MWP

Screening for Appropriate Assessment Report and Natura Impact Statement

Ros an Mhíl Deep Water Quay, County Galway.

Department of Agriculture, Food and the Marine

November 2025

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Summary of Findings – Appropriate Assessment

Project Title	Ros an Mhíl Deep Water Quay, County Galway
Project Proponent	Department of Agriculture, Food and the Marine
Project Location	The application site is situated immediately southwest of Ros an Mhíl Harbour on the northeast shore of Cashla Bay, approximately one kilometre southwest of the Gaeltacht village of Ros an Mhíl in Connemara and approximately 40 kilometres west of Galway City.
Screening for Appropriate Assessment (Stage 1)	The screening for Appropriate Assessment (AA) report is undertaken to determine the potential for likely significant effects of the proposed construction and operation of a deep water quay at Ros an Mhíl in County Galway, either individually or in combination with other plans or projects, in view of the conservation objectives of certain European sites identified within this report.
Stage 1 Conclusion	It has been objectively concluded during the screening process that significant effects on the following European site are not likely to occur because of the proposed development: ▪ Slyne Head to Ardmore Point Islands SPA (004159) However, it cannot be objectively concluded, at this stage, that the proposed development will not result in likely significant effects on the following designated European sites: ▪ Connemara Bog Complex SAC (002034) ▪ Kilkieran Bay and Islands SAC (002111) ▪ Connemara Bog Complex SPA (004181) ▪ Inishmore Island SAC (000213) Therefore, an Appropriate Assessment is required, and a Natura Impact Statement is necessary to assess the implications of the project, alone and in combination with other plans/projects, on the integrity of the European sites in view of their conservation objectives.
Natura Impact Statement (Stage 2)	In cases where AA is required, a Natura Impact Statement (NIS) is prepared and includes a report of a scientific examination of evidence and data carried out by competent persons to identify and classify any adverse impacts a project may have, either individually or in combination with other plans or projects, on the integrity of European site(s) in view of the sites' conservation objectives. This has been undertaken in **Section 4** of this report.
Stage 2 Conclusion	The NIS set out in **Section 4** of this report has considered all aspects of the proposed development, by itself and in combination with other plans or projects. Based on best scientific knowledge, it is objectively concluded that the proposed development will not, either alone or in combination with other plans and projects, adversely affect (directly or indirectly) the integrity of four identified European sites, namely the Connemara Bog Complex SAC, Kilkieran Bay and Islands SAC, Connemara Bog Complex SPA, and Inishmore Island SAC considering the specific conservation objectives of each site. The NIS contains information which the competent authority may consider in making its own complete, precise and definitive findings and conclusions, and upon which the competent authority can determine that all reasonable scientific doubt has been removed as to the effects of the project on the integrity of the relevant European sites. Provided that mitigation measures set out in **Section 5** are implemented in full, it is considered that the proposed development, either individually or in combination with other plans or projects, will not affect the integrity of the following four sites, or any other European site: ▪ Connemara Bog Complex SAC (002034) ▪ Kilkieran Bay and Islands SAC (002111) ▪ Connemara Bog Complex SPA (004181) ▪ Inishmore Island SAC (000213)

1. Introduction

1.1 Background

Planning permission was sought by the Department of Agriculture, Food and the Marine (DAFM) and subsequently granted by Galway County Council (GCC) on 2nd April 2018 for the construction and operation of a new deep water quay and reclamation area with low concrete sea walls (GCC Planning Application: 17/967) at a site immediately southwest of Ros an Mhíl Harbour on the northeast shore of Cashla[1] Bay in Connemara in County Galway. Also permitted within the application was the installation of rock armour revetment, construction of an access road, installation of lighting and drainage infrastructure, and all associated ancillary works.

Following commencement of construction works in January 2023, a successful application - Planning Application: 23/218 - was made to GCC in May 2023 to extend the duration of permission for the development permitted under Planning Application: 17/967. However, the validity of this decision by GCC to grant an extension to Planning Application: 17/967 (via Planning Application: 23/218) was legally questioned and in May 2024, GCC confirmed that it would consent to an order quashing the decision. Consequently, works ceased in May 2024 and by October 2024, the site had been fully cleared. The High Court officially issued an order to quash permission for Planning Application 23/218 on 29th October 2024.

In a new application, the Department of Agriculture, Food and the Marine is now seeking permission to complete the outstanding works of Planning Application: 17/967. The new application will include this Screening for Appropriate Assessment (AA) report and Natura Impact Statement (NIS) for the proposed development. For the purposes of this assessment, the 'proposed development' refers to all works yet to be carried out on the site and does not refer to already completed elements.

1.2 Purpose of the Assessment

This AA report has been prepared by Malachy Walsh and Partners Engineering and Environmental Consultants (MWP) after engagement by the Department of Agriculture, Food and the Marine (DAFM).

Section 3 of this report comprises a Stage One screening for AA report which aims to establish whether the proposed construction and operation of a deep water quay near Ros an Mhíl in County Galway is likely to result in significant effects on nearby European sites[2] with conservation designations (i.e. Natura 2000 Sites) (either alone or in combination with other plans or projects) in view of the site's conservation objectives. The screening for AA has been prepared to provide a sufficient level of information to the competent authority, in this case An Coimisiún Pleanála (ACP)[3], on which to base their own screening for AA for the proposed development.

This study is based on a preliminary impact assessment using both publicly available data and data collected during ecological surveys at the site. It comprises a summary of the proposed development's construction and operational phases in Section 3.2 (with further details set out in Appendix 2), particularly the aspects that could interact with the receiving environment, the identification in Section 3.6 of the impacts that are reasonably

[1] In English, generally, the names 'Cashla' and 'Casla' appear to be used interchangeably. 'Costelloe' is the English name for the village of Casla situated just north of Ros an Mhíl village, but the names of nearby features are known as Cashla Bay (Cuan Chasla) and Cashla River (Abhainn Chasla). Within this document, the name 'Casla' is used only in reference to the village and/or in the context of the official EPA-registered names of waterbodies/facilities, some of which are named using the spelling 'Casla' e.g. Casla Estuary.
[2] 'European sites' are defined in Section 177R of Part XAB of the Planning and Development Act 2000 and include Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) at all stages of designation.
[3] Formerly known as An Bord Pleanála (ABP).

foreseeable as potentially ensuing from it, and a determination as to whether these predicted impacts, either alone or in combination with the other plans or projects identified in Section 3.4, are likely to have significant direct and/or indirect effects on the European sites identified in Section 3.7.2 in view of those sites' conservation objectives.

The need to apply the precautionary principle (the absence of scientific evidence on the significant negative effect of an action cannot be used as justification for approval of this action) in making any key decisions in relation to the tests of AA has been confirmed by European Court of Justice case law. Therefore, when applied to Article 6(3) procedure, where significant effects are likely, possible or uncertain at the screening stage, an AA will be required, in which case a Stage 2 NIS will need to be prepared (see Section 4).

1.3 Statement of Competency

This report has been prepared by Úna Williams (MSc., BSc.), a Senior Ecologist and Environmental Scientist at MWP for nearly six years. Having worked on research teams both in Ireland and abroad, she is an experienced field ecologist familiar with various ecological survey methodologies, including habitat/survey mapping and zoological surveys. She has undertaken assessments for a wide variety of projects including renewable energy developments, and infrastructural and coastal developments. Úna has designed and carried out several Avian Collision Risk Models for proposed wind farms and has authored many ecological reports including Screening for AA reports, Natura Impact Statements (NIS), Ecological Impact Assessments (EcIA), and Environmental Impact Assessments (EIA). She graduated from Queen's University Belfast in 2018 with an MSc in Animal Behaviour and Welfare, and from Trinity College Dublin in 2008 with an Environmental Science degree.

The on-site survey was carried out in 2025 by Úna and a second MWP ecologist, namely Salona Reddy.

Salona is an Ecologist (MSc., BSc.) who has been working full-time with MWP since January 2024. She holds a Master's degree in Environmental Science and brings over nine years of consultancy experience in the preparation and delivery of Environmental Impact Assessment Reports (EIARs) across a broad range of project types. She is proficient in a wide array of ecological survey methodologies, including habitat mapping and faunal surveys, and has contributed to research teams internationally. Her experience includes ecological assessments for diverse developments, and she has taken lead authorship roles in numerous technical reports, such as Stage 1 Screening Reports for Appropriate Assessment (AA), Stage 2 Natura Impact Statements (NIS), and Ecological Impact Assessments (EcIA). Salona is an experienced field ecologist with a broad and diverse ecological survey portfolio, encompassing habitats and flora, mammals, bats, birds, and terrestrial invertebrates.

This report has been reviewed by Hazel Dalton (BSc., BBus.), Principal Ecologist at MWP. Hazel has ten years' experience working at MWP since graduating with a first-class Honours Degree in '*Wildlife Biology*' from Munster Technological University (MTU) in 2015. Hazel is experienced in ecological surveying and impact assessment for AA and Environmental Impact Assessment Reports (EIAR). She has authored and contributed to numerous Screenings for AA, NIS and Ecological Impact Assessment (EcIA) reports. Hazel is an experienced field ecologist with a diverse ecological survey profile including habitats and flora, mammals, bats, birds and terrestrial invertebrates. She has held/holds National Parks and Wildlife Service (NPWS) Licences for small mammal trapping, tape lure/endoscope bird surveys, Kerry slug (*Geomalacus maculosus*) surveys, disturbance of bat roosts, photographing wild animals (badger and otter) at their resting/breeding places and undertaking bat surveys.

1.4 Legislative Context for Appropriate Assessment

The Habitats Directive (92/43/EEC) seeks to conserve natural habitats and wild fauna and flora through the designation of Special Areas of Conservation (SACs), while the Birds Directive (2009/147/EC) seeks to protect bird

species of special importance via the designation of Special Protection Areas (SPAs). It is the responsibility of each European Union member state to designate SPAs and SACs that form part of Natura 2000, a network of protected sites throughout the European Community. The European Communities (Birds and Natural Habitats) Regulations 2011-2021 transpose the Habitats Directive and the Birds Directive into Irish law. The requirement for Appropriate Assessment of the implications of plans and projects on the Natura 2000 network of sites comes from the Habitats Directive (Article 6(3)). Further information is available at:

https://environment.ec.europa.eu/topics/nature-and-biodiversity/habitats-directive_en

http://www.npws.ie/planning/appropriateassessment/

The current assessment was conducted within this legislative framework and in accordance with the following:

- European Commission (EC) guidelines '*Assessment of plans and projects in relation to Natura 2000 sites - Methodological Guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*' (EC, 2021);
- EC Notice '*Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC*' (EC, 2019);
- National Parks and Wildlife Service (NPWS) guidelines '*Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities'* (DEHLG, 2010); and,
- Office of the Planning Regulator (OPR) Practice Note '*Appropriate Assessment Screening for Development Management*' (OPR, 2021).

As outlined in the above guidance documents, it is the responsibility of the proponent of the project, in this case the Department of Agriculture, Food and the Marine ('the Applicant'), to provide a comprehensive and objective screening for Appropriate Assessment report (Stage 1) which can then be used by An Coimisiún Pleanála (ACP) to assist them in completing their screening exercise.

If it is determined that a full Appropriate Assessment is required in respect of the construction and operation of the proposed deep water quay at Ros an Mhíl, a Natura Impact Statement (NIS) (Stage 2) must be prepared. In the case of Stage 2 Appropriate Assessment, mitigation of impacts can be considered.

1.5 Stages of Appropriate Assessment

The Appropriate Assessment process is a four-stage process with issues and tests at each stage. The purpose of the screening assessment is to record in a transparent and reasoned manner the likely effects on European sites of a proposed development. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

The four different stages are set out in **Appendix 1** of this report.

2. Assessment Methodology

2.1 Appropriate Assessment Guidance

A plan or project can only be authorised by a competent authority if it has made certain that it will not adversely affect the integrity of the European sites relevant to the project in view of their conservation objectives, either

alone or in combination with other plans and projects. This can only be the case where "no reasonable scientific doubt remains as to the absence of such effects"[4].

As set out in the NPWS guidance, the task of establishing whether a plan or project is likely to influence a European site(s) is based on a preliminary impact assessment using available information and data, including that outlined in Section 2.3, below, and other available environmental information, supplemented as necessary by local site information and ecological surveys (DEHLG, 2010). This is followed by a determination of whether it is likely that the effects identified could be significant. The precautionary principle approach is required.

Once the potential impacts that may arise from the proposal are identified, the significance of these is assessed using the following key indicators:

- Water quality and resource;
- Habitat loss or alteration;
- Disturbance and/or displacement of species; and
- Habitat or species fragmentation.

2.2 Consultation

A pre-application consultation request letter was sent to An Coimisiún Pleanála (ACP) offices on Marlborough Street in Dublin City by MWP on behalf of the Applicant on 19th August 2024. A letter of response was received by MWP on 10th September 2024 from ACP relaying that the 'request has been processed, and a decision has been made to grant the pre-application consultation process'. A follow-up letter from ACP was received on 25th September 2024 informing MWP of the pre-application consultation meeting date of 11th October 2024.

The pre-application consultation meeting (Case Number: ACP-320626-24) was held remotely via Microsoft Teams on 11th October 2024 with representatives from ACP, the DAFM and MWP all present. During the meeting, the project background and context were presented to ACP, followed by a discussion of the proposed future works at the site. The Substitute Consent application and previous works at the site (which are the subject of a separate Screening for AA report) were also discussed at the time.

On 21st May 2025, the following statutory and non-statutory bodies were consulted, amongst others, in relation to the proposed project:

- Coiste Tacaíochta Chalafort Ros an Mhíl (Ros an Mhíl Harbour Support Committee);
- Commissioners of Irish Lights – Navigation and Maritime Services;
- Department of Agriculture, Food and the Marine - Aquaculture and Foreshore Management Division;
- Development Application Unit (DAU) - Department of Housing, Local Government and Heritage;
- Foras na Mara (The Marine Institute);
- Galway and Aran Fisherman's Co-operative;
- Galway County Council Heritage Officer;
- Galway County Council Planning Department and Environmental Department;
- Inland Fisheries Ireland (IFI) (Iascach Intíre Éireann);
- Tionól Réigiúnach an Tuasicirt & an Iarthair (Northern & Western Regional Assembly);

[4] European Court of Justice Case C-127/02 Landelijke Vereniging tot Behoud van de Waddenzee.

- Transport Infrastructure Ireland (TII) (formerly National Roads Authority);
- Údarás na Gaeltachta; and,
- Uisce Éireann (formerly Irish Water).

2.3 Desktop Study

To complete the screening for Appropriate Assessment report, certain information on the existing environment is required. A desktop study was carried out to collate information available on the proposed development site's natural environment. This comprised a review of the following publications, data and datasets:

- Ordnance Survey Ireland (OSI) aerial photography, 1:50000 mapping, GeoHive and online satellite imagery sources;
- National Parks and Wildlife Service (NPWS);
- National Biodiversity Data Centre (NBDC) (online map-viewer);
- Central Statistics Office (CSO) – Census of Agriculture (online);
- BirdWatch Ireland and Irish Wetland Bird Survey (I-WeBS) (online datasets);
- Teagasc soil area maps (NBDC website);
- Geological Survey Ireland (GSI) area maps;
- Environmental Protection Agency (EPA) water quality data;
- Inland Fisheries Ireland (IFI) online fish sampling reports and data;
- Galway County Development Plan (2022 – 2028)[5]; and
- Other sources and research listed in **Section 8**, below, and as footnotes throughout the report.

2.4 Data Requests and Database Searches

The study area lies within OSI National Grid hectad L92. A data request for records of rare or protected species from this hectad encompassing the proposed development site and a five-kilometre radius around it was submitted to NPWS on 20th March 2025. Requested rare and protected species data was received from NPWS on 15th July 2025.

Information on species records available for hectad L92 was also retrieved from the NBDC on-line database and reviewed. '*The Status of EU Protected Habitats and Species in Ireland*' interactive map-viewer available on-line from the NPWS was also reviewed for records of EU annexed habitats and species known to occur in the vicinity of the proposed development site[6].

A review of BirdWatch Ireland I-WeBS[7] online database determined that summary data for the closest count sites and sub-sites to Ros an Mhíl Harbour was unavailable online[8]. A request was submitted to BirdWatch Ireland on 20th March 2025 for I-WeBS count data for relevant survey sub-sites around Ros an Mhíl and the proposed development site. Ther requested information was provided by BirdWatch Ireland on 26th March 2025.

[5] Galway County Council Accessed: 24th May 2025
[6] https://storymaps.arcgis.com/collections/1a721520030d404f899d658d5b6e159a?item=1 Accessed: 26th May 2025
[7] Irish Wetland Bird Survey (I-WeBS) – annual winter counts at wetland sites within the Republic of Ireland. Counts are coordinated by BirdWatch Ireland and are undertaken to monitor population trends for wintering waterbirds across the country.
[8] Site Summary Tables_S27 Accessed: 26th March 2025

Information received via NPWS, NBDC and BirdWatch Ireland in response to data requests and database searches was used to help inform the baseline surveys and impact assessment in relation to the proposed development.

2.5 Field Survey

2.5.1 Study Area and Zone of Influence (ZOI) of the Proposed Development

The zone of influence (ZOI) for the proposed development is the geographical area over which construction and/or operation of the proposed deep water quay has the potential to affect the receiving environment in such a manner as to significantly affect the Qualifying Interests (QI) of a European site. The area over which ecological features may be affected by biophysical changes because of the proposed project and associated activities is likely to extend beyond the project site where, for example, there are ecological or hydrological links beyond the site boundaries (CIEEM, 2018). Consequently, and to ensure completion of an integrated assessment, the study area for this assessment was taken as the entire proposed development site and any publicly accessible adjoining habitats (including part of Cashla Bay). Refer to Figure 2-1, below.

For details on the Zone of Influence (ZOI) of the proposed development and the use of the Source-Pathway-Receptor (SPR) model in determining which European sites are further assessed, refer to Section 3.5.1, below.

Figure 2-1: Approximate extent of the study area encompassing the proposed development site and publicly accessible adjoining areas.

2.5.2 Ecological Survey

The desktop study completed by MWP (refer to Section 2.3, above) was supplemented by a multi-disciplinary ecological walkover survey of the study area. This survey was undertaken by MWP ecologists on 15th April 2025 and provided supplementary baseline data on the local ecology, including habitats and species present.

Summaries of the MWP field survey methodologies employed are provided in the following sub-sections.

2.5.2.1 Habitats and Flora

Baseline habitat and flora surveys were carried out as part of the MWP multi-disciplinary ecological walkover survey on 15th April 2025.

All habitat surveys were carried out within the optimum flora survey period of April to September and in accordance with guidelines contained in '*Best Practice Guidance for Habitat Survey and Mapping*' (Smith *et al.* 2011). Habitats were recorded and classified according to the classification scheme outlined in the Heritage Council's publication '*A Guide to Habitats in Ireland*' (Fossitt, 2000). As part of these surveys, any habitats with potential links to EU Annex I habitat were evaluated.

2.5.2.2 Fauna

Non-volant[9] mammals and/or evidence of their activity such as prints, faecal pellets/droppings, burrow-holes/dens and food caches, activity trails and disturbed vegetation were looked for during the MWP ecological walkover survey. In general, '*Animal Tracks and Signs*' (Bang & Dahlstrom, 2004) and the Mammal Society publication '*How to Find and Identify Mammals'* (Muir *et al.* 2013) were followed. Evidence of otter was looked for along the shoreline and at suitable locations within the proposed development site/harbour with reference to '*Monitoring the Otter* Lutra lutra' (Chanin, 2003) for guidance on identification of otter signs including spraints, footprints, tracks, couches, and holts.

During the walkover survey, all bird species seen or heard were recorded and any evidence of breeding activity was noted. The survey aimed to determine presence/absence of bird species using the surrounding harbour area, including birds on the water or flying overhead. Habitats within the proposed development area were also assessed for their potential suitability for avian species.

2.5.2.3 Invasive Alien Plant Species (IAPS)

During the multi-disciplinary ecological walkover survey, the proposed development site and surrounds were surveyed for the presence of terrestrial and aquatic invasive alien plant species (IAPS), with a focus on those species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011, as amended). Any infestations encountered were recorded and the species, location and extent of infestation was noted, and a photographic record made

3. Stage 1: Screening for Appropriate Assessment

The purpose of the screening assessment is to record in a transparent and reasoned manner the direct and indirect likely effects on relevant European sites of the proposed development, either alone or in combination with other plans and projects, and whether these likely effects are significant. Screening for Appropriate

[9] Non-volant mammals are land-based mammals incapable of flight i.e. all land-based mammals excluding bats.

Assessment (Stage 1) determines the need for a full Appropriate Assessment (Stage 2) and consists of several steps, each of which is addressed in the following sections of this report:

3.1 Establishment of whether the project is necessary for the management of a European site(s).

3.2 Brief description of the proposed development (full details set out in Appendix 2).

3.3 Description of the existing site's ecological characteristics and a summary of the field survey results.

3.4 Identification of other plans, projects and activities with which the proposed development could interact to create in-combination effects.

3.5 Identification of any European site(s) potentially affected.

3.6 Identification and description of potential individual and cumulative impacts (in-combination effects) of the project.

3.7 Assessment of the significance of any potential impacts on European site(s).

3.8 Conclusion of screening stage.

3.1 Management of European Sites

The proposal is not connected with or necessary to the conservation management of a European site.

3.2 Description of Proposed Project

3.2.1 Site Location and Context

The deep water quay works site is situated immediately southwest of Ros an Mhíl Harbour on the northeast shore of Cashla Bay approximately 1 kilometre southwest of the Gaeltacht village of Ros an Mhíl in Connemara and approximately 40 kilometres west of Galway City - see Figure 3-1, below. Access to the proposed development site is from the R372 Regional Road through Ros an Mhíl village via the R336 connecting Ros an Mhíl village to Galway City.

The village contains several residential dwellings, a local shop, school and church, with industries in the wider area providing support to the fishing port at Ros an Mhíl Harbour including companies that supply diesel/oil, process fish, and repair nets/boats. The harbour serves fishing fleets operating off the coast of Galway and is suitably located between the major fishing ports of Dingle and Castletownbere to the south and Killybegs to the north. Ros an Mhíl Harbour also supports ferry and leisure activities.

