) in the context of their conservation objectives and habitats and species for which the sites have been designated. The Riverine Community Park project has carried out ground

investigation works in the same area between the embankment and the River Foyle in late May 2021 including sites within the SAC and near the River Foyle. The Riverine Community Park project has received planning approval for both Lifford (ROI) and Strabane (NI) sides but awaiting agreement of funders and relevant Government departments for a strategic funding and delivery plan. Potential cumulative impacts on European Sites will need to be addressed in conjunction with the proposed flood relief scheme, when construction programme is known.

The A5 Western Transport Corridor is one of five key transport corridors identified in the Regional Transportation Strategy for Northern Ireland. Its improvement represents a significant link in plans to improve strategic links between the urban centres of Londonderry, Strabane, Omagh and Aughnacloy and improves connections to the North West. A section of this corridor crosses the River Mourne running parallel to the A5 and runs on the opposite side of Lifford town and the proposed flood relief scheme. The latest update for the project dates from November 2023 stating that the Department of Infrastructure (NI) received the final advisory Report on the Public Inquiries proceedings of 2020 and 2023 from the Planning Appeals Commission (PAC). The Department was in the process of considering the points raised and detailed recommendations made, before the next steps can be taken. When the programme for the project is updated, its construction programme will need to be reviewed and considered for potential cumulative effects on the European Sites in conjunction with the proposed Lifford flood relief scheme.

The Trans-European Transport Network (TEN-T) is a selection of strategic transport corridors throughout the European Union (EU) that have been identified to play a key role in the mobility of goods and passengers through the EU. Three sections of the TEN-T network in Donegal have been prioritised for improvement and together, they form the TEN-T Priority Route Improvement Project, Donegal. Section 3 corresponds to the N14 Manorcunningham to Lifford/ Strabane/ A5 Link. A new A5 link road (Strabane in NI) to N13 is planned over the River Finn about 1km upstream of Lifford bridge and from the proposed flood relief works. The project was expected to be presented in early 2024. The project is currently at Phase 3: Design and Environmental Evaluation. Potential for cumulative impacts between the proposed flood relief scheme and the TEN-T will need to be assessed once the latter has been progressed.

Donegal County Council (DCC) and Derry City & Strabane District Council (DCSDC) are jointly planning the development of the Riverine Community Park with DCC acting as the applicant. The project is located between the borders of Ireland and Northern Ireland on either side of the River Foyle, with a pedestrian and footbridge connecting the two sides. The proposed park includes outdoor events space, parkland areas, enhanced river access, play areas and a community hub building. Planning consent was awarded by An Bord Pleanála and funding application was submitted to the PEACEPLUS programme in 2023. The location of the project overlaps the proposed flood relief scheme area, thus, consideration to potential for cumulative impacts will need to be assessed.

The review of the Donegal County Council planning register and the Derry City and Strabane planning service documented relevant general development planning applications in the vicinity of the proposed flood relief scheme, most of which relate to the provision and/or alteration of one-off housing and agricultural related structures. No potential for cumulative impacts on European Sites were identified when considered in conjunction with the current proposal.

There are no known additional plans/projects on-going or proposed (at the time of this study) which in combination with the proposed project may give rise to any form of cumulative impact on the European Sites.

# 7 DISCUSSIONS AND CONCLUSION

The screening for Appropriate Assessment has identified and assessed for potential likely significant effects which are likely to occur as a result of the proposed flood relief scheme in the context of the River Finn SAC and its Qualifying Interests and Conservation Objectives, as for transboundary effects for the River Foyle and Tributaries SAC and its protected features.

It is determined, in the absence of mitigation, there will be potential for likely significant effects on the above listed protected sites in view of the sites' conservation objectives either alone or in combination with other plans and/or projects. This assessment is based on the consideration of:

- 1. Relevant qualifying interests, their sensitivities, and Conservation Objectives;
- 2. Potential source pathways between European Sites identified and the proposed development; and
- 3. The nature of the proposed project.

The detailed screening in Table 5.1 identifies that in the absence of mitigation there are likely significant effects from the proposed development on each of the following habitats and species:

- [1106] Atlantic salmon (Salmo salar);
- [1355] Otter (Lutra lutra); and
- [3260] Watercourses of plain to montane levels with the Ranunculus fluitans and Callitricho-Batrachion vegetation.

The Screening report evaluates the objective information presented in the Project Description, taking consideration of the proposed works elements; however, the evaluation does not presuppose that the construction requirements specified in the design, or to be implemented on site by the Contractor, are integral to avoid or reduce harmful effects on any European Site. Therefore, it is considered that in accordance with Article 6(3) of the Habitats Directive, the proposed flood defence works at the Lifford Flood Relief Scheme will result in likely significant effects on one or more European sites, in the absence of mitigation, having regard to the sites' conservation objectives. Consequently, a **Stage 2 Appropriate Assessment is deemed to be necessary**, requiring the preparation of a Natura Impact Statement (NIS).

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