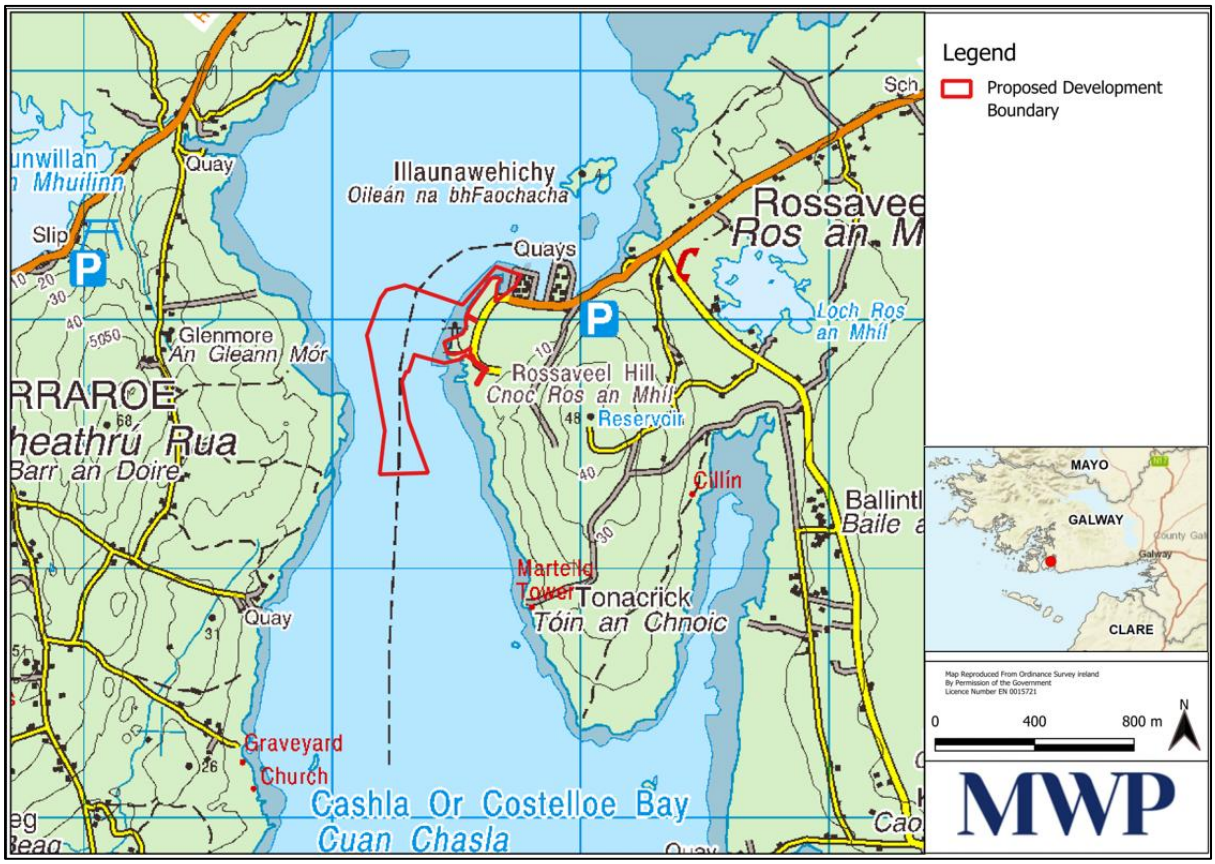

Figure 3-1: Location of proposed development site near Ros an Mhíl Harbour in County Galway.

3.2.2 Brief Description of Overall Project in the Context of the Parent Planning Permission

The overall concept for the site is one of developing a deep water quay to facilitate larger vessels of the Irish and foreign fishing fleets that operate off the coast of County Galway. Industry trends towards modern fishing vessels that are larger and more sophisticated, means that the existing Ros an Mhíl Harbour is increasingly constrained by its size and unable to serve these larger vessels. Completion of the proposed deep water quay will ensure the harbour can accommodate the larger fishing vessels and provide the necessary facilities to serve them.

The overall project entails the construction completion and subsequent operation of a deep water quay at Ros an Mhíl Harbour that will provide 200 metres of outside berthing frontage with a hard-surfaced link to the existing onshore. The proposed development will also include a rock armour revetment, access road, lighting, drainage infrastructure and other ancillary site works. The construction of the deep water quay and other associated project elements have been partially completed under the permitted Planning Application: 17/967 with the current status of the proposed development site illustrated in Plate 3-1, below.

3.2.3 Purpose of the Proposed Development

The purpose of the proposed development near Ros an Mhíl is to complete the construction of a new deep water quay which, once complete, will enable the harbour to serve larger, more modern fishing vessels thereby ensuring continued growth of opportunities within the local fishing sector and further development of Ros an Mhíl Harbour.

Plate 3-1. Current status of proposed development site facing southwest with a view across Cashla Bay towards Carraroe.

3.2.4 Phases of the Proposed Development

The subsections hereunder provide a summary of the proposed development's construction and operational phases. Fully detailed descriptions of each phase including construction methodologies, drainage regime, and operational phase elements are set out in Appendix 2 of this document and in Chapter 2, Project Description, in Volume II of the EIAR.

3.2.4.1 Construction Phase

Within an overall area of approximately 9.53 hectares, the construction phase will involve a) completion of the outstanding deep water quay works, and b) completion of additional quay works related to wastewater and electricity provision.

a) Works to complete the deep water quay development previously permitted by Galway County Council under Planning Application 17/967 comprise the following elements:

- Completion of a 200-metre quay wall using precast beams, precast caissons and precast L-wall units to full height of the quay wall;
- Dredging of a 30-metre x 200-metre (width x length) berthing pocket adjacent to the new quay to a depth of -10.0 metres CD (Chart Datum) (previously permitted to -12.0 metres CD);
- Dredging for a 150-metre diameter turning circle (previously permitted at 200-metre diameter) to a depth of -7.0 metres CD (previously permitted to -8.0 metres CD);
- Backfilling behind quay wall to raise ground level of reclaimed lands using rockfill up to +7 metres CD;
- Installation of reinforced concrete deck behind the quay wall;
- Surfacing of the reclaimed lands;
- Installation of asphalt roadway connecting the concrete apron at the quayside to the existing road;

- Installation of lighting columns, underground ducts, surface water drainage, outfalls, interceptor, foul water drainage system including pumping station;
- Placement of rock armour for revetments along northern and southern extent of reclaimed land;
- Excavation by dredging and rock blasting (if required) of the navigation channel to provide for a fully dredged navigation channel to a depth of -7 metres CD and a minimum width of 100 metres (previously permitted to -8.0 metres CD and minimum width of 74 metres);
- Erection of a temporary site compound for contractor personnel including an effluent holding tank;
- Installation of temporary concrete batching plant to provide on-site concrete for quay wall construction; and,
- Installation of palisade fencing, roadside guard rails, gates, and traffic barriers around land boundary of quay area.

b) Additional works to complete the development will comprise:

- Installation of a wastewater pipeline connecting proposed wastewater discharge points along the proposed quay with a new pumping station. Onward discharge of wastewater will be to an Údarás na Gaeltachta wastewater treatment network and plant at Ros an Mhíl village; and
- A new ESB electrical sub-station for dedicated power provision to the new deep-water quay.

Refer to **Figure 3-2**, below, for a map outlining the various elements of the proposed development.

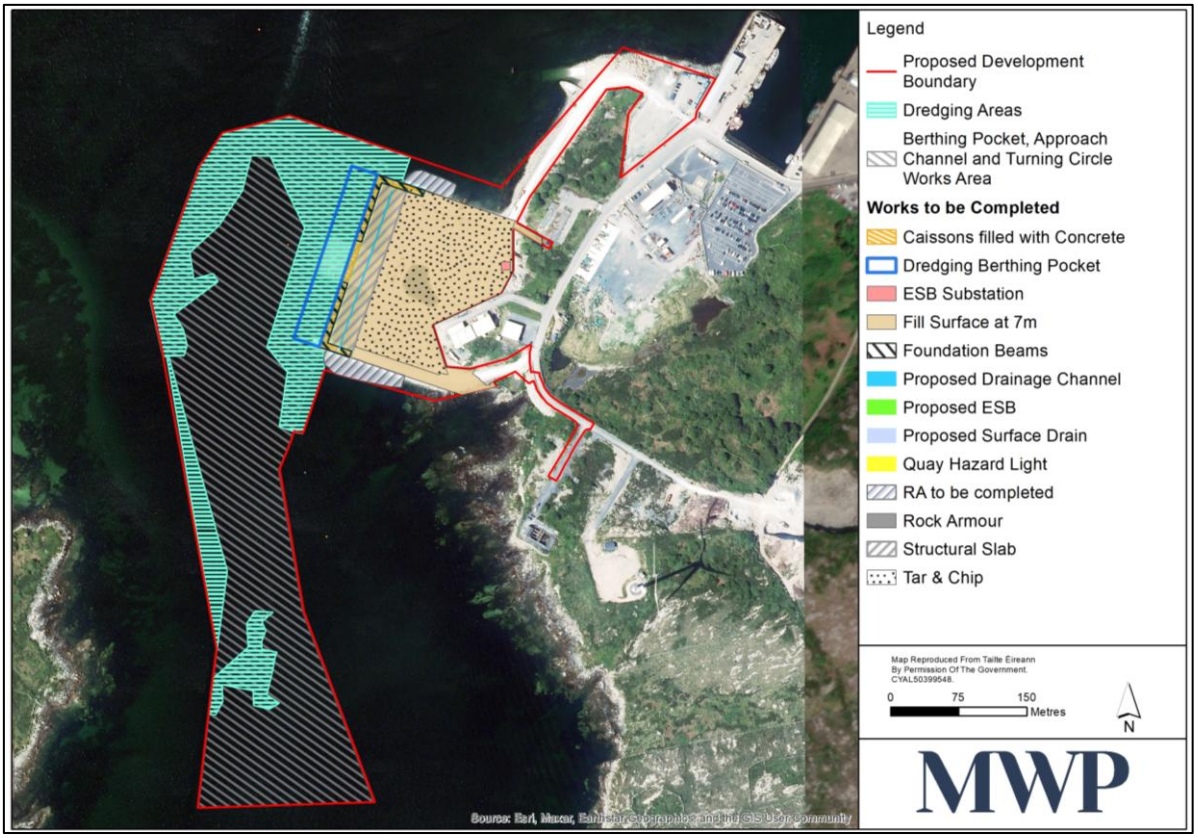

Figure 3-2: Layout of the proposed deep water quay works to be completed.

3.2.4.2 Operational Phase Water and Public Utilities

Potable Water Supply

Uisce Éireann (formerly Irish Water) currently provides potable water to the main Ros an Mhíl Harbour area via an existing water distribution network consisting of 250mm and 100/150mm diameter pipes supplied by the Carraroe/Rossaveel water main system.

Once the deep water quay is operational, a proposed extension of the 100/150mm system will supply the quay area with potable water. This proposed new water main will link the existing water system to the deep water quay via a new line within a service duct running through the proposed new southern vehicular access road. Taps and hydrants will be provided at regular intervals for use on the deep water quay.

Wastewater Treatment/Effluent Disposal

The proposed deep water quay has been designed to accommodate predominantly reefer ships (refrigerated cargo ships) and trawlers. Many reefer ships have their own on-board wastewater treatment plants and can subsequently discharge at sea in accordance with International Maritime Organisation (IMO) Regulation 3 which addresses the general prohibition of sewage discharge.

However, should wastewater collection/treatment facilities be required by a vessel upon docking, it is expected that the maximum loading required will be approximately 35 m^3 per week. Sewage discharge points will be installed at regular intervals along the new deep water quay for use by fishing vessels.

Sewage Pumping Station

The sewage discharge points along the quay will feed into a 150mm Ø gravity sewer pipe extending the length of the quay. The sewage will then be directed into a new small pumping station at the southern end of the quay before eventually emptying into the harbour area's existing sewage network operated by Údarás na Gaeltachta.

This existing sewage system is comprised mainly of gravity-fed lines discharging into two pumping stations that pump sewage under pressure to an existing wastewater treatment plant. Once treated at the plant, the sewage is disposed of through an outlet into Cashla Bay. The ultimate capacity of this effluent treatment plant operated by Údarás na Gaeltachta is 2,100 m^3 per week with the current loading being approximately 956 m^3 per week. Correspondence from Údarás na Gaeltachta to the Applicant confirming the availability of the effluent treatment plant for use with the deep water quay has been received and is included in Appendix 9A in Volume III of the EIAR.

Stormwater Management

A proposed crossfall drain at the new deep water quay will allow surface water run-off to flow into road gullies and from there into a collector pipe under the centre of the quay. A proprietary oil separator system at the southern end of the quay will process the storm water before it is discharged directly into the sea. The oil separator system will be serviced regularly, and any sludge build up will be collected by a licenced Contractor, taken off-site and disposed of to an appropriately licenced facility.

The entire stormwater drainage network including road gullies, gully pots, manholes, 150mm to 375mm diameter pipes, and fuel separator will all be laid underground beneath the concrete apron and surface dressed area.

3.2.5 Characteristics of the Proposed Development

The proposal is described in Table 3-1, below, and has been confirmed with the project engineer.

Table 3-1. Characteristics of the proposed construction and operation of deep water quay at Ros an Mhíl.

Size, scale, area, land-take	The proposed development area is approximately 9.53 hectares. There is no spatial overlap of any element of the proposed development with a European site; therefore, there will be no land-take from any European site.
Details of physical changes that will take place during the various stages of implementing the proposal.	The project entails the construction of a 200-metre-long deep water quay near Ros an Mhíl in County Galway comprising a vertical-faced concrete structure fabricated from box caissons. Installation of rock armour revetments, access road, lighting, drainage infrastructure and ancillary works are also proposed. **Site set-up and preparation works** ▪ Site preparation, erection/removal of security/perimeter fencing and signage. ▪ Re-establishment of office compound and aggregate storage area ▪ Reconstruction of concrete batching plant near Pier 1. ▪ Delivery to site of bespoke pre-cast concrete beams, caissons, and L-wall units. **Construction Phase** ▪ Installation of remaining quay wall foundation beams after preparatory dredging. ▪ Construction of new deep water quay wall using concrete caissons and L-wall units secured in place using liquid concrete. ▪ Dismantling/excavation of the temporary protective rock berm. ▪ Raising of ground levels using imported rock and dredged material. ▪ Laying surface dressing of bituminous tack coat with stone chips. ▪ Completion of rock revetments using two layers of rock armour. ▪ Excavations for underground service ducts/drains and substation collector cable and installation of access road, paths, drains, services. ▪ Dredging of approximately 3,000 m^3 of the approach channel (with possibility also of minimal blasting if required). ▪ Removal/dismantling of on-site temporary facilities, reinstatement of areas, and removal off-site of any unsuitable/surplus material. **Operational Phase** ▪ Treatment and disposal of wastewater. ▪ Increased surface water run-off due to hard surface area increase ▪ Increased levels of anthropogenic activity, lighting and traffic.
Description of resource requirements for the construction/operation and decommissioning of the proposal (water resources, construction material, human presence etc).	**Materials (Indicative)** ▪ Hoarding, scaffolding, propping etc. ▪ 40 No. pre-cast concrete beams, 358 No. pre-cast concrete caissons, and 121 No. pre-cast concrete L-Wall Units ▪ Materials for on-site concrete batching plant e.g. sand, gravel, cement ▪ Wet concrete (approximately 25,000 m^3) ▪ Concrete paving slabs for quay deck (concrete apron) ▪ Geotextile filter fabric

	▪ Fill (crushed stone Clause 804, pea gravel) ▪ Rock armour ▪ Manholes, gullies, drainage pipes, fitting and pipework ancillaries ▪ Materials for sub-station construction – brickwork, flooring, structural support steelwork, roof finishes ▪ Wastewater holding tank at office compound ▪ Electrical pipework ▪ Streetlights and masts ▪ Fencing/signage, bollards, safety barriers ▪ Explosives ▪ Diesel, Hydraulic/Engine Oil **Plant/Machinery (Indicative)** ▪ Excavators including 1 No. Hitachi EX1200 Long Reach Excavator ▪ Various delivery trucks ▪ Mini-digger ▪ Dumper trucks ▪ Cranes ▪ Drilling rig ▪ Concrete batching plant ▪ Concrete pump ▪ Tremie pipe ▪ Barge and boat (container for equipment) ▪ Lifting frame, levelling frame ▪ Diving equipment ▪ Teleporter ▪ Generator ▪ Concrete mix truck for delivery of concrete from batching plant **Labour** The number of employees on site will fluctuate during the different phases of construction but overall, up to 30 persons will be on site during construction to include site contractors, on-site vehicle and plant operators, engineers, delivery personnel, environmental personnel, health and safety personnel.
Description of timescale for the various activities that will take place as a result of implementation (including likely start/finish date)	It is expected that the works will commence upon receipt of planning consent, and the duration of the build is expected to be approximately 24 months. Normal working hours are provisionally set as 07.00 to 19.00 hours from Monday to Friday, inclusive, and 07.00 to 14.00 hours on Saturday.

Description of wastes arising and other residues (including quantities) and their disposal.	**Main construction phase wastes/residues:** ▪ Concrete ▪ Fuels/oils ▪ Miscellaneous and incidental waste materials - pallets, plastics, packaging ▪ Domestic waste from canteen facilities on site ▪ Temporary W/C utilities waste There will be refuelling of plant on-site e.g. excavators and barges; other site vehicles such as cars, vans, rigid/articulated vehicles will be refuelled off-site. The boats/barge will be refuelled via a pipeline from an on-shore petrol tanker, as is standard practice. Any wastewater generated from the temporary W/C facilities at the office compound will be stored in a small wastewater holding tank within the compound. The tank will be maintained appropriately by an approved and permitted contractor who will dispose of waste to a licenced facility. **Waste Management Plan and Waste Removal** The majority of construction phase waste will be clean, inert material. An integrated Waste Management Plan (WMP) will be developed and implemented for the duration of the works to ensure re-use of materials where possible and the correction segregation and storage of wastes. Any material falling to waste will be streamed to the appropriate waste container/skip within the site compound. All waste material will be removed from site by an approved Licenced Waste Contractor and disposed of as required to authorised waste facilities approved by Galway County Council. Any recyclable material will be disposed of at a recycling centre.
Identification of wastes arising and other residues (including quantities) that may be of particular concern in the context of the Natura 2000 network	**Construction Phase** ▪ Fuels/oils/lubricants/chemicals etc. ▪ Waste concrete/mortar and other cementitious material ▪ Rock, sediment, stockpiled/waste soil/sub-soil etc **Operational Phase** ▪ Surface water run-off and wastewater to treatment plant operated by Údarás na Gaeltachta. ▪ No other operational phase wastes of particular concern to European sites are identified.
Description of any additional services required to implement the project or plan, their location and means of construction	A temporary site compound for main contractor(s), including temporary welfare facilities and concrete batching plant and storage areas.

3.3 Description of Existing Site

3.3.1 General Site Description

The proposed development site at Ros an Mhíl (Rossaveel or Rossaveal in English) Harbour is located within the Connemara region of western County Galway, approximately 40 kilometres west of Galway City, with the terrestrial elements of the proposed development located within the townland of 'Rossaveel'. The site is situated within the Electoral Division (ED) of 'Kilcummin' (Cill Chuimín) (ED 67122) which, during the 2022 census, was found to have a total population of 1,403 persons with almost all residing in private households in small rural villages and ribbon development along the local road network[10].

The existing rectangular-shaped north-facing harbour consists of two piers – Pier 1 and Pier 2 - that presently serve approximately 35 vessels including whitefish boats, small pelagic vessels, and recreational angling boats on day trips. Additionally, several Irish-registered deep water fishing vessels sporadically call at the pelagic berth at Pier 2, while a small craft harbour to the northeast of Pier 1 and Pier 2 provides approximately forty small craft berths. East of Pier 2 is a foot passenger terminal for ferries operating to the Aran Islands along with three floating pontoon ferry berths linked to the mainland via gangways. The deep water quay works site is located to the west and southwest of these existing harbour structures – see **Figure 3-3**, below.

The proposed development site is bounded to the north, south and west by the open waters of Cashla Bay while areas to the east include unused, sparsely vegetated rocky ground, the R372 Regional Road, and two small Údarás na Gaeltachta[11] buildings at the southeast border one of which is used for fisheries activities and storage, and the other is an office building used by the Sea-Fisheries Protection Authority. Cashla Bay Aid to Navigation[12] is situated on Lion Point approximately fifteen metres south of the redline boundary, and Lir Environmental Research operates a single 3MW wind turbine at a location approximately 150 metres to the south - see **Figure 3-3**. A wastewater treatment plant (WWTP) operated by Údarás na Gaeltachta is located approximately 173 metres southeast of the proposed development boundary. Connemara Airport lies approximately eight kilometres southeast of the proposed development site while Shannon International Airport is located approximately 75 kilometres to the southeast.

The CORINE[13] (2018) land cover category for the proposed development works is 'Sea and ocean (523)' for the aquatic-based elements of the work, and 'Sea ports (123)' for most of the terrestrial areas of the redline. A small section of the southeasternmost corner of the site falls within an area extending southwards from the site categorised as 'Moors and heaths (322)'. Within the wider area there are 'Pastures (231)' to the southeast and across the bay, 'Sparsely vegetated areas (333)' to the east, and 'Peat bogs (412)' across to the southwest[14].

A review of bedrock mapping determined that the rock unit underlying all parts of the proposed development site is the 'Banded Zone (Galway Granite)' as part of the Devonian system with lithology described as 'east-west trending, foliated, arcuate mixed zone of granodiorite or granite and mafic quartz diorite'. Bordering this band of bedrock to the east is the 'Costello Murvey Granite' rock unit comprised of 'Med-coarse leucocratic syenogranite' while to the south, there is a small pocket of 'Pink-grey leucocratic granite' bedrock part of the rock unit 'Lough Lurgan Granite'. In relation to soils at the proposed development site, there is 'Acid Shallow, lithosolic or podzolic type soils potentially with peaty topsoil'[15].

[10] Interactive Data Visualisations | CSO Ireland Accessed: 24th April 2025
[11] Údarás na Gaeltachta is the regional development authority for the economic, social and cultural development of the Gaeltacht with the overall objective of maintaining Irish as the communal language of the region.
[12] Light first established in 1984; current apparatus installed in July 2005 www.irishlights.ie/tourism/our-lighthouses/cashla-bay.aspx Accessed: 20th November 2025
[13] **C**o-**OR**dinated **IN**formation on the **E**nvironment – data series initiated in 1985 by the European Commission to gather environmental data.
[14] EPA Maps Accessed 25th May 2025
[15] Geological Survey Ireland Spatial Resources Accessed 25th May 2025

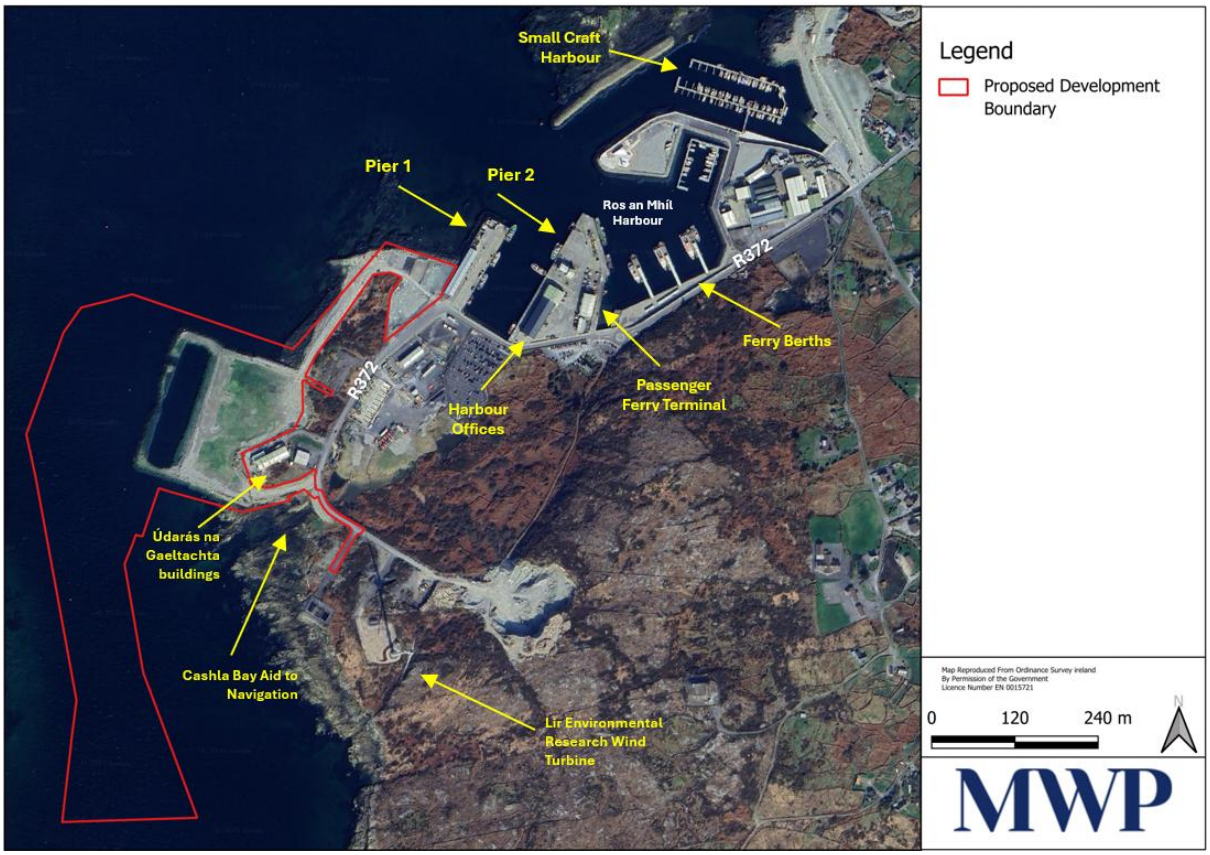

Figure 3-3: Features of Ros an Mhíl Harbour relative to the proposed development area redline boundary.

3.3.2 Hydrology

The proposed development site is located within the Water Framework Directive (WFD) Cashla_SC_010 sub-catchment which in turn is located within the Galway Bay North Catchment (31). There are no watercourses traversing the proposed development site[16]. The nearest are three small 1st Order streams (Carrowroe South Stream and two unnamed streams) that drain into Cashla Bay[17] near Sruthán Pier west of the proposed development site on the opposite side of the bay. These three streams are all constituents of the Carrowroe_South_010 River Waterbody[18]. The Carrowroe South Stream is the only EPA-registered watercourse flowing into and out of Loughaunwillan (Loch an Mhuilinn)[19], a large lake containing eighteen islands located approximately 1.3 kilometres northwest of the proposed development site across the bay – see **Figure 3-4**, below.

Watercourses on the same side of the bay as the proposed development site include the 4th Order Cashla River and its tributary the 2nd Order Rossaveel River which are both part of the Cashla_010 River Waterbody[20]. The Cashla River empties into the Casla Estuary[21] approximately 2.4 river kilometres[22] upstream of the deep water quay development site - see **Figure 3-4**.

Compliance with the reporting requirements of the WFD (Directive 2000/60/EC) obliges each European Union (EU) member state to publish reports providing summary information about individual waterbodies relating to

[16] EPA Maps Accessed: 29th May 2025
[17] EPA Coastal Waterbody Code: IE_WE_190_0000
[18] EPA River Waterbody Code: IE_WE_31C050910
[19] EPA Lake Waterbody Code: IE_WE_31_120
[20] EPA River Waterbody Code: IE_WE_31C010100
[21] EPA Transitional Waterbody Code: IE_WE_190_0100
[22] River kilometres (rkm): measure of the distance in kilometres along the path of a watercourse (as opposed to a linear measure such "as the crow flies").

their status, risks and objectives. The WFD Ecological Status (2016–2021) of the Carrowroe_South_010 River Waterbody is 'Moderate' while the Cashla_010 River Waterbody and the Loughaunwillan Lake Waterbody both have a status of 'Good'. Casla Bay Coastal Waterbody and Casla Estuary Transitional Waterbody both have an ecological status of 'High', however, neither are on a 'published monitoring programme'[23].

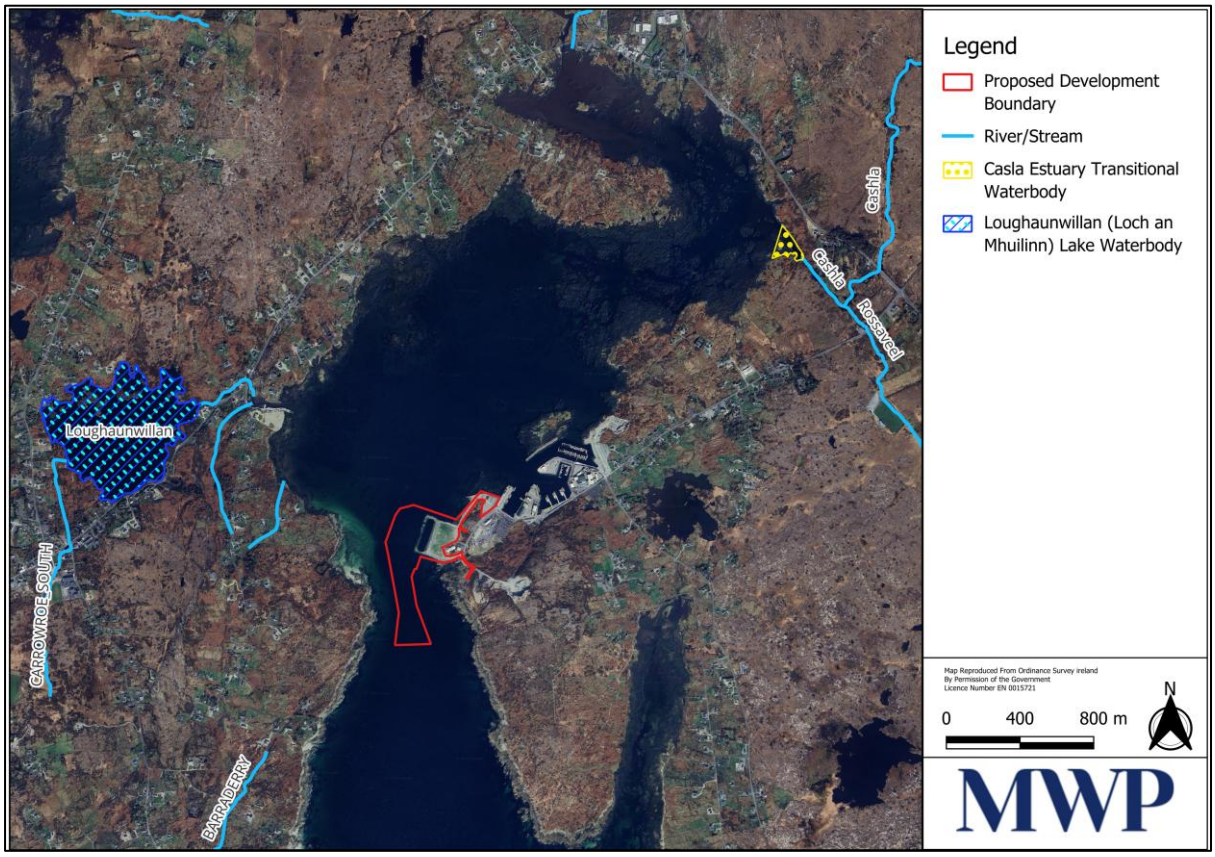

Figure 3-4: Hydrological features of area surrounding proposed development site within County Galway.

There are no EPA water quality monitoring stations downstream of the proposed development site. The nearest monitoring station[24] is on the Cashla River where the Cashla Bridge crosses R336, approximately 3.4 river kilometres upstream of the proposed development site. The latest river Q-value[25] for the station is 'Q4, Good' and it was recorded by the EPA in 2024. The Carrowroe_South_010 River Waterbody has been assigned a WFD risk status of 'Review'[26] while the Cashla_010 River Waterbody is classed as being 'At risk'[27]. Casla Bay Coastal Waterbody and Casla Estuary Transitional Waterbody have both been classified as being 'Not at risk[28]' (EPA, 2024). The proposed development site overlies the Spiddal Ground Waterbody[29] and is characterised as 'poorly productive bedrock' with a WFD Ecological Status (2016–2021) of 'Good' and a risk status of 'Not at risk'.

[23] Data - Catchments.ie - Catchments.ie Accessed: 22nd May 2025
[24] EPA Monitoring Station Code: RS31C010100
[25] Quality Rating (Q) System devised by Toner *et al.* (2005). This method categorises invertebrates into one of five groups (A-E), depending on their sensitivity to pollution. Q values range from Q1-Q5 with Q1 being the poorest quality and Q5 being pristine/unpolluted conditions. The system is used by the EPA and is the standard biological assessment technique used when surveying rivers in Ireland under the WFD.
[26] *Review* – either additional information is needed to ascertain the waterbody's status, or measures have been undertaken but the results have not yet been monitored (EPA Maps Accessed: 15th May 2025).
[27] *At risk* - either the waterbody is currently not achieving its WFD environmental objective of Good or High Ecological Status, or there is an upward trend in nutrients/ammonia, and should this trend continue, the waterbody Status will decline and fail to meet WFD objectives by 2027. EPA Maps Accessed: 11th May 2025.
[28] *Not at risk* – waterbody is meeting its WFD objectives. Requires maintenance of existing measures to protect satisfactory status EPA Maps Accessed: 22nd May 2025.
[29] EPA Ground Waterbody Code: IE_WE_G_0004

3.3.3 Habitats and Flora

The proposed development site is comprised mainly of artificial surfaces and open marine water. Habitats within the immediate environs are of a similar nature but with slightly more variation. Refer to habitat map in **Figure 3-5**.

Existing habitats within and around the proposed development site include the following:

Buildings and artificial surfaces (BL3)

Stone walls and other stonework (BL1)

Sea walls, piers and jetties (CC1)

Open marine water (MW1)

Exposed rocky shores (LR1)

Moderately exposed rocky shores (LR2)

Scrub (WS1) / Recolonising bare ground (ED3)

Scrub (WS1)

Lagoons and saline lakes (CW1)

Upper salt marsh (CM2)

Scrub (WS1) / Dry siliceous heath (HH1)

Amenity grassland (improved) (GA2)

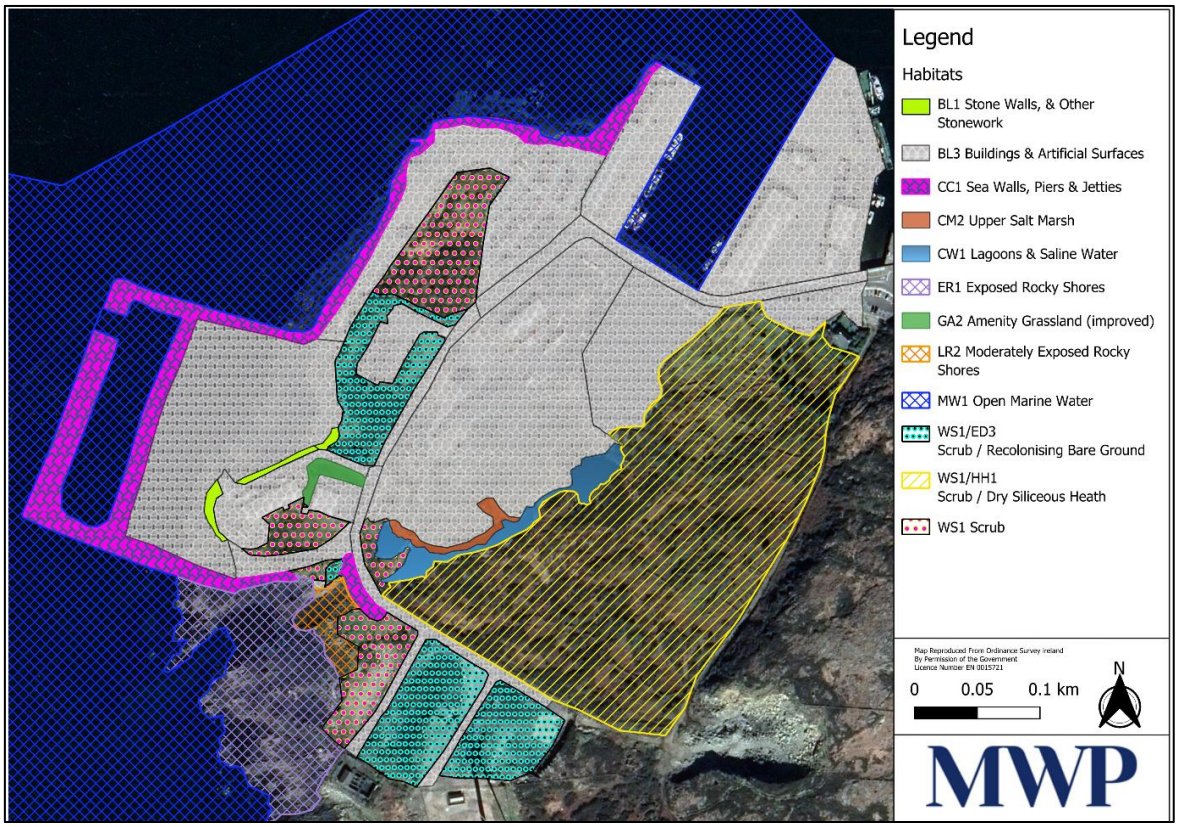

Figure 3-5: Habitat map of the proposed development site near Ros an Mhíl Harbour in County Galway.

3.3.3.1 Buildings and Artificial Surfaces (BL3), and Stone Walls and Other Stonework (BL1)

Buildings and artificial surfaces (BL3) is the predominant terrestrial habitat type within the proposed development boundary. It encompasses the reclaimed land, both Pier 1 and Pier 2, the Údarás na Gaeltachta buildings, Cashla Bay Aid to Navigation, the R372 and other local roads, and all existing structures and car parks with finished artificial surfaces (refer to **Figure 3-3**, above, for building locations). The reclaimed land was created predominantly by importation of engineering fill material, and to a lesser extent reusing blasted and dredged seabed substratum - see **Plate 3-2**, below. Small areas of **Stone walls and other stonework (BL1)** consisting of large rocks and boulders occur on reclaimed land to the west and north of the Údarás na Gaeltachta buildings.

Both these artificial habitat types are devoid, or almost devoid, of any vegetation. Refer below to **Plate 3-2** and **Plate 3-3**.

Plate 3-2. Westernmost Údarás na Gaeltachta building and reclaimed land classified as Building and Artificial Surfaces (BL3) with Stone Walls and Other Stonework (BL1) to the right of the middle ground.

3.3.3.2 Sea Walls, Piers and Jetties (CC1)

On the seaward sides of the proposed development area, there are **Sea walls, piers and jetties (CC1)** consisting mainly of protective rows of large rocks and boulders that are partially or totally inundated by seawater during tidal movements. The rocks and boulders of the upper shore that are subject to wave splash and sea spray display patches of the black lichen (*Verrucaria maura*). At the lower shore, where the rocks and boulders are periodically completely inundated, fucoids and kelps occur. Refer to **Plate 3-3**, below.

Also categorised as this habitat type is the rectangular berm of protective rocks constructed at the western side of the site at the proposed deep water quay location. Measuring approximately 215 metres long and 60 metres wide, this rectangle of rocks is covered in layers of ephemeral green seaweed (*Enteromorpha* spp.) during the summer months - see **Plate 3-3**, below.

Plate 3-3. Sea Walls, Piers and Jetties (CC1) and Open Marine Water (MW1) – (left) northeast corner with Pier 1 in background, and (right) rectangular rock berm with green seaweed (*Enteromorpha* spp.) layer.

3.3.3.3 Open Marine Water (MW1)

Extending away from the site to the west, north and south into the bay is **Open marine water (MW1)**. This also describes the marine habitat found within the protective rectangular berm - see **Plate 3-3**, above.

3.3.3.4 Exposed Rocky Shores (LR1)

An area of **Exposed rocky shore (LR1)** occurs south of the Údarás na Gaeltachta buildings, extending southwards along the coastline towards the Lir Environmental Research wind turbine. As is typical of this habitat type, the rocks of the extreme upper shore exhibit distinct bands of lichen within a lichen zone created by the differing levels of sea spray or wave splash exerted on an area – refer to **Plate 3-4**, below. Grey lichens (*Ramalina* spp.) occur at the upper reaches of the lichen zone, yellow lichens (*Xanthoria* spp.) are found within the middle region with black lichen (*Verrucaria maura*) present at the lowest reaches of the lichen zone. Rocks of the lower littoral and upper infralittoral zones are dominated by brown seaweeds (fucoids).

3.3.3.5 Moderately Exposed Rocky Shores (LR2)

The small section of shoreline south of Cashla Bay Aid to Navigation is classified as **Moderately exposed rocky shore (LR2)** and is comprised of boulders and rock and a smaller lichen zone than more exposed rocky shorelines. Black lichen and fucoids occur on the lower shore while at upper sections there are some patchy occurrences of terrestrial vascular plants like scurvygrass (*Cochlearia* spp.) and thrift (*Armeria maritima*) – see **Plate 3-4**, below.

Plate 3-4. West-facing view across Cashla Bay - Open Marine Water (MW1) and Exposed Rocky Shores (LR1) (with visible lichen zone) transitioning to Moderately Exposed Rocky Shores (LR2). Cashla Bay Aid to Navigation, categorised as Buildings and Artificial Surfaces (BL3).

3.3.3.6 Scrub (WS1) / Recolonising Bare Ground (ED3)

Two areas comprised of **Scrub (WS1) / Recolonising Bare Ground (ED3)** mosaic are located to the southeast of the study area adjacent to both the Lir Environmental Research wind turbine and the R372. Vegetation within these areas is varied but dominated by gorse (*Ulex europeaus*), bramble (*Rubus fruticosus* agg.), and willow (*Salix* spp.) and typical ruderal species including dandelion (*Taraxacum* spp.) and ragwort (*Sencio* spp.) – see **Plate 3-5**, below.

There is also a relatively large central area of this habitat surrounding a concreted artificial surface located between the R372 and the coastline. Vegetation in this part of the site is similar to that of the same habitat type

near the Lir Environmental Research wind turbine but is slightly more established and with additional species including ivy (*Hedera helix*), plantain (*Plantago major*), bird's-foot-trefoil (*Lotus corniculatus*), and heather (*Calluna vulgaris*).

3.3.3.7 Scrub (WS1)

An area of **Scrub (WS1)** in the northwestern region of the study area is dominated by dense gorse, bramble, heather, and bracken (*Pteridium aquilinum*) with patches of purple moor-grass (*Molinia caerulea*) and scattered willow trees also present - refer to **Plate 3-5**, below.

Several smaller pockets of scrub are located to the southeast of the study area towards the Lir Environmental Research wind turbine, and at the southern side of the Údarás na Gaeltachta buildings, around the Cashla Bay Aid to Navigation and on the eastern side of the R372 opposite the Aid to Navigation. Vegetation in these areas is varied and includes species such as gorse, willow, bramble, silverweed (*Potentilla anserina*), bramble, ivy, teasel (*Dipsacus fullonum*) and fescues (*Festuca* spp.)

Plate 3-5. Scrub (WS1) / Recolonising Bare Ground (ED3) adjacent to the R372 classified as Buildings and Artificial Surfaces (BL3) (left), and Scrub (WS1) at northeast corner of study area near Pier 1.

3.3.3.8 Lagoons and Saline Lakes (CW1), and Upper Salt Marsh (CM2)

The centrally located brackish pools of standing water that stretch diagonally from southwest to northeast across the study area are classified as **Lagoons and saline lakes (CW1) -** refer to **Plate 3-6**, below. The pools are separated from the sea by the R372 near the Údarás na Gaeltachta buildings. Water currents are almost entirely absent from the pools and any tidal influence exerted on them is extremely limited. Vegetation appears sparse within the pools and limited to salt-tolerant species such as tasselweeds (*Ruppia* spp.) and stoneworts (Charophytes).

At the northern fringes of the pools situated nearest the R372, a narrow area of **Upper salt marsh (CM2)** occurs comprised predominantly of grasses and rushes (*Juncus* spp.) with other species including arrowgrass (*Triglochin* spp.) and ribwort plantain (*Plantago lanceolata*) also present - see **Plate 3-6**, below.

3.3.3.9 Scrub (WS1) / Dry siliceous heath (HH1)

The eastern side of the study area consists of a large tract of **Scrub (WS1) / Dry siliceous heath (HH1)** mosaic stretching from near the Harbour Offices on Pier 1 southwards to where the R372 terminates at the Lir Environmental Research wind turbine. Dominant floral species at this habitat include gorse of varying heights, dense bracken, willow, ivy, and ling (*Calluna vulgaris*) with the occasional occurrence of single, young stands of holly (*Ilex aquifolium*) and rowan (*Sorbus aucuparia*). Ground flora along edges of the habitat supports dandelion, primrose (*Primula vulgaris*), coltsfoot (*Tussilago farfara*), and silverweed. See **Plate 3-6**, below.

Plate 3-6. Northeast-facing view of Lagoons and Saline Lakes (CW1) fringed by Upper Salt Marsh (CM2) (in the middle ground) and large tract of Scrub (WS1) / Dry Siliceous Heath (HH1) extending away to the right.

3.3.3.10 Amenity Grassland (improved) (GA2)

There is a small area of **Amenity grassland (improved) (GA2)** located at the two Údarás na Gaeltachta buildings. Species variation at this maintained habitat is low and is limited to grasses with the occasional occurrence of broadleaved herb species such as daisy (*Bellis perennis*), dandelion, and plantain (*Plantago* spp.).

3.3.4 Ornithology

The desktop study determined that, in the context of the Connemara Bog Complex SPA (refer also to **Section 3.7.2**, below, for more SPA details), the NBDC holds records for all four qualifying bird species, namely cormorant (*Phalacrocorax carbo*), merlin (*Falco columbarius*), golden plover (*Pluvialis apricaria*), and common gull (*Larus canus*) for the hectad L92 encompassing the proposed development site. In relation to waterbird species more generally, within the last ten years for the 2-kilometre grid square encompassing the proposed development site (L92M), the NBDC holds records for kingfisher (*Alcedo atthis*), oystercatcher (*Haematopus ostralegus*), shag (*Phalacrocorax aristotelis*), and great-crested grebe (*Podiceps cristatus*).

The data received via the data request to NPWS for protected and threatened species records for hectad L92 listed two records of Greenland white-fronted goose (*Anser albifrons flavirostris*) from the 1989/90 winter season at a lake approximately five kilometres northeast of the proposed development site.

The inner reaches of the bay near Casla village are known as Clynagh Bay and form the I-WeBS sub-site '*Clynagh Bay - 0G421*' extending southwards around Tóin na hAirde towards Ros an Mhíl, finishing approximately 1.6 kilometres northeast of the proposed development site. There is no recent data available for this sub-site but a review of the I-WeBS data received from BirdWatch Ireland, determined that cormorant, mute swan (*Cygnus olor*), shelduck (*Tadorna tadorna*), wigeon (*Mareca penelope*), teal (*Anas crecca*), mallard (*Anas platyrhynchos*), red-breasted merganser (*Mergus serrator*), little grebe (*Tachybaptus rufficollis*), grey heron *(Ardea cinerea)*, oystercatcher, ringed plover (*Charadrius hiaticula*), dunlin (*Calidris alpina*), curlew (*Numenius arquata*), and redshank (*Tringa totanus*) were recorded within the hectad during the 1999/2000 and 2001/02 count periods.

During the MWP walkover survey on 15th April 2025, four waterbird species were recorded within the study area, summaries of which are presented in **Table 3-2**, below. Other bird species noted at the site include various corvid species present throughout, two willow warbler (*Phylloscopus trochilus*) within a central area of scrub, and one rock pipit (*Anthus petrosus*) observed and heard calling from rocks at the northwestern shoreline.

Table 3-2. Waterbird species observed during site walkover survey undertaken on April 15th 2025.

Bird Species	Number Observed	Location	Behaviour	QI of Connemara Bog Complex SPA
Black-headed gull (*Chroicocephalus ridibundus*)	3	Lagoons in centre of site	Foraging	No
Mallard (*Anas platyrhynchos*)	2 (male & female)	Lagoons in centre of site	Foraging, roosting	No
Little egret (*Egretta garzetta*)	1	Rocks to the west of Cashla Bay Aid to Navigation	Foraging	No
Cormorant (*Phalacrocorax carbo*)	3	Out in bay on rocks at various locations	Spreading wings in sun, swimming	Yes

3.3.5 Otter (*Lutra lutra*)

There are no documented records of otter held by the NBDC for within the proposed development site and records for the species within hectad L92 overall are limited to three[30]. The nearest otter record was reported across the bay at 'Carraroe' approximately one kilometre northwest of the proposed development site and comprised a live sighting of two otters in November 2011. An otter spraint was observed on a 'grassy stream bank' at 'Stream/Bay / Bridge over stream/bay near Carrowroe' approximately 3.3 kilometres northwest of the proposed development site in 2005. Lastly, a live otter sighting was recorded in 2011 at 'Bealadangan Quay' approximately 6.3 kilometres northwest of the proposed development site.

No evidence of otter was recorded during the ecological field survey of the proposed development site and surrounding areas. No potential or confirmed otter breeding or resting sites were identified within the study area nor were any prints or spraints found.

3.3.6 Atlantic Salmon (*Salmo salar*)

There are no documented records of salmon held by the NBDC for within the proposed development site or for within hectad L92 overall[31]. The nearest NBDC salmon records were reported at inland freshwater lakes of Maumwee Lough, Ardderry Lough, and Lough Shindilla located more than 20 kilometres north of the proposed development site.

3.3.7 Marine Mammals

3.3.7.1 Harbour Seal (*Phoca vitulina*)

There are no documented records of harbour seal held by the NBDC for within the proposed development site, however, there are numerous records for the species within the overall hectad L92. Several of these records concern sightings at Ros an Mhíl Harbour itself[32]. One and two harbour seal were recorded in October 2017 and September 2018, respectively, at a location approximately 355 metres northeast of the temporary office compound area, while in February 2015, five harbour seal were observed near the small craft harbour approximately 325 metres from the proposed development site.

The aquatic range of harbour seal for foraging and/or commuting between sites can extend into continental shelf waters, however, when 'hauling out' ashore to complete important life history functions such as breeding, moulting and resting, the species favours sheltered bays, inlets and estuaries (NPWS, 2014). The inner parts of

[30] https://maps.biodiversityireland.ie/Map Accessed: 23rd May 2025
[31] https://maps.biodiversityireland.ie/Map Accessed: 24th June 2025
[32] https://maps.biodiversityireland.ie/Map Accessed: 23rd May 2025

Cashla Bay near Casla village known as Clynagh Bay are established seal haul out sites with numerous NBDC seal records within the area. The nearest of these records at Clynagh Bay occurred approximately two kilometres to the northeast of the proposed development site and involved 26 moulting seals observed during an aerial thermal imaging survey in August 2011.

No sightings of harbour seal or evidence of their presence were recorded during the April 2025 MWP ecological survey of the proposed development site and surrounding areas.

3.3.7.2 Harbour Porpoise (Phocoena phocoena)

There is one documented record on the NBDC database for harbour porpoise within hectad L92 and it concerns the stranding of an individual encountered in 2020 at a location approximately 1.4 kilometres southeast of the proposed deep water quay on the opposite side of the Ros an Mhíl peninsula. All other records for the species occurred further away from shore in the North Atlantic Ocean with the nearest to the proposed development site occurring approximately seven kilometres to the southwest of the proposed deep water quay location.

3.4 Identification of Other Projects or Plans or Activities

3.4.1 Introduction

A cumulative impact arises from incremental changes caused by other past, present or reasonably foreseeable actions, together with the project. A review was undertaken of relevant existing and proposed projects, activities and plans occurring in the environs of the proposal site that could act in combination with the proposed development to determine whether any potential significant cumulative effects may arise, and the results are presented in the following subsections. In-combination impacts will be considered in Section 3.7.7, below.

The main pressures that could act in combination with the proposed deep water quay in its various phases (construction and operation) relate to management of surrounding areas, used mainly for commercial fishing purposes, recreational/touristic activities, and forestry and peat extraction.

3.4.2 Plans and Planning

Plans that are relevant to the region encompassing the proposed Ros an Mhíl deep water quay works site include the Galway County Development Plan (2022 – 2028)[33] which came into effect on 20th June 2022.

A search of the Galway County Council (GCC) online planning enquiry system[34] for granted or on-going planning applications for the townland of Rossaveel (Ros an Mhíl and Rossaveal were also used as search terms) was undertaken on 30th May 2025 with a follow-up search carried out on 31st October 2025. Search results are presented in Appendix 3 of this report.

[33] Galway County Council Accessed: 24th May 2025
[34] Select Search Type (eplanning.ie) Accessed: 30th May 2025

3.4.3 EPA Licenced/Registered Facilities

A review of the EPA mapping tool determined that there was one registered EPA licence for the area within the immediate vicinity of the proposed development, namely Rossaveel Harbour Development (Waste Licence No. W0172-01). Granted in 2001 for dredging-related works, the licence is now expired and has a status of 'Ceased (Never Commenced)'[35]. There are no IPPC, IPC or IEL[36] actively licensed facilities within the surrounding areas of the subject site – the nearest is Galoptical Teo (IEL Licence No. P0210-01) located in Casla village almost three kilometres north of the proposed development site.

The EPA licenced Carraroe Urban Wastewater Treatment (UWWT) plant is located across the bay at Sruthán Pier, approximately one kilometre northwest of the proposed development site. It is a 500 to 1,000 p.e.[37] facility type (Active licence number: D0388-01) and in 2024, had an agglomeration p.e. of 1,006. The wastewater treatment system at Carraroe UWWT plant discharges untreated wastewater to Cashla Bay and, therefore, the building of a new treatment plant is considered by the EPA to be a priority action[38]. Uisce Éireann is proposing the construction of a new Carraroe wastewater treatment plant but has been unable to acquire all the required lands on a voluntary basis and is, therefore, endeavouring to purchase the required lands by way of a Compulsory Purchase Order (CPO)[39].

Additionally, there is an Údarás na Gaeltachta wastewater treatment plant (Discharge Licence: W182/88) located approximately 173 metres southeast of the proposed development site. The current capacity of this facility is 2,100 m^3/week and the current loading is 1,065 m^3/week (see **Appendix 9A** in **Volume III** of the EIAR for a letter from Údarás na Gaeltachta confirming the facility's capacity).

3.4.4 Existing Land-uses – Commercial Forestry and Peat Extraction

Commercial forestry and peat extraction are the chief land-uses within the Cashla_SC_010 sub-catchment that could act in combination with the proposed development to negatively affect water quality. Other land-uses include domestic wastewater from one-off housing and village settlements such as Casla, Ros an Mhíl, and Baile na hAbhann. On-going activities occurring within the sub-catchment are mainly those associated with recreational and touristic activities at Cashla Bay and Ros an Mhíl and are discussed in **Section 3.4.5**, below.

Within the Cashla_SC_010 sub-catchment, the Cashla_010 River Waterbody which drains into Cashla Bay has a WFD (2016–2021) ecological status of 'Good' water quality but has been classified as being 'At risk'[40] (EPA, 2024). Refer to **Figure 3-6**, below.

[35] Licence Profile | LEAP Online Accessed: 30th June 2025
[36] Integrated Pollution Control (IPC) Licence (formerly IPPC Licence), and Industrial Emissions Licence (IEL)
[37] Defined using population equivalent value (p.e.)
[38] Priority-areas-for-website-April-2025.pdf Accessed: 30th May 2025
[39] Carraroe Sewerage Scheme | Projects | Uisce Éireann (formerly Irish Water) Accessed: 30th May 2025
[40] *At risk* - either the waterbody is currently not achieving its WFD environmental objective of Good or High Ecological Status or that there is an upward trend in nutrients/ammonia and if this trend continues the waterbody Status will decline by the end of Cycle 3 and will fail to meet its environmental objective (EPA, 2021).

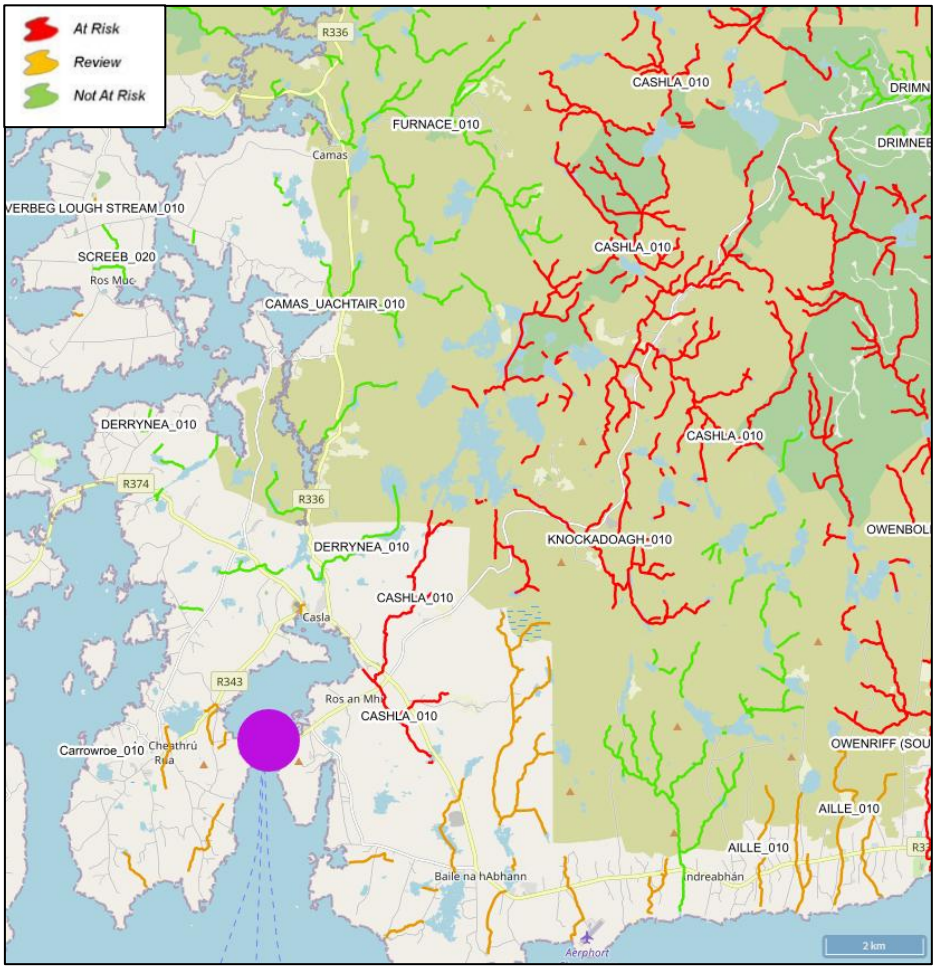

Figure 3-6: Risk status of waterbodies of failing to meet their WFD objectives by 2027 located within the immediate vicinity of the proposed development site (approximate location of development site indicated with purple dot) [adapted from EPA Maps].

3.4.5 On-going Activities

On-going activities within the immediate vicinity of the proposed development site that have the potential to cumulatively interact with the proposed development are mainly those associated with recreational/touristic pursuits and services, and commercial fishing.

Pier 1 and Pier 2 immediately southeast of the proposed development site host a variety of business and services including the harbourmaster offices, a boat rental company, a company chartering fishing trips, and the Aran Island Ferries Terminal and ticket office. The ferry service operates year-round sailing from Ros an Mhíl to the Aran Islands and is incredibly popular with national and international visitors alike,

Vehicular parking areas are located opposite the southern ends of Piers 1 and 2 while the Irish Coast Guard building with helipad lies south of Pier 1. Across from the ferry pontoons there is the Rossaveel Small Craft Harbour which caters for small, open deck vessels on its pier and berths with an associated two-storey Amenity Building providing welfare facilities and administrative offices. On-going activities associated with these facilities comprise typical boating and other operational activities associated with marinas, boatyards, piers, quays and water-based recreational activities.

The fish processing plant Iasc Mara Teoranta lies immediately southeast of the Small Craft Harbour while adjacent to the plant, the Galway and Aran Fisherman's Co-op operates a Fishery Harbour Centre with a fully automatic ice

plant, administrative offices, chill rooms and auction hall from where the majority of catch is sold (mainly whitefish and shellfish)[41].

The small settlement of Ros an Mhíl to the northeast of the proposed development site is characterised by one-off private dwellings and holiday homes, schools, bars, and small retail outlets in conjunction with high recreational and amenity land-use associated with Cashla Bay and surrounding shoreline. Within the wider area, other recreational, tourism and cultural offerings include accommodation, marinas and quays, RTÉ Radió na Gaeltachta studios, art galleries, and private marinas/harbours present along the shorelines of Cashla Bay and the North Atlantic Ocean.

3.4.6 Potential for Significant In-combination Effects

Due to the nature, scale and location of the proposed development, based on the precautionary principle, the potential for significant in-combination effects to have occurred in conjunction with plans, projects, existing land-use and other on-going activities cannot be ruled out. Therefore, the potential for significant in-combination effects is discussed further in Section 3.7.7, below.

3.5 Identification of European Sites Located Within the Zone of Potential Impact

3.5.1 Zone of Impact Influence

The Zone of Impact (ZOI) for the proposed development is the geographical area over which there is potential for the Qualifying Interests (QI) of a European site to be affected by biophysical changes arising from the construction of the proposed development. To establish which European sites are located within the ZOI, the Source-Pathway-Receptor (SPR) model is applied during screening stage of AA, since according to the Office of the Planning Regulator guidelines (OPR, 2021), 'a European site will only be at risk from likely significant effects where the Source-Pathway-Receptor link exists between the proposed development and the European site'.

The SPR model firstly considers the nature, size and location of the proposed development and then identifies characteristics that may provide a source of direct (e.g. water, noise, habitat loss) or indirect (e.g. impact to prey species of a QI) ecological impacts. Secondly, any pathways (e.g. watercourses) that exist linking the proposed development site to the European site(s) are identified, before, finally, establishing 'the location, nature and sensitivities of the qualifying species and habitats, the ecological conditions underpinning their survival and conservation objectives specified to maintain/restore favourable conservation status' (OPR, 2021).

Following this, and in view of best scientific knowledge, an assessment is made to ascertain whether the proposed development, individually or in combination with other plans/projects, is likely to have a significant effect on a European site(s) in view of its conservation objectives. If there are any significant, potentially significant, or uncertain effects, it will be necessary to proceed to Appropriate Assessment and submit an NIS.

With regards the proposed development and identification of potentially affected European sites, adoption of the SPR risk assessment principle and use of the precautionary approach has led to the inclusion of all European sites within 15 kilometres of the proposal site – see Figure 3-7, below. The QIs for each European site and details of any connectivity between the proposed development site and each European site are summarised in Table 3-3, below.

[41] Fishery Harbour Centres Accessed: 31st May 2025

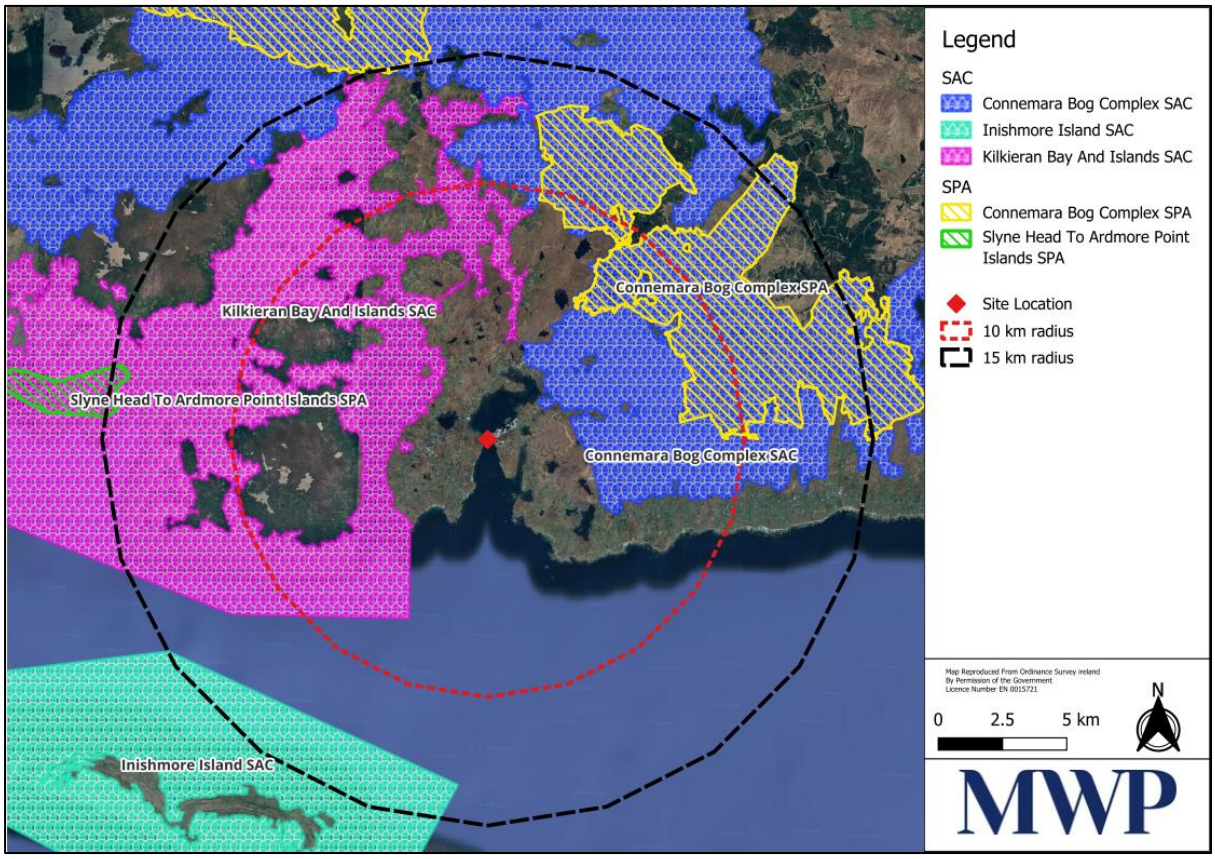

Figure 3-7: European sites located within the potential zone of impact influence.

3.5.2 Characteristics of European Sites within the Potential Zone of Impact (ZOI)

Table 3-3, below, lists the qualifying features of conservation interest for the European sites identified as being within the potential ZOI of the proposed development, the approximate distance of each European site from the nearest point of the proposed development, and whether there is an ecological/hydrological link between the proposed development site and the European sites.

Information pertaining to the European sites is taken from the site synopses, conservation objectives and other information available on Protected Sites in Ireland | National Parks & Wildlife Service (npws.ie).

Table 3-3. European sites located within potential ZOI of proposed development with details of associated qualifying interest (QI) species and/or habitats, distance from the proposed development boundary, and identification of the sites' connectivity (if any) with the proposed development site.

Designated site & code	Qualifying features of conservation interest[42]	Approximate distance from nearest point of proposed development[43]	Hydrological/ ecological connection
Connemara Bog Complex SAC (002034)	▪ Coastal lagoons* [1150] ▪ Reefs [1170] ▪ Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110] ▪ Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea* [3130] ▪ Natural dystrophic lakes and ponds [3160] ▪ Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260] ▪ Northern Atlantic wet heaths with *Erica tetralix* [4010] ▪ European dry heaths [4030] ▪ *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [6410] ▪ Blanket bogs (* if active bog) [7130] ▪ Transition mires and quaking bogs [7140] ▪ Depressions on peat substrates of the Rhynchosporion [7150] ▪ Alkaline fens [7230] ▪ Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0] ▪ Marsh Fritillary (*Euphydryas aurinia*) [1065] ▪ Salmon (*Salmo salar*) [1106] ▪ Otter (*Lutra lutra*) [1355] ▪ Slender Naiad (*Najas flexilis*) [1833]	SAC is 1.8 km to the northeast	Yes, tenuous indirect ecological connection via proximity to the SAC boundary. SAC is hydrologically connected to the proposed development site but is located upstream and up-gradient.

[42] Asterisk (*) denotes a priority habitat considered to be in danger of disappearance.
[43] Straight line distance in kilometres from the nearest point of the proposed development site boundary (unless otherwise specified).

Designated site & code	Qualifying features of conservation interest[42]	Approximate distance from nearest point of proposed development[43]	Hydrological/ ecological connection
Kilkieran Bay and Islands SAC (002111)	▪ Mudflats and sandflats not covered by seawater at low tide [1140] ▪ Coastal lagoons* [1150] ▪ Large shallow inlets and bays [1160] ▪ Reefs [1170] ▪ Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] ▪ Mediterranean salt meadows (*Juncetalia maritimi*) [1410] ▪ Machairs (* in Ireland) [21A0] ▪ Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea* [3130] ▪ Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*) [6510] ▪ Harbour Porpoise *(Phocoena phocoena)* [1351] ▪ Otter (*Lutra lutra*) [1355] ▪ Harbour Seal (*Phoca vitulina*) [1365] ▪ Slender Naiad (*Najas flexilis*) [1833]	SAC is 2.5 km to the northwest SAC is 6.3 river km to the southwest	Yes, tenuous indirect hydrological connection via the waters of Cashla Bay. Yes, tenuous indirect ecological connection via proximity to the SAC boundary.
Connemara Bog Complex SPA (004181)	▪ Cormorant *(Phalacrocorax carbo)* [A017] ▪ Merlin *(Falco columbarius)* [A098] ▪ Golden Plover *(Pluvialis apricaria)* [A140] ▪ Common Gull *(Larus canus)* [A182]	SPA is 6 km to the northeast	Yes, tenuous indirect ecological connection via proximity to the SPA boundary.
Inishmore Island SAC (000213)	▪ Coastal lagoons* [1150] ▪ Reefs [1170] ▪ Perennial vegetation of stony banks [1220] ▪ Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] ▪ Embryonic shifting dunes [2110] ▪ Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] ▪ Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] ▪ Dunes with *Salix repens* ssp. *argentea* (*Salicion arenariae*) [2170] ▪ Humid dune slacks [2190] ▪ Machairs (* in Ireland) [21A0] ▪ European dry heaths [4030]	SAC is 12.8 river km to the southwest	Yes, highly tenuous indirect hydrological connection via the waters of Cashla Bay.

Designated site & code	Qualifying features of conservation interest[42]	Approximate distance from nearest point of proposed development[43]	Hydrological/ ecological connection
	▪ Alpine and Boreal heaths [4060] ▪ Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6210] ▪ Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*) [6510] ▪ Limestone pavements* [8240] ▪ Submerged or partially submerged sea caves [8330] ▪ Narrow-mouthed Whorl Snail *(Vertigo angustior)* [1014] ▪ Harbour Porpoise *(Phocoena phocoena)* [1351]		
Slyne Head to Ardmore Point Islands SPA (004159)	▪ Barnacle Goose *(Branta leucopsis)* [A045] ▪ Sandwich Tern *(Sterna sandvicensis)* [A191] ▪ Arctic Tern *(Sterna paradisaea)* [A194] ▪ Little Tern *(Sterna albifrons)* [A195]	SPA is 14.3 km to the west	No, situated almost entirely on offshore islands with no plausible ecological or hydrological connection linking the SPA to the proposed works area.

3.5.3 Conservation Objectives

According to the Habitats Directive, the *conservation status of a natural habitat* will be taken as 'favourable' within its biogeographic range when:

- its natural range and the areas covered within that range are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable as defined below.

According to the Habitats Directive, the *conservation status of a species* means the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations. The conservation status will be taken as 'favourable' within its biogeographic range when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

The conservation objectives for each individual site listed in **Table 3-3**, above, are available on www.npws.ie. These were accessed on 29th May 2025. Management plans are not currently available for any of these designated sites.

Site-specific conservation objectives were available for the following sites:

- Connemara Bog Complex SAC (002034). Version 1. Produced October 2015.
- Kilkieran Bay and Islands SAC (002111). Version 1. Produced February 2014.
- Connemara Bog Complex SPA (004181). Version 1. Produced January 2023.
- Inishmore Island SAC (000213). Version 2. Produced December 2024.

First Order Site-specific Conservation Objectives[44] were available for the following:

- Slyne Head to Ardmore Point Islands SPA (004159). First Order Site-specific Conservation Objectives Version 1.0. Produced October 2022.

No management plans are currently available for these sites. All conservation objectives together with other designated site information are available on http://www.npws.ie/protectedsites/.

3.6 Identification of Potential Impacts

Potential likely direct, indirect or secondary ecological impacts which may have occurred, which are presently occurring, or which can be expected to occur because of the proposed development (either alone or in combination with other plans or projects) are identified in this section.

[44] Generic Conservation Objectives Documents are replaced by First Order Site-specific Conservation Objectives documents.

Table 3-4. Description of potential direct, indirect or secondary ecological impacts of the proposed deep water quay development.

Description of elements of the project likely to give rise to potential ecological impacts	**Construction Phase** ▪ Site setup and mobilisation, construction of temporary office compound and concrete batching plant. ▪ Excavation and dredging works, and possible requirement for minimal blasting works. ▪ Completion of quay wall foundations and construction of quay wall using pre-cast components and liquid concrete. ▪ The presence and sustained use of heavy and light machinery on the reclaimed land and within the protective berm area at variable rates during daylight hours for duration of works. ▪ Use of fuels/oils/lubricants, concrete and other such substances considered harmful to the aquatic environment. ▪ Human presence: Sustained increase in human activity, albeit at variable rates and numbers, during daylight hours for the duration of the works. ▪ Increased noise and air emissions associated with construction activity. ▪ Storage of effluent/wastewater from temporary welfare facilities. ▪ Generation and temporary storage of waste/spoil/construction run-off **Operational Phase** ▪ Increased artificial lighting/noise/traffic. ▪ Increased human presence and larger boats. ▪ Maintenance of new deep water quay. ▪ Permanent surface water management systems. ▪ Increased waste streams and effluents from increased volume of boats.
Describe any likely direct, indirect or secondary ecological impacts of the project (either alone or in combination with other plans or projects) by virtue of: ▪ *Size and scale* ▪ *Land-take* ▪ *Distance from European Site or key features of the site* ▪ *Resource requirements* ▪ *Emissions* ▪ *Excavation requirements* ▪ *Transportation requirements* ▪ *Duration of construction, operation etc.* ▪ *Other.*	**Construction Phase** ▪ There is no spatial overlap between any element of the proposed development and any European site, and therefore, there will be no direct loss/alteration/land-take within any European site. ▪ Potential for indirect species disturbance/displacement impacts due to construction activity including fugitive noise/air emissions from machinery, human activity. ▪ Tenuous indirect hydrological and/or ecological connection between subject site and European sites listed in **Table 3-3**, above, via the marine environment of Cashla Bay. ▪ Potential for water quality impacts through the erosion and run-off of silt, and/or ingress of fuels/oils or other substances via overland flow and/or ingress of wastewater/effluent generated at temporary welfare compound. ▪ Potential for indirect species disturbance/displacement due to *in-situ* or *ex-situ* habitat loss/alteration impacts, impairment of water quality and/or impacts on prey availability. **Operational Phase** ▪ Potential for species disturbance/displacement because of operation/maintenance of the deep water quay. ▪ Potential for indirect alteration of habitats outside of but hydrologically linked to the proposed development site.

3.7 Assessment of Significance of Potential Impacts

This section considers the list of sites identified in Table 3-3, above, together with the potential ecological impacts identified in Table 3-4, above, and determines whether the proposed development is likely to have significant effects on a European site. As discussed in Section 3.5.1, above, when assessing impact, European sites are only considered relevant where a credible or tangible source-pathway-receptor (SPR) link exists between the proposed development and a protected species or habitat type. An evaluation based on these factors to determine which European sites are the plausible ecological receptors for potential impacts of the proposed development will be conducted in Sections 3.7.1 and 3.7.2, below. The evaluation takes cognisance of the scope, scale, nature and size of the project, its location relative to the European sites listed in Table 3-3, above, and the degree of connectedness that exists between the project and each European site's potential ecological receptors.

3.7.1 European Sites Outside the Zone of Potential Impact after Application of SPR Model

With regards to the proposed development near Ros an Mhíl Harbour, it is considered that the works do not include any element that has the potential to significantly affect the conservation objectives for which certain European sites are designated. Although located within 15 kilometres of the proposed development site, there is one European site deemed to be outside the zone of potential impact influence of the proposed development due to the absence of plausible impact pathways when the SPR model was applied (see Section 3.5.1, above, for details of the model). Therefore, it is objectively concluded that significant effects on the conservation objectives of this site are not reasonably foreseeable because of the proposed development described in Section 3.2.4, above, and in Appendix 2. This European site is listed in Table 3-5, below, along with the rationale for its exclusion and its approximate distance from the subject site and will, therefore, not be considered further in this report.

Table 3-5. European site excluded from further assessment including rationale for exclusion.

Designated site and code	Approximate distance from proposal site	Rationale for exclusion from further assessment
Slyne Head to Ardmore Point Islands SPA (004159)	14.3 km to the west	- Designated for wintering barnacle goose and three species of breeding tern. - No spatial overlap of SPA with the proposal site. - Nature, scale, and location of the proposed development and intervening distance to SPA. - No plausible impact pathway linking proposal site to SPA.

3.7.2 European Sites Within the Zone of Potential Impact after Application of SPR Model

The assessment of significance of potential impacts that follows focuses on the four remaining European sites identified in Table 3-6, below. When the SPR framework discussed in Section 3.5.1, above, is applied, these sites are deemed to have the potential to be impacted by the proposal described in Section 3.2.4, above, (and in Appendix 2) due to the existence of plausible, if tenuous, impact pathways linking the proposed development site (source) to the Qualifying Interest species and habitats (receptors) of the European sites. Therefore, it is objectively concluded that significant effects on the conservation objectives of these four European sites because of the proposed development have the potential to occur and cannot be ruled out at this stage. These sites are listed in Table 3-6, below, along with their approximate distances from the subject site and will be subjected to further assessment in this report.

Table 3-6. European sites within likely zone of impact and rationale for inclusion for further assessment.

Designated site and code	Approximate distance from subject site	Rationale for inclusion for assessment
Connemara Bog Complex SAC (002034)	SAC is 1.8 km to the northeast	- Designated for wide variety of aquatic and terrestrial habitats and species, including otter. - No spatial overlap with the proposal area; however, otter are a highly mobile species which could potentially occur in the vicinity of the proposed development site. - Similarly, salmon could potentially migrate through the waters of Cashla Bay near the proposed development site creating potential for ex-situ species effects. - Based on the precautionary principle and the nature/location of the proposed development, further assessment is required.
Kilkieran Bay and Islands SAC (002111)	SAC is 2.5 km to the northwest SAC is 6.3 river km to the southwest	- Designated for variety of aquatic and terrestrial habitats and species, including harbour porpoise, otter and harbour seal. - No spatial overlap: however, harbour porpoise and harbour seal are mobile marine species which could utilise waters of Cashla Bay. - Similarly, otter are a highly mobile species which could potentially occur in the vicinity of the proposed development site. - Based on proximity and precautionary principle, further assessment is required.
Connemara Bog Complex SPA (004181)	SPA is 6 km to the northeast	- Designated for nationally important breeding populations of cormorant, merlin, golden plover, and common gull. - Proposed development site is outside the optimal foraging range for breeding merlin (5 km) (SNH, 2016) and golden plover (4 km) (NPWS, 2023), and no suitable nesting habitat for either species exists within the proposed development boundary. - No spatial overlap with proposal area; however, given that cormorant were recorded during site survey (**Section 3.3.4**, above) and the presence of potentially suitable foraging grounds at Cashla Bay that are within maximum foraging distance for breeding cormorant (up to 35 km) and common gull (up to 50 km) (NPWS, 2023), further evaluation is required with regard to potential ex-situ impacts on breeding cormorant and common gull.
Inishmore Island SAC (000213)	SAC is 12.8 river km to the southwest	- Designated for variety of aquatic and terrestrial habitats and species, including harbour porpoise. - No spatial overlap: however, harbour porpoise are a mobile marine species which could utilise the marine waters of Cashla Bay. - Based on proximity and precautionary principle, further assessment is required.

As discussed previously in **Section 2.1**, the likelihood of significant effects from the project to the European sites outlined above was determined based on several indicators including:

- Water quality;
- Habitat loss/alteration;
- Habitat or species fragmentation; and
- Disturbance and/or displacement of species.

The likelihood of significant in-combination effects is assessed in **Section 3.7.7**, below.

3.7.3 Water Quality

As detailed in Section 3.3.2, above, there are no EPA-registered watercourses traversing the proposed development site, and it has already been established in Section 3.7.2 that any hydrological connections between the proposed development site and each of the European sites listed in Table 3-6, above, are indirect and highly tenuous. Additionally, there is no spatial overlap of the proposed development site and any European site. However, of the four European sites listed in Table 3-6, above, the three SACs are designated for a variety of aquatic or semi-aquatic habitats and species while the SPA is designated for several water-dependant bird species.

During a development's construction phase, and in the absence of any pollution prevention controls, earthworks have the potential to adversely impact water quality due to soil erosion. The subsequent suspension of soil sediment particles in site run-off and overland flow could eventually reach the waters of Cashla Bay in the absence of implementation of appropriate controls and protective measures. Potential also exists for accidental ingress of fuel and oils, concrete and cementitious material and other such substances considered harmful to the aquatic environment via overland flow, direct discharges to drainage features and/or leaching to maritime waters in the event of a spillage/leakage. Therefore, due to the location and nature of the proposed works within/adjacent to the aquatic zone including the use of heavy plant/machinery and concrete, dredging of the seafloor, and generation of effluent/wastewater (detailed in Appendix 2), and considering the potentially increased levels of surface water run-off of the site once operational, there is potential that the construction and operational phases of the proposed development may result in some degree of localised impact on marine water quality within some or all of the four European sites listed in Table 3-6, above.

Consequently, in the absence of mitigation and based on the precautionary principle, it is objectively concluded that significant water quality effects within Connemara Bog Complex SAC (002034), Connemara Bog Complex SPA (004181), Kilkieran Bay and Islands SAC (002111) and/or Inishmore Island SAC (000213) arising from impacts identified Section 3.6, above, while unlikely, cannot be ruled out at this stage and further assessment is required.

3.7.4 Habitat Loss/Alteration

There is no spatial overlap between the subject site and any European site; therefore, there will be no direct loss/alteration of any of the qualifying habitats of conservation interest for which the European sites outlined in Table 3-6, above, are designated.

With regard to indirect alteration/loss of habitat, it is considered that coastal construction works/activities can pose a risk to coastal and marine habitats via impairment of water quality. Table 3-7, below sets out the European sites which have been identified in Section 3.7.2, above, as being located within the ZOI of the proposed development and are designated for either coastal and/or marine habitats (see Section 3.5.2, above).

Table 3-7. Designated sites located within the ZOI of the proposed development and the QI coastal/marine habitats for which they are designated.

Designated site	Qualifying coastal/marine habitats of conservation interest
Connemara Bog Complex SAC (002034)	- Coastal lagoons* [1150] - Reefs [1170]
Kilkieran Bay and Islands SAC (002111)	- Coastal lagoons* [1150] - Large shallow inlets and bays [1160] - Reefs [1170] - Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] - Mediterranean salt meadows (*Juncetalia maritimi*) [1410] - Machairs (* in Ireland) [21A0]
Inishmore Island SAC (000213)	- Coastal lagoons* [1150] - Reefs [1170]

Designated site	Qualifying coastal/marine habitats of conservation interest
	- Perennial vegetation of stony banks [1220] - Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] - Embryonic shifting dunes [2110] - Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] - Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] - Dunes with *Salix repens* ssp. *argentea* (*Salicion arenariae*) [2170] - Humid dune slacks [2190] - Machairs (* in Ireland) [21A0] - Submerged or partially submerged sea caves [8330]

Given the nature and location of the proposed new deep water quay and the dredging works within the marine zone, albeit primarily within the confines of the harbour, there is some limited potential for indirect loss/alteration of marine aquatic, sub-tidal and/or inter-tidal Annex I habitats located in surrounding European sites through adverse impacts to water quality. Such impacts could potentially comprise increased turbidity in the water column and/or the potential dispersal and settlement of sediment, which could occur because of dredging, as well as other potential pollution effects, such as the unintentional release of contaminants into the marine environment.

It has been concluded above in Section 3.7.3 that significant water quality impacts within the European sites listed in Table 3-6, above, during either the construction phase or operational phase of the proposed development, while unlikely, cannot currently be discounted. Therefore, and because of the tenuous hydrological link of the proposed development site with the European sites listed in Table 3-6, there is also potential for an indirect loss and/or alteration of the habitats listed in Table 3-7, above.

Consequently, in the absence of mitigation and using a precautionary approach, it is objectively concluded that significant loss and/or alteration of the aquatic/coastal habitats listed in Table 3-7, above, arising from water quality impacts have the potential to occur, or cannot currently be ruled out, and further assessment is required.

3.7.5 Disturbance and/or Displacement of Species

A significant majority of the QI species of the four European sites listed in Table 3-6, above, are either fully dependent (e.g. harbour seal, harbour porpoise, and salmon) or semi-dependent (e.g. otter, cormorant, and common gull) on the marine environment for different stages of their life cycles such as for, nesting/breeding, and migrating or different behavioural activities, such as for foraging, commuting or roosting/loafing. However, as already established in Section 3.7.3, significant water quality impacts during either the construction or operational phases of the proposed development cannot be ruled out and, therefore, significant disturbance/displacement effects to QI species via the impairment of water quality also cannot be ruled out at this stage and will require further scrutiny.

Additionally, increased levels of anthropogenic activity and noise due to dredging works during the construction phase of the proposed development has the potential to create significant disturbance/displacement impacts, particularly to the marine mammal species harbour seal and harbour porpoise which both utilise acoustic techniques to communicate and navigate. Further assessment is necessary to ascertain whether the proposed dredging may potentially disturb/displace marine mammal QI species.

Consequently, using a precautionary approach and in the absence of mitigation, it is objectively concluded that significant disturbance and/or displacement of QI species within Connemara Bog Complex SAC (002034), Connemara Bog Complex SPA (004181), Kilkieran Bay and Islands SAC (002111) and/or Inishmore Island SAC (000213) arising from the impacts identified in Section 3.6, above, have the potential to occur and further assessment is required.

3.7.6 Habitat or Species Fragmentation

Habitat fragmentation has been defined as the 'reduction and isolation of patches of natural environment' (Franklin *et al*., 2002; Morrison *et al*., 2012) which results in spatial separation of habitat areas which had previously been in a state of greater continuity. Adverse effects of habitat fragmentation on species include the increased isolation of populations which can detrimentally impact upon the resilience or robustness of the populations.

The preceding Sections 3.7.3, 3.7.4, and 3.7.5 have concluded that water quality impacts, habitat loss and alteration impacts, and disturbance/displacement impacts because of the works summarised in Section 3.2 (and detailed in full in Appendix 2) cannot be ruled out at this stage for the Connemara Bog Complex SAC (002034), Kilkieran Bay and Islands SAC (002111), Connemara Bog Complex SPA (004181), and Inishmore Island SAC (000213). Therefore, the potential for significant habitat or species fragmentation impacts on these European sites also cannot be ruled out at this stage and further assessment is required.

3.7.7 Cumulative/In-combination Impacts

As well as singular effects, the potential for in-combination effects also need to be considered. A cumulative impact arises from incremental changes caused by other past, present or reasonably foreseeable future actions in conjunction with a development.

As set out in the preceding Sections 3.7.3 to 3.7.6, there is potential for the proposed development to cause water quality impacts, indirect habitat loss/alteration, disturbance/displacement of species, and/or habitat/species fragmentation impacts to the QI species and habitats for which four European sites are designated, namely Connemara Bog Complex SAC (002034), Kilkieran Bay and Islands SAC (002111), Connemara Bog Complex SPA (004181), and Inishmore Island SAC (000213) (see Section 3.7.2, above). However, as established in Section 3.7.1, no plausible pathways exist to connect any of these four sites to the one other European site located within the zone of potential impact, namely Slyne Head to Ardmore Point Islands SPA (004159) (refer to Table 3-5, above) and, therefore, the potential for cumulative impacts with other European sites is negligible.

The proposed development was considered in combination with other relevant plans, projects and activities in the area as identified in Section 3.4, above. Given the potential/likely impacts previously identified in Section 3.6, it is considered that there is potential for the proposed development to result in significant cumulative or in-combination effects in conjunction with other plans, permitted/proposed developments and existing land-uses and on-going activities associated with Cashla Bay in the absence of mitigation, and thus, further assessment is required with regard to the Connemara Bog Complex SAC (002034), Kilkieran Bay and Islands SAC (002111), Connemara Bog Complex SPA (004181), and Inishmore Island SAC (000213).

3.8 Conclusion of Screening Stage

In conclusion, to determine any potential impacts of the construction and operation of a proposed deep water quay development on nearby European sites, a screening process for Appropriate Assessment was undertaken. There are five European sites located within a potential ZOI of the proposed development.

It has been concluded, based on objective information, that the proposed development, either individually or in combination with other plans or projects, is not likely to have significant effects on the following European site:

- Slyne Head to Ardmore Point Islands SPA (004159).

However, it cannot be objectively concluded at this stage that the proposed development in County Galway will not result in significant effects on the following designated European sites due to the impacts identified in Sections 3.7.3 to 3.7.7, above:

- Connemara Bog Complex SAC (002034)
- Kilkieran Bay and Islands SAC (002111)
- Connemara Bog Complex SPA (004181)
- Inishmore Island SAC (000213)

Therefore, it has been concluded that, in respect of these European sites, the project should proceed to Stage 2 of the Appropriate Assessment process and as such, a Natura Impact Statement is required. It is concluded that all other European sites have been correctly screened out or excluded from further consideration based on objective information that the project, individually or in-combination with other plans or projects, will have no, or no appreciable, effects on those sites.

4. Stage 2: Natura Impact Statement (NIS)

4.1 Introduction

The Stage 1: screening for Appropriate Assessment carried out in Section 3, above, determined that a full Appropriate Assessment of the proposed development is required, as it could not be excluded based on objective information that the proposed development, individually or in combination with other plans or projects, will not have a significant impact on any European sites, in view of the sites' conservation objectives. The conservation objectives of European sites are site specific and based on the ecological requirements of the species and habitats present. They define the desired conservation condition of certain species and habitat types for the site. Conservation objectives are defined using attributes and targets that are based on parameters as set out in the Habitats Directive for defining favourable status, namely area, range, structure and function. The conservation objectives may be either to maintain or restore the favourable conservation condition of a habitat/species.

Article 6(3) of Directive 92/43/EEC stipulates that certain projects and plans must be subjected to an "appropriate assessment" of their effects on the integrity of European site(s). Article 6(3) provides in full:

"*Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public*."

It was concluded in Section 3, above, that the proposed construction and operation of a deep water quay near Ros an Mhíl in County Galway is likely to have a significant effect, or the potential for significant effects cannot be ruled out (at the screening stage), in the absence of mitigation on the following four European sites:

- Connemara Bog Complex SAC (002034)
- Kilkieran Bay and Islands SAC (002111)
- Connemara Bog Complex SPA (004181)

- Inishmore Island SAC (000213)

An Appropriate Assessment of the project is required; hence, this Natura Impact Statement (NIS) has been prepared to detail the scientific examination of evidence and data and to identify and classify any implications for European sites likely to have a significant effect in view of the conservation objectives of those sites. The aim of the assessment is to provide a sufficient level of information to the competent authority on which to base their appropriate assessment of the project. Additionally, mitigation measures to avoid or reduce ecological effects were considered. The project is summarised in **Section 3.2**, above, and fully described in **Appendix 2**.

4.2 Selection of Qualifying Features for Impact Assessment

The focus of this AA is to now determine whether the proposed development, individually or in combination with other plans/projects, is likely to have a significant effect on the four European sites listed in the preceding section in view of the sites' conservation objectives. This assessment identifies the environmental aspects of the proposed development that may potentially interact with the ecological requirements or sensitivities of the qualifying interest habitats/species in relation to water quality, and/or likely/potential habitat loss/alteration, and/or species disturbance/displacement impacts. The test of the assessment is whether the proposed development is likely to have 'an adverse effect on the integrity of the site'. Should potentially significant effects be identified, mitigation measures will be recommended where necessary.

When a European site is selected for Stage 2 assessment, all qualifying features of conservation interest of that site must be included in the initial assessment to identify the specific qualifying interest (QI) habitats/species that require further scrutiny in relation to potential impacts of the proposed development. During impact assessment, qualifying features are only considered relevant where a credible or tangible source-pathway-receptor link exists between the proposed development and a protected species or habitat type (see **Section 3.5.1**, above). Identifying a risk that could, in theory, cause an impact does not automatically mean that the risk event will occur, or that it will cause or create an adverse impact. However, identification of the risk does mean that there is a latent possibility of ecological or environmental damage occurring, with the level and significance of the impact depending upon the nature of the risk, the extent of the exposure to the risk and the characteristics of the receptor. Therefore, bearing in mind the scope, scale, nature and size of the project, its location relative to the distribution of the species and habitats listed, and the degree of connectedness that exists between the project and potential receptors, it is considered that not all are within the zone of potential impact of the proposal.

The following subsections will provide a brief description of each of the four European sites listed in the preceding section before an evaluation is made based on the above factors to determine which QI species and/or habitats are the plausible ecological receptors for potential impacts of the unmitigated proposal. This evaluation determined which specific qualifying features of the relevant SACs and SPA should be selected for further assessment as plausible ecological receptors.

4.2.1 Connemara Bog Complex SAC (002034)

4.2.1.1 Brief Description of SAC

The following text summarises the Natura 2000 Standard Data Form for the site[45]. The SAC overlaps with Connemara Bog Complex SPA (004181) described in **Section 4.2.3**, below.

[45] Natura 2000 SDF - IE0002034 Accessed: 6th June 2025

Connemara Bog Complex SAC is a large site of almost 50,000 hectares that covers vast swathes of the southern Connemara lowlands (refer to **Figure 4-1**, below) and is designated for fourteen habitats listed on Annex I of the EU Habitats Directive and four species listed on Annex II of the same Directive – see **Table 3-3**, above.

The primary interests of the SAC are the large tracts of lowland Atlantic blanket bog and associated habitats of quaking bog, flushes, transition mires, *Rhynchosporion* vegetation, dystrophic bog pools and alkaline fens that cover approximately 70% of the site. Much of the land within the SAC is relatively intact and provides one of the best examples of unmodified lowland blanket bog habitat in Ireland. Excellent examples of lagoons within the site support hugely diverse assemblages of flora and fauna while oligotrophic lakes are also dotted throughout. Habitat diversity of the SAC is further increased through the presence of smaller areas of other important habitats including deciduous woodland, wet and dry heaths, scrub, semi-improved grassland, wet grassland and river habitats.

The SAC is also designated for four Annex II species including otter and Atlantic salmon. The site is particularly important for salmon with excellent grilse and spring salmon rivers and lakes and extensive spawning habitat throughout. The Cashla and Ballynahinch systems are good examples of western acidic spate rivers which support salmon and have good spawning and nursery grounds for the species.

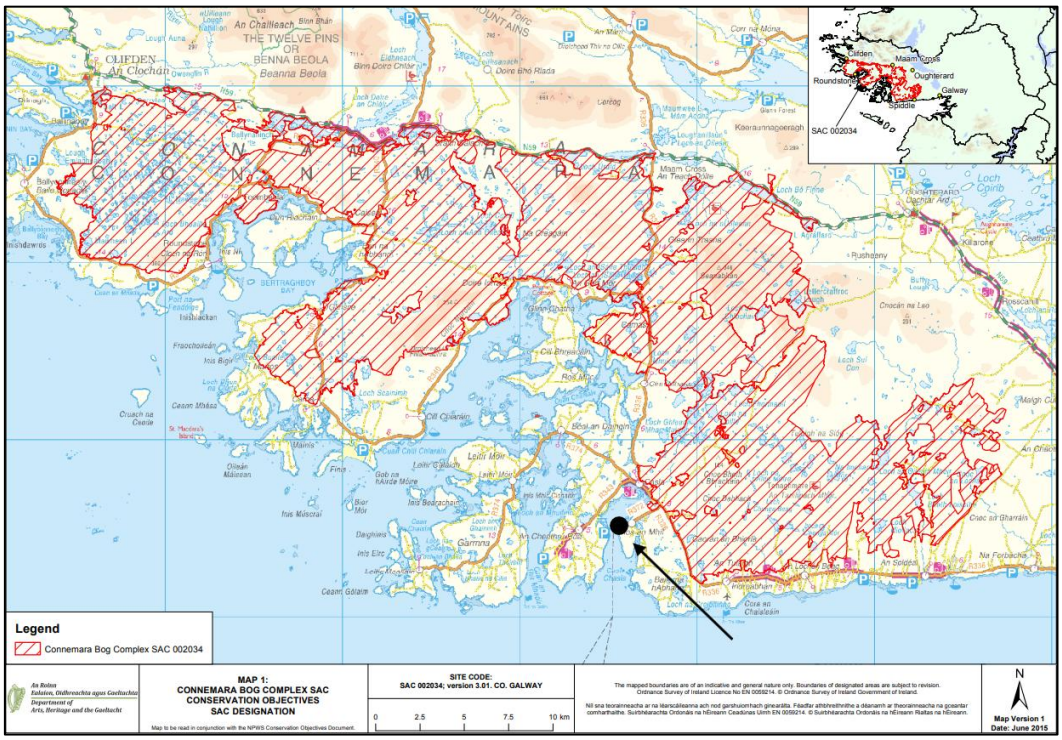

Figure 4-1: Extent of Connemara Bog Complex SAC (002034) and approximate location of development site (black circle and arrow) [adapted from NPWS, 2015].

4.2.1.2 Selection of Qualifying Features for Impact Assessment

Table 4-1, below, lists the qualifying features of the Connemara Bog Complex SAC and evaluates through a scientific examination of evidence and data whether these features should or should not be selected for impact assessment in the NIS.

Table 4-1. Selection of qualifying features of the Connemara Bog Complex SAC (002034) for impact assessment.

Qualifying features of conservation interest[46]	Potential for Impact	Rationale
Coastal lagoons* [1150]	No	There are four coastal lagoons within the SAC, namely Loch Doire Bhanbh, Loch an tSáile, Loch Conaortha, and Ardbear Salt Lake (NPWS, 2015). Coastal lagoons are areas of shallow, coastal salt water, wholly or partially separated from the sea by sandbanks, shingle, peat and/or rocks. Given the intervening distance of more than 30 rkm between the proposed development site and the nearest area of this habitat at Loch an tSáile, and because this habitat type is confined to coastline above the high tide mark, it is therefore considered to be outside the ZOI of any potential impacts that may potentially arise during either the construction or operational phases of the proposed development. Thus, the project is unlikely to affect the conservation objectives for 'coastal lagoons' and the habitat is not considered further in the NIS.
Reefs [1170]	No	There are two mapped reef areas in the SAC – the *Serpula vermicularis*-dominated community complex at Ardbear Salt Lake nearly 40km from the proposed development site, and the intertidal reef community complex in Bertraghboy Bay more than 20 km (50 rkm) from proposed development site – and both are exposed or moderately exposed to wave action and subject to moderate tidal streams (NPWS, 2015a). Given the intervening distances of at least 50 rkm between the proposed development site and the nearest area of this habitat at Bertraghboy Bay, and because of the high degree of mixing and dilution that occurs naturally within the enormity of the waterbody intervening, this habitat is outside the ZOI of any potential impacts that may arise during either the construction or operational phases of the proposed development. Therefore, the project is unlikely to affect the conservation objectives for 'reefs' and the habitat will not be considered further in the NIS.

[46] Asterisk (*) denotes a priority habitat considered to be in danger of disappearance.

Qualifying features of conservation interest[46]	Potential for Impact	Rationale
Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110] Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea* [3130] Natural dystrophic lakes and ponds [3160] Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260] Northern Atlantic wet heaths with *Erica tetralix* [4010] European dry heaths [4030] *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [6410] Blanket bogs (*if active bog) [7130] Transition mires and quaking bogs [7140] Depressions on peat substrates of the *Rhynchosporion* [7150] Alkaline fens [7230] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]	No	These are freshwater habitats [3110] to [3260], temperate heath habitats [4010] and [4030], grassland [6410], bogland [7130] to [7230], and woodland [91A0] and all located upstream/upgradient of the proposed development site and are, therefore, outside the zone of influence of any potential impacts that may arise during either the construction phase or operational phase of the proposed development. Therefore, the project is unlikely to affect the conservation objectives for these twelve habitat types and the habitats will not be considered further in the NIS.
Marsh Fritillary (*Euphydryas aurinia*) [1065] Slender Naiad (*Najas flexilis*) [1833]	No	Marsh fritillary is a terrestrial species whose population structure usually consists of a central population surrounded by outlying colonies that are connected via migration. Breeding colonies are entirely dependent upon the presence of the required larval food plant Devil's bit scabious (*Succisa pratensis*). Marsh fritillary can be found on a range of (usually lowland) terrestrial habitats, including sand dunes, fens, cutover raised bogs, blanket bogs, heaths, and grasslands. The presence of marsh fritillary has not been mapped in this SAC, so current distribution is unknown (NPWS, 2015). Slender naiad is a small, annual, submerged macrophyte of clear-water, lowland lakes. It is a fragile, short, permanently submerged species typically found on flat to gently sloping areas of lakebed with soft

Qualifying features of conservation interest[46]	Potential for Impact	Rationale
		substrates such as fine sand, silt and mud. It occurs at all depths between 0.5 m and 10 m but frequently associated with lower depths of macrophyte growth, with scattered plants gradually giving way to bare mud/silt (Preston & Croft, 2001; Roden, 2002). Most mapped slender naiad records within the SAC are located at the northwest of the site, with the nearest record to the proposed development site at Loch Bó Finne more than 20 km to the north. The lifecycles of both these species are entirely terrestrial/freshwater and, therefore, their populations within the SAC are outside the zone of influence of any potential impacts that may arise during either the construction phase or operational phase of the proposed development. Therefore, the proposed development is unlikely to affect the conservation objectives for marsh fritillary or slender naiad and neither species will be considered further in the NIS.
Salmon (*Salmo salar*) [1106]	**Yes**	Salmon is an anadromous species, living in freshwater for at least the first two or three years of life before migrating to sea. The Cashla catchment provides good spawning habitat for salmon, and adults can occur within Cashla Bay prior to returning to natal streams to spawn while smolts can occur within the bay on their journey from influent rivers to the sea (NPWS, 2015). Consequently, there is potential for significant impacts on the migrating salmon populations of the SAC via disturbance/displacement impacts and potential impairment of water quality during either the construction phase or, to a lesser extent, the operational phase of the proposed development and further assessment is required.
Otter (*Lutra lutra*) [1355]	**Yes**	Otter has a widespread distribution throughout Ireland and can be found in a variety of aquatic habitats such as lakes, rivers, streams, estuaries, and along the coast. They are solitary animals and are highly territorial. No evidence of otter was recorded during the ecological field survey undertaken in 2025 and the nearest NBDC record for otter is at least one kilometre from the proposed development site (see **Section 3.3.5**, above). However, given that otter is a highly mobile, semi-aquatic species with a diet comprised mainly of fish, it is considered that there is potential for effects on otter populations of the SAC via direct/indirect disturbance/displacement impacts and potential impairment of water quality and subsequent prey resource reduction during either the construction phase or, to a lesser extent, the operational phase of the proposed development and further assessment is required.

It has been determined in **Table 4-1**, above, that the construction phase and/or the operational phase of the proposed development as described in **Section 3.2.4** and **Appendix 2** has potential to result in significant effects to the conservation objectives of the following Qualifying Interests (QIs) of the Connemara Bog Complex SAC and, therefore, these QIs will be further assessed:

- Salmon (*Salmo salar*) [1106]
- Otter (*Lutra lutra*) [1355]

4.2.2 Kilkieran Bay and Islands SAC (002111)

4.2.2.1 Brief Description of SAC

The following text summarises the Natura 2000 Standard Data Form for the site[47].

Kilkieran Bay and Islands SAC is located at the northwesternmost shores of Galway Bay and encompasses almost 21,400 hectares with 86% of the habitat made up marine areas – see **Figure 4-2**, below. The SAC is designated for nine habitats listed on Annex I of the EU Habitats Directive and four species listed on Annex II of the same Directive – see **Table 3-3**, above.

The SAC is comprised of several islands and rocky islets with a coastline indented with numerous bays, channels and islets that are all subject to strong prevailing southwesterly winds and tidal streams. The marine and intertidal habitats of the SAC are of a particularly high conservation importance and are made up of extensive and varied communities of maërl beds, and circalittoral reef communities of sponges, anemones, and ascidians (sea squirts). Lagoons within the site are excellent examples of saline lake lagoons situated in peat which are rare in Europe and the SAC contains a significant proportion of the most important lagoonal habitat in the country. Relatively high numbers of protected flora species are found within the lagoons, in addition to numerous lagoonal specialist species, algal communities, and rich fauna. Salt marshes, both Atlantic and Mediterranean, are well-represented with some of the largest areas of salt marsh on peat in the country found within the SAC. Lowland hay meadows and low quality machair also feature within the SAC, furthering increasing terrestrial habitat diversity of the site.

The SAC is also designated for four Annex II species including otter, harbour seal and harbour porpoise. Habitat at the site is optimal for otter and the species occur commonly throughout the SAC. The numerous islands, bays, and rocky coastline of the SAC provide many suitable haul-out sites for harbour seal - necessary for the various stages of the species' life cycle – and the SAC supports an important population of harbour seal. Waters around the SAC support groups of harbour porpoise and, thus far, the species has been recorded within the SAC during the summer months only.

[47] Natura 2000 SDF - IE0002111 Accessed: 6th June 2025

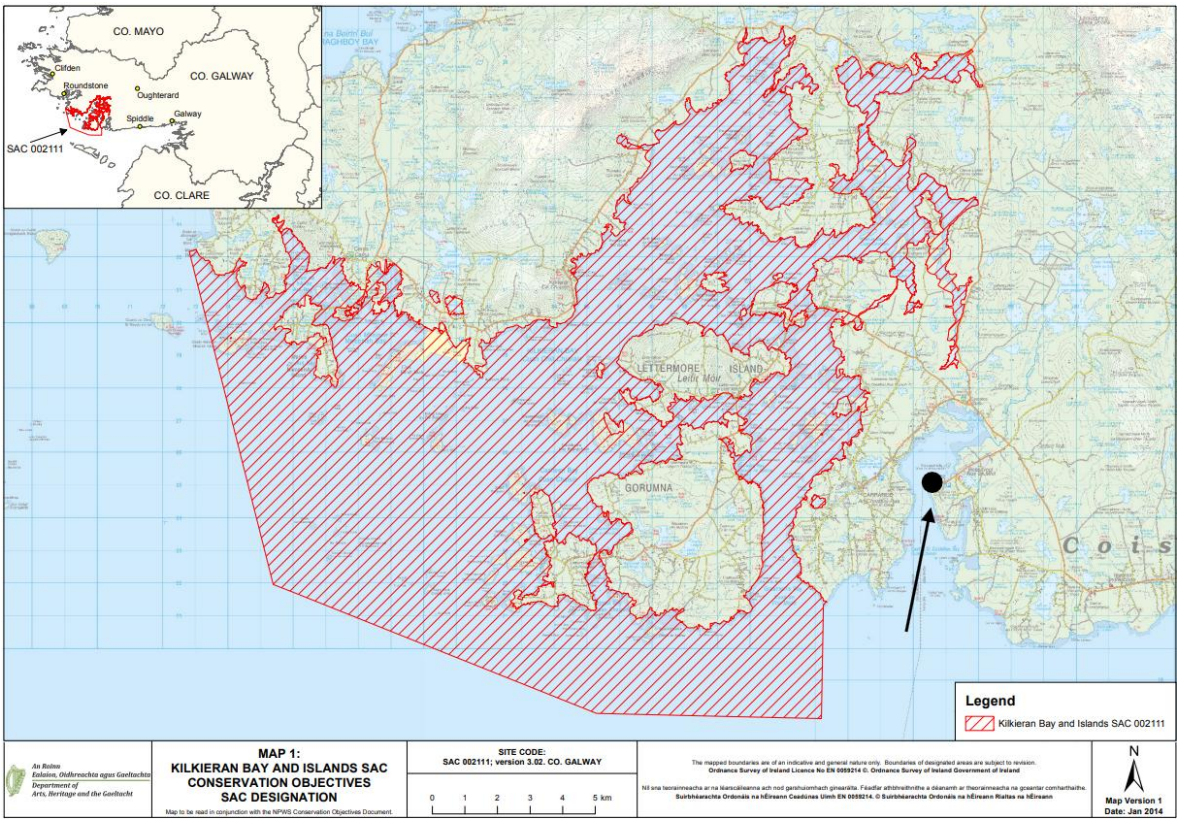

Figure 4-2: Extent of Kilkieran Bay and Islands SAC (002111) and approximate location of development site (black circle and arrow) [adapted from NPWS, 2014].

4.2.2.2 Selection of Qualifying Features for Impact Assessment

Table 4-2, below, lists the qualifying features of the Kilkieran Bay and Islands SAC and evaluates through a scientific examination of evidence and data whether these features should or should not be selected for impact assessment in the NIS.

Table 4-2. Selection of qualifying features of Kilkieran Bay and Islands SAC (002111) for impact assessment.

Qualifying features of conservation interest[48]	Potential for Impact	Rationale
Mudflats and sandflats not covered by seawater at low tide [1140]	No	These intertidal sediment habitats are found between the low water and mean high water tide marks and are, therefore, submerged at high tide and exposed at low tide. The sediments are often rich in nutrients as finer silt and clay sediments are usually dominant in mudflats with larger sand particles found in areas exposed to greater wave forces. Given the intervening distance of more than 9 rkm from the proposed development site to the nearest example of this habitat type at Coral Strand in an entirely separate bay on the western side of the Carraroe peninsula and because of the high degree of mixing and dilution that occurs naturally within the enormity of the waterbody intervening, this habitat type is outside the zone of influence of any potential impacts that may arise during either the construction phase or operational phase of the proposed development.

[48] Asterisk (*) denotes a priority habitat considered to be in danger of disappearance.

Qualifying features of conservation interest[48]	Potential for Impact	Rationale
		Therefore, 'mudflats and sandflats not covered by seawater at low tide' is not considered to be a plausible ecological receptor for any potential impacts of the proposed development and will not be considered further in the NIS.
Coastal lagoons* [1150]	No	There are eleven coastal lagoons or coastal lagoon groups within the SAC, and the site is generally regarded as being the best site in the country for this habitat type (NPWS, 2014a). Coastal lagoons are areas of shallow, coastal salt water, wholly or partially separated from the sea by sandbanks, shingle, peat and/or rocks, and within this SAC there are excellent examples of a particularly rare type of saline lake lagoon situated on peat which supports complex communities of diverse flora and fauna with at least five being lagoonal specialists (NPWS, 2014). Coastal lagoons are concentrated mainly to the east of the SAC towards the proposed development site; however, all are upstream/upgradient of the proposed development site with the nearest being Loch Cara Fionnla, located approximately 4 km to the north. Bearing this in mind, and because this habitat type is confined to coastline above the high tide mark and, therefore, is outside the zone of influence of any potential impacts that may arise during either the construction phase or operational phase of the proposed development, 'coastal lagoons' is not considered to be a plausible ecological receptor for potential impacts of the proposed development and will not be considered further in the NIS.
Large shallow inlets and bays [1160] Reefs [1170]	No	The habitat 'large shallow inlets and bays' is a large physiographic feature that may wholly or partly incorporate other Annex I habitats including reefs, sandbanks, and mudflats and sandflats within its area. In contrast to estuaries, large shallow inlets and bays have limited freshwater influence. The SAC supports approximately 18,760 ha of this habitat with almost all the SAC's marine elements mapped as large shallow inlets and bays (NPWS, 2014). There are approximately 9,084 ha of reefs mapped throughout the marine area of the SAC supporting at least five different benthic community complexes, namely intertidal reef, subtidal sponge and ascidian, deep water faunal crust and sponge, exposed to moderately exposed subtidal reef, and *Laminaria*-dominated (NPWS, 2014b). The nearest mapped examples of both these habitat types are more than 6 rkm from the proposed development site. Given this, and the highly localised nature of the proposed development works and because of the high degree of mixing and dilution that occurs naturally within the enormity of the waterbody intervening, these habitats are outside the zone of influence of any potential impacts that may arise during either the construction phase or operational phase of the proposed development. Therefore, the proposed development will not affect the conservation objectives of either these habitats and they will not be considered further in the NIS.
Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]	No	'Atlantic salt meadows' (ASM) generally occupy the widest part of a saltmarsh gradient and develop when halophytic vegetation colonises soft intertidal sediments of mud and sand in areas protected from strong wave action. The

Qualifying features of conservation interest[48]	Potential for Impact	Rationale
Mediterranean salt meadows (*Juncetalia maritimi*) [1410]		vegetation forms the middle and upper reaches of saltmarshes where tidal inundation still occurs but with decreasing frequency and duration. 'Mediterranean salt meadows' (MSM) occupy the upper zone of a saltmarsh and usually occur adjacent to a site's boundary with terrestrial habitats. MSM are widespread on the Irish coastline; however, not as extensive as ASM. Within the SAC, most stretches of coastline have a thin fringe of saltmarsh particularly in the many sheltered bays where ASM appears to be the more common type. However, between Cinn Mhara and Cashla there are especially well-developed and extensive areas of MSM (NPWS, 2024a) and, although located approximately 4.5 km from the proposed development site, all mapped areas of these habitat types are located upstream/up-gradient of the proposed development site. Consequently, both habitats are outside the zone of influence of any potential impacts that may arise during either the construction phase or operational phase of the proposed development. Therefore, the proposed development will not affect the conservation objectives of either these habitats, they will not be considered further in the NIS.
Machairs (* in Ireland) [21A0] Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea* [3130] Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*) [6510]	No	Machairs are highly specialised and complex dune habitats with herbaceous vegetation and highly calcareous systems. Within the SAC, mapped areas of machairs are limited to western regions with the nearest to the proposed development site located nearly 15 km to the northwest. The remaining two habitat types [3130] and [6510] are a freshwater habitat and a grassland habitat, respectively, and are entirely ecologically and hydrologically unconnected to the proposed development site. Consequently, these three Annex I habitats for which the SAC is designated are outside the zone of influence of any potential impacts that may arise during either the construction phase or operational phase of the proposed development. Therefore, these three habitat types – [21A0], [3130], and [6510] - are not considered plausible ecological receptors for any potential impacts of the proposed development and will not be considered further in the NIS.
Harbour Porpoise (*Phocoena phocoena*) [1351]	**Yes**	Harbour porpoise is the smallest cetacean in Irish waters and feeds primarily on small fish and squid. Robust, long-term data on this species is generally unavailable but recent sightings are indicative of a widespread distribution within Irish coastal waters and in waters of the continental shelf and continental slope. The most recent assessment of overall conservation status for harbour porpoise has been determined as 'Favourable' (NPWS, 2019). Coastal shelf waters around the SAC and deeper offshore waters out into the North Atlantic Ocean support groups of this species. Although no live records of harbour porpoise have been reported within the vicinity of the proposed development site or Cashla Bay (see **Section 3.3.7.2**, above), it is a highly mobile species that may use the waters of the SAC as foraging grounds. Furthermore, underwater construction activities such as dredging may lead to indirect disturbance/displacement effects by producing underwater sound that can potentially impact the species' ability to communicate and navigate properly. Thus, there is potential for effects on harbour porpoise via direct/indirect disturbance/displacement impacts and potential impairment of water quality

Qualifying features of conservation interest[48]	Potential for Impact	Rationale
		during either the construction phase or, to a lesser extent, the operational phase of the proposed development and further assessment is required.
Otter (*Lutra lutra*) [1355]	**Yes**	Otter has a widespread distribution throughout Ireland and can be found in a variety of aquatic habitats such as lakes, rivers, streams, estuaries, and along the coast. They are mainly solitary animals and highly territorial. No evidence of otter was recorded during the ecological field surveys undertaken in 2025 and the nearest NBDC record for otter is at least one kilometre from the proposed development site (see **Section 3.3.5**, above). However, given that otter is a highly mobile, semi-aquatic species with a diet comprised mainly of fish, it is considered that there is potential for significant impacts on the SAC's otter population via direct/indirect disturbance/displacement impacts and potential water quality impairment and prey resource reduction during either the construction phase or, to a lesser extent, the operational phase of the proposed development and further assessment is required.
Harbour Seal (*Phoca vitulina*) [1365]	**Yes**	Harbour seal breeds widely around the Irish coast inhabiting both inshore and offshore waters and predating on a wide variety of fish and other marine species. The species requires both intertidal and terrestrial sites, known as haul-out sites, throughout its life cycle to complete important functions such as breeding, moulting, resting, and socialising. There are known haul-out sites within the inner reaches of Cashla Bay that are utilised year-round by harbour seals while the bay's waters are likely used by the species as hunting grounds. Furthermore, underwater construction activities such as dredging may potentially lead to indirect disturbance/displacement effects by producing underwater sound that may impact the species' ability to communicate and navigate properly. Consequently, it is considered that there is potential for effects on harbour seal via direct/indirect disturbance/displacement impacts and potential impairment of water quality and prey resource reduction during either the construction phase or, to a lesser extent, the operational phase of the proposed development and further assessment is required.
Slender Naiad (*Najas flexilis*) [1833]	No	Slender naiad is an annual, permanently submerged macrophyte of clear-water, lowland lakes. It is fragile and short, typically found on flat or gently-sloping lakebed with soft substrates such as fine sand, silt or mud. It can occur at all depths between 0.5m and 10m but is frequently associated with lower depths of macrophyte growth, as scattered plants gradually give way to bare mud or silt (Preston & Croft, 2001; Roden, 2002). Mapped records within the SAC are mainly at the western side of the site with the nearest record to the proposed development at Lough Natawnymore more than 4 km to the west. This species occupies freshwater habitats only so its population within the SAC is outside the ZOI of any potential impacts that may arise during the construction or operational phases of the proposed development. Therefore, the species is not considered a plausible ecological receptor for any potential impacts of the proposed development and will not be considered further.

It has been determined in **Table 4-2**, above, that the construction phase and/or the operational phase of the proposed development as described in **Section 3.2.4** and **Appendix 2** has the potential to significantly affect the conservation objectives of the following QIs of the Kilkieran Bay and Islands SAC and, therefore, these QIs will be further assessed:

- Harbour Porpoise (*Phocoena Phocoena*) [1351]
- Otter (*Lutra lutra*) [1355]
- Harbour Seal (*Phoca vitulina*) [1365]

4.2.3 Connemara Bog Complex SPA (004181)

4.2.3.1 Brief Description of SPA

The following text summarises the Natura 2000 Standard Data Form for the site[49].

Connemara Bog Complex SPA is a large site encompassing nearly 20,000 hectares and consisting of three separate areas within the south Connemara lowlands of County Galway – an area north of Roundstone, a second south of Recess, and a third north-west of Spiddal (refer to **Figure 4-3**, below). The SPA is made up of a wide range of diverse habitats including large swathes of western blanket bog - approximately 70% of total habitat type within SPA is bog and associated habitats such as fens and marshes - in addition to heath, woodland, lakes, rivers and streams.

The SPA is designated for nationally important breeding populations of four bird species, namely cormorant, merlin, golden plover, and common gull. Of particular note are the SPA's populations of golden plover and merlin which represent 18% and 1.8% - 3.6%, respectively, of the all-Ireland totals for each species. Small flocks of Annex I-listed wintering Greenland white-fronted goose (*Anser albifrons flavirostris*) also visit the SPA at various locations such as Roundstone Bog and the bogs between Recess and Maam Cross.

[49] Natura 2000 SDF - IE0004181 Accessed: 6th June 2025

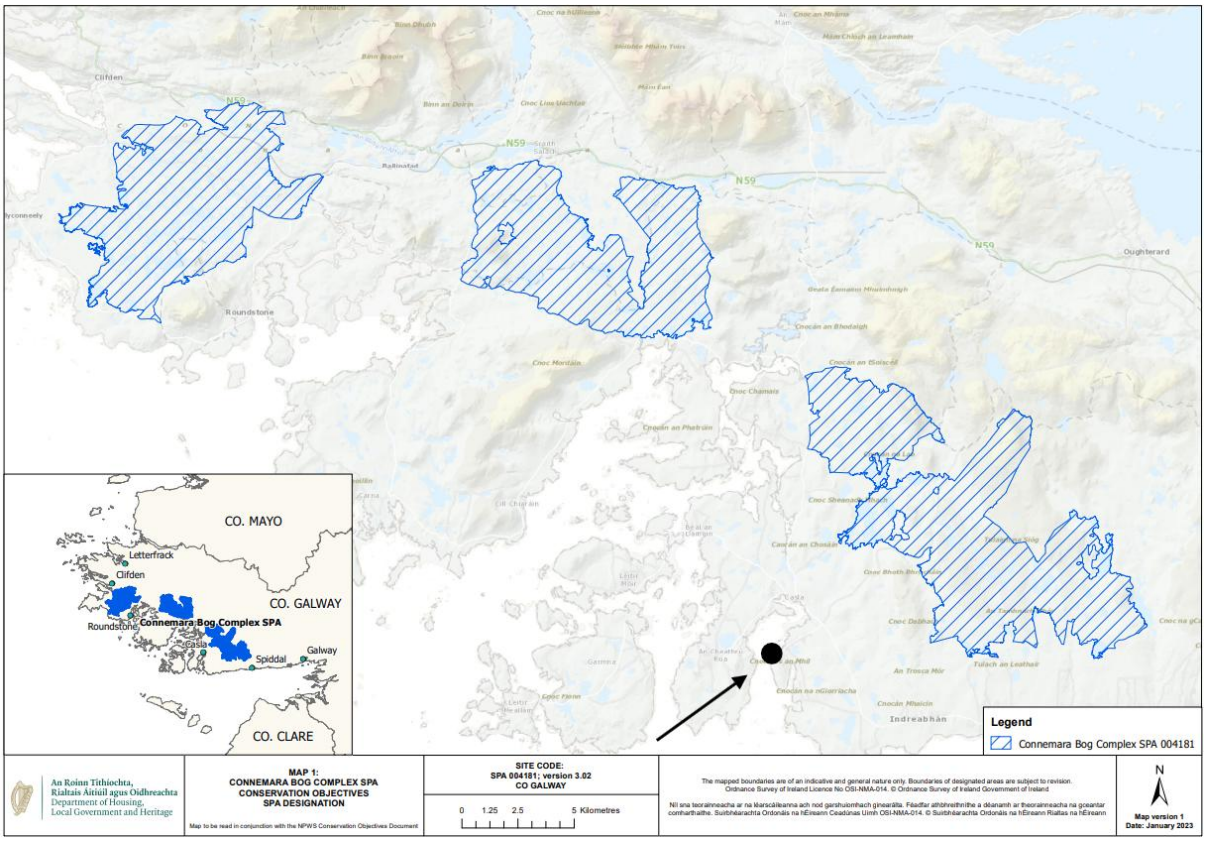

Figure 4-3: Extent of Connemara Bog Complex SPA (004181) and approximate location of development site (black circle and arrow) [adapted from NPWS, 2023].

4.2.3.2 Selection of Qualifying Features for Impact Assessment

Table 4-3, below, lists the qualifying features of the Connemara Bog Complex SPA and evaluates through a scientific examination of evidence and data whether these features should or should not be selected for impact assessment in the NIS.

Table 4-3. Selection of qualifying features of Connemara Bog Complex SPA (004181) for impact assessment.

Qualifying features of conservation interest[50]	Potential for Impact	Rationale
Cormorant (*Phalacrocorax carbo*) [A017]	Yes	The SPA is designated for breeding cormorant which breeds colonially nesting on the ground or in trees on the many small lake islands within the SPA. Cormorant are a piscivorous diving species with a diet that consists almost entirely of benthic and/or pelagic fish usually obtained over shallow waters. At the proposed development site, there are no suitable areas for establishment of a cormorant breeding colony. However, during the site survey in 2025, cormorant was seen several times at various locations within the bay near the proposed development site (see Section 3.3.4, above). Breeding cormorant can forage up to 35 km from the colony, and since the intervening distance between the SPA and proposed development site is less than 6.5 km and given that there are potentially suitable foraging grounds at Cashla Bay, it is considered that there is potential for effects on breeding cormorant via indirect disturbance/displacement impacts due to potential

[50] Asterisk (*) denotes a priority habitat considered to be in danger of disappearance.

Qualifying features of conservation interest[50]	Potential for Impact	Rationale
		impairment of water quality and prey resource during either the construction phase or operational phase of the proposed development - further assessment is required.
Merlin (*Falco columbarius*) [A098]	No	Merlin had traditionally been a ground-nesting species utilising heather in moorland and peatland; however, they are now largely tree-nesting and often use old nests of other species in forestry plantations adjacent to moorland. In upland areas, they feed on open-habitat prey species like small passerines such as meadow pipit (*Anthus pratensis*) and skylark (*Alauda arvensis*), typically catching them in mid-air during high-speed attacks. Woodland birds and moths are also part of their diets. Merlin territories are traditional and are used repeatedly from year to year by successive generations of birds, though the exact location of the nest does vary (Hardey *et al*. 2013). Given that there is no suitable merlin nesting/foraging habitat at the proposed development site and because the proposed development site is more than 6 km from the SPA and is, therefore, beyond the optimal foraging range of 5 km for breeding merlin (SNH, 2016), the SPA's merlin population is outside the zone of influence of any potential impacts that may arise during either the construction phase or operational phase of the proposed development. Therefore, merlin is not considered to be a plausible ecological receptor for any potential impacts of the proposed development and will not be considered further in the NIS.
Golden Plover (*Pluvialis apricaria*) [A140]	No	In Ireland, the distribution of breeding golden plover is limited to the open, upland habitats of the northwest such as blanket bogs, heather moorlands, acidic grasslands, and peatlands where the species nests on the ground within short vegetation or dense, tufted clumps of grass. The golden plover diet consists almost exclusively of soil- and surface-living invertebrates such as beetles and earthworms foraged from blanket bogs and peatland habitats, although during the breeding season, the species can forage at grasslands and lake shores. Given that there is no suitable golden plover nesting habitat at the proposed development site and because the proposed development site is at least 6 km from the SPA and is, therefore, beyond the optimal foraging range of 4 km for breeding golden plover (NPWS, 2023), the SPA's golden plover population is outside the zone of influence of any potential impacts that may arise during either the construction phase or operational phase of the proposed development. Therefore, golden plover is not considered to be a plausible ecological receptor for any potential impacts of the proposed development and will not be considered further in the NIS.
Common Gull (*Larus canus*) [A182]	**Yes**	Common gull breed throughout the SPA on islands within the large lakes and is a ground-nesting species, primarily breeding colonially but they can also breed in isolated pairs. The species is omnivorous with a broad diet that includes terrestrial and aquatic invertebrates, insects, bird's eggs, fish, offal and rubbish. At the proposed development site, there are no suitable areas of common gull breeding/nesting habitat. However, breeding common gull are opportunistic feeders and can forage up to 50 km from the breeding colony (NPWS, 2023) which places the potentially suitable foraging grounds at Cashla Bay within their foraging range since there is an intervening distance of less than 6.5 km between the SPA and proposed development site. Therefore, it is considered that there is potential for effects on breeding common gull via indirect disturbance/displacement impacts due to potential impairment of water quality and prey resource availability during either the construction phase or operational phase of the proposed development and further assessment is required.

It has been determined in **Table 4-3**, above, that the construction phase and/or the operational phase of the proposed development as described in **Section 3.2.4** and **Appendix 2** has the potential to significantly affect the conservation objectives of the following QIs of the Connemara Bog Complex SPA and, therefore, these QIs will be further assessed:

- Cormorant (*Phalacrocorax carbo*) [A017]
- Common Gull (*Larus canus*) [A182]

4.2.4 Inishmore Island SAC (000213)

4.2.4.1 Brief Description of SAC

The following text summarises the Natura 2000 Standard Data Form for the site[51].

Inishmore Island SAC is located at the mouth of Galway Bay and surrounds the largest of the three Aran Islands, Inishmore, situated approximately eight kilometres off the south County Galway coast - refer to **Figure 4-4**, below. Measuring nearly 14,500 hectares of which 86% consists of marine areas, the SAC is designated for sixteen habitats listed on Annex I of the EU Habitats Directive and two species listed on Annex II of the same Directive – refer to **Table 3-3**, above.

The site is extremely exposed to powerful wave action and contains excellent examples of a broad and diverse range of habitats including marine, coastal, limestone, heath and grassland. Reef communities around the island have excellent representativity and are species rich with some of Ireland's best examples of such habitats. Sea urchins, mixed kelp forests, diverse red algal species, soft corals, sea fans and anemones make up infralittoral reef communities while in deeper waters, there are communities of rare sponges. Submerged sea caves on the southeast coast host a diverse range of fauna that includes species of soft corals, sponges, nudibranchs, and echinoderms. The SAC also supports high quality sea cliffs, several sand dune habitats, coastal grasslands, and a variety of karstic lagoons that contain lagoonal specialist species of flora.

The SAC is also designated for two Annex II species - narrow-mouthed whorl snail and harbour porpoise. The narrow-mouthed whorl snail occurs at three different locations within the SAC which are the only known island populations of the species in Ireland (NPWS, 2024b). Waters around the SAC support groups of harbour porpoise and the species has been reported across all seasons within the SAC and surrounding waters indicating that it has a relatively widespread distribution.

[51] https://natura2000.eea.europa.eu/Natura2000/sdf/#/sdf?site=IE0000213 Accessed: 6th June 2025

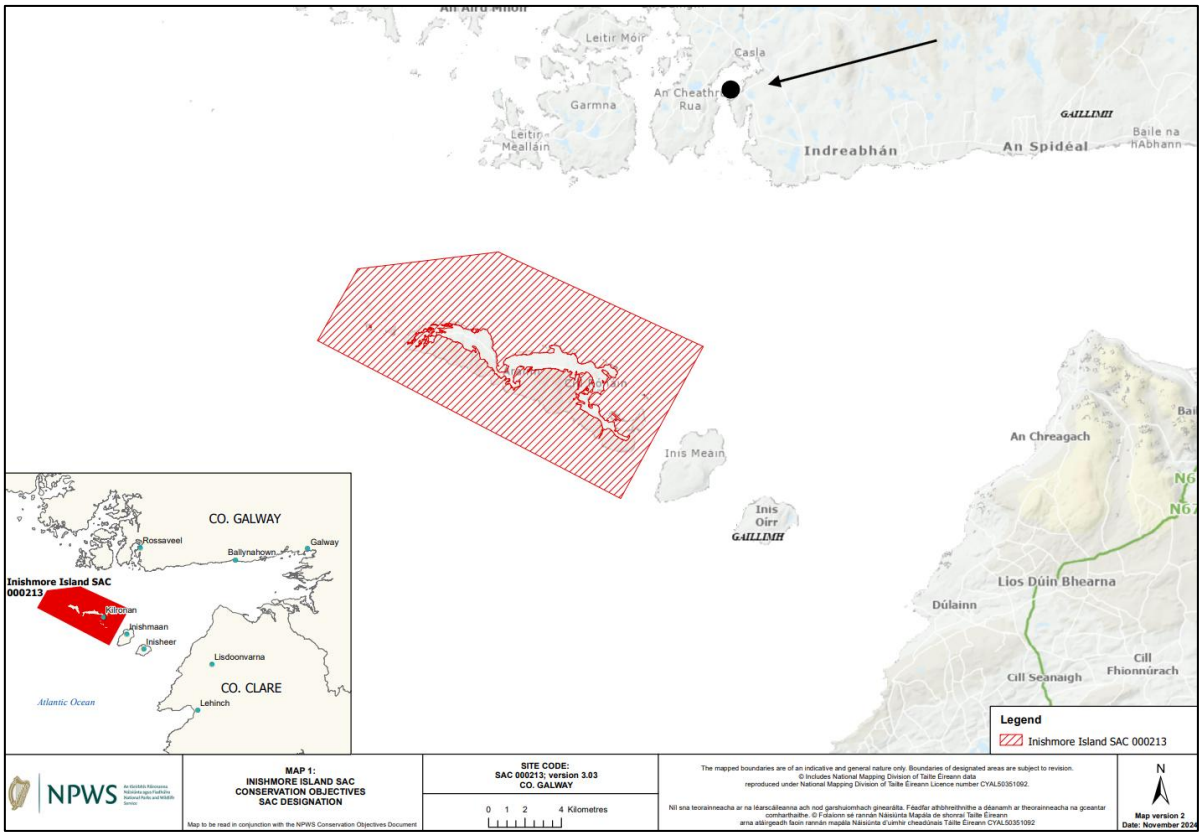

Figure 4-4: Extent of Inishmore Island SAC (000213) and approximate location of development site (black circle and arrow) [adapted from NPWS, 2024b].

4.2.4.2 Selection of Qualifying Features for Impact Assessment

Table 4-4, below, lists the qualifying features of the Inishmore Island SAC and evaluates through a scientific examination of evidence and data whether these features should or should not be selected for impact assessment in the NIS.

Table 4-4. Selection of qualifying features of the Inishmore Island SAC (000213) for impact assessment.

Qualifying features of conservation interest[52]	Potential for Impact	Rationale
Coastal lagoons* [1150]	No	There are four coastal lagoons within the SAC, namely Loch Dearg, Loch Phort Chorrúch, Loch an Chara, and Loch an tSáile, and all four are examples of good quality karstic lagoons in a relatively natural state (NPWS, 2024b) containing typically lagoonal flora, some being lagoonal specialist species. Given the intervening distance of more than 16 km between the proposed development site and the nearest area of this habitat at Loch Phort Chorrúch, and because this habitat type is confined to coastline above the high tide mark, this habitat is outside the zone of influence of any potential impacts that may arise during either the construction phase or operational phase of the proposed development. Therefore, 'coastal lagoons' is not considered to be a plausible ecological receptor

[52] Asterisk (*) denotes a priority habitat considered to be in danger of disappearance.

Qualifying features of conservation interest[52]	Potential for Impact	Rationale
		for any potential impacts of the proposed development and will not be considered further in the NIS.
Reefs [1170]	No	There are large areas of good quality submerged reefs around Inishmore. The most extensive is the *Laminaria*-dominated community complex extending northwards from the island's northern coast, surrounded by thin belts of subtidal reef community complexes. Small slivers of intertidal reef community complexes separate the *Laminaria*-dominated reefs from the shoreline (NPWS, 2024b). The nearest mapped examples of this habitat are nearly 13 rkm from the proposed development site. Given this and the highly localised nature of the proposed works and because of the high degree of mixing and dilution that occurs naturally within the enormity of the waterbody intervening, this habitat is outside the ZOI of any potential impacts that may arise during either the construction or operational phases of the proposed development. Therefore, 'reefs' is not considered to be a plausible ecological receptor for any potential impacts of the proposed development and will not be considered further.
Perennial vegetation of stony banks [1220] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	No	Perennial vegetation of stony banks is comprised of vegetation, dominated by perennial species, occurring at or above the mean high water spring tide mark on shingle beaches. The first colonisers of the shingle are annuals or short-lived perennials with an ability to tolerant periodic displacement or periodic wave overtopping (NPWS, 2015b). The vegetated shingle habitat on Inishmore Island is associated with lowland karst, intertidal shingle, lagoon and sand dunes, and although the current area and distribution of this habitat on the island is unknown, shingle deposits have historically been recorded along the island's northern and northeastern coastlines (NPWS, 2024b). The steep vegetated sea cliffs of the SAC measure up to 80m high and occur exclusively along the southern coast of Inishmore where they support typical cliff flora and maritime annual vegetation which are highly exposed to the force of the North Atlantic Ocean. Consequently, vegetation of the cliffs and cliff top is heavily influenced by various marine elements such as salt spray and wind exposure. Given that the nearest shoreline/terrestrial area of the island is nearly 13 rkm from the proposed development site and that the vegetated sea cliffs are located on the island's southern shoreline, and considering the highly localised nature of the proposed development works and the high degree of mixing and dilution that occurs naturally within the enormity of the waterbody intervening, both these habitats are outside the ZOI of any potential impacts that may arise during the construction or operational phases of the proposed development. Therefore, neither habitat is a plausible ecological receptor for any potential impacts of the proposed development and will not be considered further.

Qualifying features of conservation interest[52]	Potential for Impact	Rationale
Embryonic shifting dunes [2110] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Dunes with *Salix repens* ssp. *argentea* (*Salicion arenariae*) [2170] Humid dune slacks [2190] Machairs (* in Ireland) [21A0] European dry heaths [4030] Alpine and Boreal heaths [4060] Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6210] Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*) [6510] Limestone pavements* [8240]	No	These are sand dune habitats [2110] to [21A0], heathland habitats [4030] and [4060], grassland habitats [6210] and [4060], and limestone pavements that occur mainly in upland areas at the southern side of the island. Therefore, these habitats are outside the zone of influence of any potential impacts that may arise during either the construction phase or operational phase of the proposed development. Therefore, these eleven habitat types are not considered to be plausible ecological receptors for any potential impacts of the proposed development and will not be considered further in the NIS.
Submerged or partially submerged sea caves [8330]	No	Large, submerged sea caves - some extending back for 20 to 30 metres – are located on the southeastern coast of Inishmore and have an extremely high level of species-richness including such diverse fauna as soft corals, anemones, bryozoans, nudibranchs, echinoderms, and sponges (NPWS, 2024b). Given that the two mapped sea caves within the SAC - Poll na bPéist, and Glassan Cave – are both on the south side of the island at least 20 rkm from the proposed development site, and considering the highly localised nature of the proposed development works and large degree of mixing and dilution that occurs naturally within the enormity of the waterbody intervening, this habitat is outside the zone of influence of any potential impacts that may arise during either the construction phase or operational phase of the proposed development. Therefore, 'submerged or partially submerged sea caves' is not considered to be a plausible ecological receptor for any potential impacts of the proposed development and will not be considered further in the NIS.
Narrow-mouthed Whorl Snail (*Vertigo angustior*) [1014]	No	The narrow-mouthed whorl snail favours damp habitats such as dunes, coastal grassland, fen, marsh, and floodplains where they live primarily in moss, leaves and decaying vegetation. Distribution of the species in Ireland is generally limited to western counties where it is mainly found

Qualifying features of conservation interest[52]	Potential for Impact	Rationale
		on the Atlantic facing dune systems from Kerry to Donegal. The most recent assessment of overall conservation status for narrow-mouthed whorl snail has been determined as 'Inadequate' (NPWS, 2019). Given that this species occupies terrestrial habitats only and that the nearest mapped SAC record to the proposed development site is more than 18 km away, the population of this species within the SAC is outside the ZOI of any potential impacts that may arise during either the construction phase or operational phase of the proposed development. Therefore, narrow-mouthed whorl snail is not considered to be a plausible ecological receptor for any potential impacts of the proposed development and will not be considered further in the NIS.
Harbour Porpoise (*Phocoena phocoena*) [1351]	**Yes**	Harbour porpoise is the smallest cetacean in Irish waters and feeds primarily on small fish and squid. Robust, long-term data on this species is generally unavailable but recent sightings are indicative of a widespread distribution within Irish coastal waters and in waters of the continental shelf and continental slope. Coastal shelf waters around the SAC and deeper offshore waters out into the North Atlantic Ocean support groups of this species. Although no live records of harbour porpoise have been reported near the proposed development site or within Cashla Bay (see **Section 3.3.7.2**, above), it is a highly mobile species that may use the waters of Cashla Bay as foraging grounds. Furthermore, underwater construction activities like dredging may lead to indirect disturbance/displacement effects by producing underwater sound that can potentially impact the species' ability to communicate and navigate properly. Thus, it is considered that there is potential for significant effects on harbour porpoise via direct/indirect disturbance/displacement impacts and potential impairment of water quality during either the construction phase or, to a lesser extent, the operational phase of the proposed development and further assessment is required.

It has been determined in **Table 4-4**, above, that the construction phase and/or the operational phase of the proposed development as described in **Section 3.2.4** and **Appendix 2** have the potential to significantly affect the conservation objectives of the following QI of Inishmore Island SAC and, therefore, this QI will be further assessed:

- Harbour Porpoise (*Phocoena Phocoena*) [1351]

4.3 Assessment of Potentially Significant Effects

There follows an evaluation of potentially significant effects which may arise because of the proposed development on the qualifying features that have been selected for impact assessment in **Sections 4.2.1.2**, **4.2.2.2**, **4.2.3.2** and **4.2.4.2** together with the potential effects identified in **Section 3.6**, above. Following this, a determination is made as to whether the proposal is likely to have adverse effects on the integrity of the European sites selected for assessment.

The likelihood of adverse effects to a European site from the proposed development has been determined based on the following indicators:

- Water quality;
- Habitat loss or alteration;
- Disturbance and/or displacement of species; and
- Habitat or species fragmentation.

The likelihood of significant cumulative/in-combination effects is assessed below in Section 4.8.

4.3.1 Water Quality

As detailed above in Section 3.3.2 and illustrated in Figure 3-4, there are no watercourses traversing the footprint of the proposed development site or within close proximity to it nor is there any spatial overlap of the proposed development site and any European site, thereby ensuring no direct adverse effects to the water quality of any European site during either the construction phase or operational phase of the proposed development. However, the proposed development site itself is located within the waters of Cashla Bay and on the bay's shoreline which potentially creates hydrological links between the proposed development site and the designated aquatic or semi-aquatic habitats/species of the European sites within the zone of impact.

As set out in Sections 4.2.1.2, 4.2.2.2, 4.2.3.2 and 4.2.4.2, the ecological receptors of the hydrological pathways linking the proposed development site to each of the four European sites are limited to certain aquatic (harbour seal, salmon, harbour porpoise) and semi-aquatic (otter, cormorant, common gull) species. There are no credible or tangible source-pathway-receptor links (direct or indirect) connecting the proposed development to the QI habitats of the four relevant European sites, namely Connemara Bog Complex (002034), Kilkieran Bay and Islands SAC (002111), Connemara Bog Complex SPA (004181), and Inishmore Island SAC (000213).

4.3.1.1 Construction Phase

Construction of the proposed deep water quay will occur adjacent to and within the waters of Cashla Bay (refer to Section 3.2 and Appendix 2). While there are no direct hydrological connections between the proposed development site and any of the four European sites selected for further assessment (as listed in Section 4.1, above), there is potential that the waters of Cashla Bay and Ros an Mhíl Harbour are used by some or all of the aquatic or semi-aquatic QI species for which the European sites are designated and, therefore, any reduction in water quality at the proposed development site has the potential to adversely affect the conservation objectives for those QIs.

During a development's construction phase, works in general can pose a risk to the aquatic environment via several different mechanisms in the absence of any pollution prevention controls.

4.3.1.1.1 Sediment Laden Run-off

Excavation works, ground movement and disturbance, storage and stockpiling of materials can result in sediment erosion and run-off. Where sediment laden run-off makes its way to drainage features or receiving waterbodies, it can result in siltation within the aquatic environment. Disturbance of soils can also result in leaching of nutrients from soil which creates a risk of eutrophication or pollution of aquatic habitats.

Potential sedimentation, nutrient-enrichment, or other aquatic pollution, which could arise in the absence of effective water quality protection measures, could impact on the marine environment of Cashla Bay and the species it supports, therefore, in the absence of appropriate mitigation measures (as set out in Section 5.3.3, below), there is potential for adverse water quality impacts to significantly affect some or all of the QI species for which the European sites listed in Section 4.1, above, are designated. Consequently, mitigation measures with regards groundworks and storage of materials are recommended and are also included in Section 5.3.3, below.

4.3.1.1.2 Fuel, Oils and Other Such Substances

Use of plant and machinery poses a risk of accidental ingress of fuel, oils, lubricants etc, to the aquatic environment, as does on-site storage of these and other such substances considered harmful to aquatic life. Use of concrete and other cementitious materials, generation of washout and use of chemicals also poses a risk to water quality. Such materials can enter the aquatic environment via direct discharges to waterbodies/drainage features, overland flow and/or leaching to groundwater in the event of a spillage/leakage. Use of temporary on-site welfare facilities will result in the generation of effluent/wastewater which also poses a risk to water quality in the event of improper storage and/or disposal.

Water contamination which could potentially arise in the absence of effective water quality protection measures could impact on the marine environment of Cashla Bay and the species it supports, therefore, in the absence of appropriate mitigation measures, there is potential for adverse water quality impacts to significantly affect some or all of the QI species for which the European sites listed in Section 4.1, above, are designated. Consequently, mitigation measures with regards the use of fuel, oil, and other such substances, and the storage and disposal of wastewater generated during construction are recommended and are included in Section 5.3.3, below.

4.3.1.1.3 Dredging and Suspended Sediment

Dredging of the seabed to the required depths for the turning circle and approach channel will result in an increase in suspended sediment within the water column in proximity to the works. This has the potential to ecologically alter the surrounding habitats, reduce visibility within the water and possibly impact on species utilising the surrounding waters. However, it is noted that the volume of material to be dredged is minimal – approximately 3,000 m^3 – and that any fugitive sediment which is to settle in proximity to the works area will readily assimilate into the existing sediment pool without adversely affecting its physical composition or ecological function.

While there will be increased turbidity arising from the dredging works, this will be temporary and localised in nature and it is not envisaged that any volume of sediment, capable of causing significant adverse water quality impacts within the adjacent marine waters will be generated or mobilised as a result of the proposed dredging. However, based on the precautionary principle, mitigation measures with regards dredging activities are recommended and are included in Section 5.3.3, below.

4.3.1.1.4 Concrete

Liquid concrete will be used directly within the marine waters of Cashla Bay for the construction of the deep water quay and its foundations which creates the potential for concrete residues/wastes to accidently enter the marine environment. However, placing of the liquid concrete will be carried out by underwater divers using a tremie pipe to precisely direct concrete flow into the correct areas under highly managed circumstances. There will be constant communication via radios between the divers and the land-based concrete pump operator to ensure that, if necessary, the flow of concrete can be stopped immediately. Furthermore, tremie pipes are made to a specific design to ensure they are highly watertight when delivering the wet concrete. Nevertheless, wet concrete is silty and very alkaline (high pH) and can have a serious effect on aquatic ecosystems if ingress occurs with the potential to significantly affect some or all of the QI species for which the European sites listed in Section 4.1, above, are designated. Therefore, mitigation measures with regards the use of concrete on-site during construction are recommended and are included in Section 5.3.3, below.

4.3.1.2 Operational Phase

Potential water quality impacts are less likely to occur during the operational phase of the proposed development and are generally limited to impacts associated with the utilisation of the new deep water quay for day-to-day trawler vessel operations. Day-to-day vessel operations have the potential to result in water quality impacts

because of fuel or oil spill, wash down of boats, discharge of wastewater, fish waste or other sources of potential pollution to which fishing harbours may be subject. Once completed, the impermeable surfaces of the deep water quay will increase the likelihood of stormwater run-off into Cashla Bay and, thereby, creating increased potential for ingress of sediment, hydrocarbon and/or other pollutants into the aquatic environment surrounding the proposed development site. Therefore, mitigation measures with regards the operational phase of the proposed development are recommended and are included in Section 5.4, below.

Additionally, during the operational phase of the proposed development, there may be some requirement for maintenance dredging works to ensure the deep water quay and berthing pocket remain at levels of -7 metres CD and -10 metres CD, respectively, so that both remain navigable by larger vessels. Any future maintenance dredging works, if required, will be carried out under permit.

4.3.1.3 Water Quality - Conclusion

Water quality is a key environmental factor underpinning the conservation condition of the complex of wetland habitats and aquatic species and birds for which the European sites listed in Section 4.1, above, are designated. There are no watercourses draining the proposed development site but there will be works adjacent to Cashla Bay and within the waters of the bay, thus, providing tenuous hydrological pathways linking the proposed development site with these European sites. Potential sedimentation, nutrient-enrichment, or other aquatic pollution which could arise in the absence of effective water quality protection measures, could impact on marine species within the vicinity of the works and potentially significantly impact the aquatic and/or semi-aquatic QIs of the European sites listed in Section 4.1, above.

Given the pollution risk associated with the construction phase, and to a lesser extent the operational phase, of the works and the identified indirect hydrological pathways, it is considered that that without appropriate mitigation measures, there is potential for a reduction in water quality at the proposed development site that may adversely affect the conservation objectives for some or all of the aquatic and/or semi-aquatic QIs of the Connemara Bog Complex SAC, Kilkieran Bay and Islands SAC, Connemara Bog Complex SPA, and Inishmore Island SAC. A recommended programme of water quality mitigation measures during construction and operation has been set out in Section 5.3.3, below, to ensure the integrity of these European sites remains intact.

4.3.2 Habitat Loss and Alteration

There is no spatial overlap between the subject site and any European site and, therefore, there will be no direct loss/alteration of any qualifying habitats of conservation interest. Furthermore, as detailed above in Sections 4.2.1.2, 4.2.2.2, 4.2.3.2 and 4.2.4.2, the ecological receptors of the hydrological pathways linking the proposed development site to each of the four European sites are limited to certain aquatic and semi-aquatic species, and there are no credible or tangible source-pathway-receptor links (direct or indirect) connecting the proposed development to the QI habitats of the four relevant European sites listed in Section 4.1, above.

It has already been established in Section 4.3.1 that there is some limited potential for significant water quality impairment of Cashla Bay and the waters around the proposed development site, and since some or all of the water-dependent QI species for which the European sites listed in Section 4.1, above, are designated may use the bay and surrounding areas for foraging, commuting, and/or migrating, there is the potential for significant impacts to these species via indirect habitat alteration resulting from water quality impairment in the absence of mitigation. This could potentially adversely affect the integrity of the Connemara Bog Complex SAC, Kilkieran Bay and Islands SAC, Connemara Bog Complex SPA, and Inishmore Island SAC and, therefore, mitigation measures in relation to protection of water quality are recommended and are discussed in Section 5.3.3, below.

4.3.3 Disturbance and/or Displacement of Species

In this section, otter, salmon, harbour porpoise, harbour seal, cormorant and common gull will be assessed for potentially significant disturbance/displacement effects with regards the proposed development. The species will be discussed individually in relation to potential disturbance because of water quality impacts and/or increased levels of anthropogenic activity before harbour porpoise and harbour seal are assessed collectively with regards potential disturbance/displacement effects of dredging works.

4.3.3.1 Otter (*Lutra lutra*) - Connemara Bog Complex SAC, and Kilkieran Bay and Islands SAC

Otters are a widespread species found in a variety of habitats such as lakes, rivers/streams, estuaries, marshland, canals and along the coast. Otter are solitary animals and a highly mobile species with large territory ranges and distributions where they typically occur at very low population densities. The home range of a female otter is around 20 kilometres while a male's is usually about 32 kilometres, although it can be as large as 35 kilometres[53]. Given the proximity of the Connemara Bog Complex SAC and Kilkieran Bay and Islands SAC from the proposed development site – approximately 1.8 kilometres and 2.5 kilometres, respectively – there is potential that the proposed development will cause significant disturbance/displacement effects on the otter populations for which both these SACs are designated.

As detailed above in Section 3.3.5, a 2025 MWP survey of the proposed development site found no evidence of otter and there are no documented NBDC record of the species for within the proposed development site. However, since the species has a diet that is 'dominated by fish' particularly 'wrasse and rockling in coastal waters' (NPWS, 2014), the waters of Cashla Bay may potentially be used by the otter populations of each SAC as foraging grounds or commuting corridors. Since, it has been established in Section 4.3.1, above, that there is some limited potential for significant water quality impairment of Cashla Bay and the waters around the proposed development site, there is also the potential for significant disturbance/displacement impacts to otter via water quality impairment in the absence of mitigation.

Regarding otter and the potential for disturbance or displacement impacts because of noise and/or anthropogenic activity associated with construction of the proposed development, it is noted that the terrestrial habitats present within and around the proposed development site are largely unsuitable for breeding or resting otter (see Section 3.3.3, above), and although there may be some potential for foraging or commuting otter to occur at the site, any disturbance or displacement impacts that arise due to fugitive noise emissions from machinery and/or human activity during either phase of the proposed development will be temporary and restricted to the footprint of the development site and dredging areas.

Furthermore, Ros an Mhíl Harbour is a busy and successful Fishery Centre with frequent boat traffic moving through the bay and has been the primary harbour for ferry passengers to the Aran Islands for many years. There is, therefore, an existing ambient level of anthropogenic noise that foraging/commuting otter could reasonably be expected to have acquired some level of habituation to, and any potential increase in noise/activity levels that may occur during the construction/operation of the proposed development is considered to be negligible in the context of existing general day-to-day human activity levels at this popular and busy harbour and bay. Therefore, while the proposed development is unlikely to result in any direct displacement of otter, there is potential for indirect displacement of the species through a reduction in water quality and suitability of the bay for aquatic fauna and, consequently, reducing the available prey biomass for otter.

It has been determined above in Section 4.3.1 that there is a risk, without a programme of mitigation measures to control any potential emissions from construction and operational activities, point or diffuse sources of pollution could ensue from the proposed development and exert an impact on water quality. There is potential

[53] https://cieem.net/wp-content/uploads/2019/07/natural-information-otters-and-development-2011.pdf Accessed: 1st June 2025

that the otter populations of both the Connemara Bog Complex SAC and Kilkieran Bay and Islands SAC utilise Cashla Bay and surrounding waters as foraging grounds and, therefore, any water quality impairment may result in significant otter disturbance/displacement impacts. Section 5.3.3, below, outlines a programme of mitigation measures designed to avoid, reduce or offset potential adverse water quality impacts and thus, any potential indirect disturbance or displacement of otter that might ensue because of the proposed development.

4.3.3.2 Atlantic Salmon (*Salmo salar*) - Connemara Bog Complex SAC

Native to Ireland, Atlantic salmon is listed under Annex II of the EU Habitats Directive and occurs in many of the rivers within the Connemara Bog Complex SAC. The species' most recent assessment of overall conservation status has been determined as 'Inadequate' (NPWS, 2019) Good examples of spawning and nursery grounds for the species can be found within the Cashla river system (a western acidic spate rivers) that ultimately drains into Cashla Bay (NPWS, 2015).

Adult salmon spawn in rivers in areas of well-oxygenated loose gravel, usually between November and January. The fertilised eggs are deposited and buried within redds on the riverbed where they are protected from predators and river debris. The just-hatched fish are known as alevins before they develop into fry, then parr, and finally smolts. When they are one to three years old, smolts migrate down river to the feeding grounds of the North Atlantic where they spend at least one year feeding on fish such as herring and sand eel before returning to their natal rivers to spawn.[54]

While the proposed development will not significantly affect the water quality of the freshwater waterbodies within the SAC in which the salmon spawn and develop for their first few years, it has been determined in Section 4.3.1, above, that the proposed development has the potential to result in some localised reduction in water quality at the proposed development site and within Cashla Bay. There is, therefore, potential that the proposed development, via potential impairment of water quality, results in significant disturbance or displacement impacts either on adult salmon returning from sea to spawn in their natal streams, or on smolts moving from rivers through the bay to the open ocean.

Section 5.3.3, below, outlines a programme of mitigation measures designed to avoid, reduce or offset potential adverse water quality impacts and thus, any potential indirect disturbance or displacement of Atlantic salmon that might ensue because of the proposed development.

4.3.3.3 Harbour Porpoise (*Phocoena phocoena*) - Kilkieran Bay and Islands SAC, and Inishmore Island SAC

Kilkieran Bay and Islands SAC and Inishmore Island SAC are both designated for the protection of harbour porpoise, the smallest cetacean[55] species of Irish waters and Ireland's only species of porpoise. While the species can prove difficult to see, particularly offshore, they are still the most frequently recorded cetacean around Irish coasts (Berrow *et al*., 2010). Throughout its range, harbour porpoise is largely associated with continental shelf waters. In Ireland, as is the case elsewhere within its European range, harbour porpoise often visits relatively shallow bays, estuaries, and tidal channels and may occur in waters that are less than twenty metres deep (Ó Cadhla *et al*., 2003). Foraging areas for the species are often associated with strong tidal currents, especially off headlands or between islands.

Harbour porpoise is a widely distributed species throughout the year around the Irish coast with the highest concentrations of sightings occurring off southern and southwestern coasts in particular. As set out in Section 3.3.7.2, above, apart from a stranded individual in 2020, there are no documented records on the NBDC database

[54] Salmon Life Cycle | Marine Institute Accessed: 7th July 2025
[55] Marine mammal of the order Cetacea that includes whales, dolphins and porpoises.

for harbour porpoise within hectad L92. Sightings of the species off the south Galway coast have been most frequent within Galway Bay and further west of Cashla Bay at least seven kilometres from the proposed development site, according to the NBDC database[56].

Kilkieran Bay and Islands SAC and Inishmore Island SAC are located approximately 6.3 river kilometres and 12.8 river kilometres, respectively, from the proposed development site, but given that harbour porpoise is a highly mobile species and may use Cashla Bay as foraging grounds for 'a wide variety of fish, cephalopod and crustacean species' (NPWS, 2024), there is potential for the species to be indirectly disturbed/displaced due to adverse water quality effects impacting their prey resource. Since, it has been established in **Section 4.3.1**, above, that there is some limited potential for water quality impairment of Cashla Bay and the waters around the proposed development site, there is also the potential for disturbance/displacement impacts to harbour porpoise via water quality impairment in the absence of mitigation. **Section 5.3.3**, below, outlines a programme of mitigation measures designed to avoid, reduce or offset potential adverse water quality impacts and thus, any potential indirect disturbance or displacement of the harbour porpoise populations of Connemara Bog Complex SAC and Kilkieran Bay and Islands SAC that might ensue because of the proposed development.

4.3.3.4 Harbour Seal (*Phoca vitulina*) - Kilkieran Bay and Islands SAC

Harbour seal, also known as common seal, are found throughout Ireland's coastal waters and their most recent assessment of overall conservation status has been determined as 'Favourable' (NPWS, 2019). They have a wide habitat range and are a highly mobile species occurring in estuarine, coastal and marine areas but also utilising terrestrial 'haul-out' sites to breed, moult, and rest - as discussed in **Section 3.3.7.1**, above, harbour seal have used the inner reaches of Cashla Bay as haul-out sites for many years. Harbour seals are successful aquatic predators and feed on a wide variety of fish, crustacean and cephalopod species (NPWS, 2014).

Although Kilkieran Bay and Islands SAC is located approximately 6.3 river kilometres from the proposed development area, the aquatic range for harbour seal is wide and there is potential that the haul-out sites within Cashla Bay and/or the waters of the bay are used by the SAC's harbour seal population and, therefore, may be susceptible to potential indirect disturbance/displacement because of the proposed development.

A reduction in quality of the bay's waters may have the potential to significantly reduce the availability and quality of prey biomass upon which harbour seal rely, thereby, potentially causing indirect disturbance/displacement of the SAC's harbour seal population. Additionally, any impact to the water quality of the bay may adversely affect the quality of the habitat at the seal's favoured haul-out spots further inside the bay or create a 'barrier effect' whereby the species actively avoids an area of impaired water and is prevented from reaching the haul-out sites.

Since, it has been established in **Section 4.3.1**, above, that there is some limited potential for adverse impacts to the water quality of Cashla Bay and the waters around the proposed development site, there is also the potential for disturbance/displacement impacts to harbour seal via water quality impairment in the absence of mitigation. **Section 5.3.3**, below, outlines a programme of mitigation measures designed to avoid, reduce or offset potential adverse water quality impacts and thus, any potential indirect disturbance or displacement of the harbour seal population of Kilkieran Bay and Islands SAC that might ensue because of the proposed development.

4.3.3.5 Potential Disturbance/Displacement Impacts due to Dredging Activity

Many marine mammals, including harbour porpoise and harbour seal, utilise acoustic techniques to communicate and navigate. Therefore, there is potential that the noise associated with the proposed dredging works, while of a low frequency, may have physical (auditory), perceptual and/or behavioural effects on harbour porpoise and harbour seal that result in indirect species disturbance/displacement effects. Dredging – the excavation of sand,

[56] Maps - Biodiversity Maps Accessed: 2nd June 2025

gravel, loose rock and other material from the seabed – is a static seabed-related activity, and while generally less environmentally concerning than other maritime operations such as pile-driving, it may still have the capacity to produce underwater sounds at pressure levels and frequencies that overlap with marine mammal hearing and cause lower level disturbance (DAHG, 2014).

It is anticipated that a relatively small amount of sediment (approximately 3,000 m^3) will be removed from the approach channel using a backhoe dredger (refer to Appendix 2). This type of dredging emits a low frequency omnidirectional sound and has 'a better than average environmental acceptability' in relation to noise emissions (Bray, 2008). Sound pressure levels (SPLs) for dredging are generally reported as ranging from 163 to 186 dB re: 1 µPa[57] between bandwidth frequencies of 20 and 1,000 Hz (Harding & Cousins, 2022; MMO, 2015; WODA, 2013; CEDA, 2011)[58].

However, dredging operations are most likely to have a peak frequency of between 80 and 200 Hz (DAHG, 2014) and SPLs of between 100 and 110 dB re: 1 µPa (O'Brien, 2015), with sounds becoming inaudible approximately 500 metres from the source (Clarke *et al*, 2004). These noise level ranges are at the lower end of the noise exposure spectrum reported to elicit significant behavioural responses from harbour porpoise and harbour seal (Southall *et al*, 2009), although it seems likely that 'limit varies individually and may be context-specific' (Lucke *et al*, 2009).

The proposed dredging activities for the approach channel will be minimal and temporary with the sound exposure levels (SELs) from these operations not expected to significantly exceed the thresholds that would cause injury to either harbour porpoise or harbour seal. Operation of the dredger will cause a small, localised noise increase but, considering the existing levels of noise within the busy waters of Cashla Bay and surrounding areas, disturbance due to the dredging is unlikely to be significant. However, as a precautionary measure and in-line with standard best practice measures, mitigation measures for dredging operations are recommended in Section 5.3.8, below, to minimise any potential for indirect disturbance or displacement of the harbour porpoise and/or harbour seal populations of Kilkieran Bay and Islands SAC and/or Inishmore Island SAC that might ensue because of the proposed development.

4.3.3.6 Breeding Cormorant (*Phalacrocorax carbo*) and Breeding Common Gull (*Larus canus*) – Connemara Bog Complex SPA

Cormorant is a resident species in Ireland that breeds in colonies which, within the SPA, has involved nesting both on the ground and in trees on island loughs. The diet of cormorant consists almost entirely of fish caught by diving over shallow waters of less than 20 metres deep. During the breeding season, cormorant can forage over waters located up to 35 kilometres from the breeding colony (NPWS, 2023).

Common gull is a ground-nesting species that breeds colonially but in isolated pairs, nesting in a variety of locations such as on cliffs and shingle banks at the coast or on islands of larger inland lakes as is the case within the Connemara Bog Complex SPA. The diet of the species is wide-ranging and includes invertebrates and fish taken from terrestrial freshwater and marine habitats, and during the breeding season, common gull can forage in areas located up to 50 kilometres away from the breeding colony (NPWS, 2023).

Since both cormorant and common gull have diets consisting of fish species that include those foraged from marine waters, and since the deep water quay works site is located 6.3 kilometres from the SPA's closest point and, thereby, located well within the foraging range of both breeding species, there is potential for both species to be indirectly disturbed or displaced by any adverse water quality impacts from the proposed development that may affect the quality/availability of each species' prey resource. It has been established in Section 4.3.1, above, that there is some limited potential for adverse impacts to the water quality of Cashla Bay and the waters

[57] dB re: 1 µPa – Decibels with a reference pressure in underwater acoustics of 1 microPascal (µPa) (WODA, 2013).
[58] MMO – Marine Management Organisation; WODA – World Organisation of Dredging Associations; CEDA - Central Dredging Association

around the proposed development site, therefore, there is also the potential for disturbance/displacement impacts to the breeding cormorant and/or common gull populations of Connemara Bog Complex SPA via water quality impairment in the absence of mitigation.

Section 5.3.3, below, outlines a programme of mitigation measures designed to avoid, reduce or offset potential adverse water quality impacts and thus, any potential indirect disturbance or displacement of the breeding cormorant and/or common gull populations of Connemara Bog Complex SPA that might ensue because of the proposed development. Mitigation measures with regards pre-construction ornithological surveys and the timing of the construction phase of the proposed development are outlined in Section 5.3.10, below.

4.3.4 Habitat or Species Fragmentation

Habitat fragmentation has been defined as 'reduction and isolation of patches of natural environment' (Franklin *et al*., 2002; Morrison *et al*., 2012) usually due to an external disturbance that alters the habitat and 'create[s] isolated or tenuously connected patches of the original habitat' (Wiens, 1989). This results in spatial separation of habitat units which had previously been in a state of greater continuity. Negative effects of habitat fragmentation on species or populations can include increased isolation of populations and/or species which can detrimentally impact on the resilience or robustness of the populations, reducing overall species diversity and altering species abundance.

The proposed development will not result in any direct habitat loss from any of the relevant European sites - Connemara Bog Complex SAC, Kilkieran Bay and Islands SAC, Connemara Bog Complex SPA, and Inishmore Island SAC - and, therefore, no significant habitat or species fragmentation impacts are envisaged. However, a programme of mitigation measures pertaining to water quality protection is recommended below in Section 5.3.3.

4.4 Assessment of Effects on the Conservation Objectives of Connemara Bog Complex SAC [002034]

An evaluation was undertaken to determine which of the Qualifying Interests (QIs) of the Connemara Bog Complex SAC (see Section 4.2.1.2, above) potentially lie within the zone of influence of the proposed development and required further assessment in the NIS. This was done through a scientific examination of ecological evidence and data as well as the results of the ecological field survey.

In this case, certain qualifying aquatic/water-dependant species were selected for further assessment. The remaining QI habitats and species were deemed to be outside the zone of influence of the proposed development and were not selected for further assessment in the NIS. The effects of the project on the qualifying interests potentially within the zone of influence of the proposed development have been assessed against the measures designed to achieve the conservation objectives of the site. The outcome of the assessment has been presented in the following sections.

4.4.1 Atlantic Salmon (*Salmo salar*) [1106]

The conservation objective for Atlantic salmon is '*to restore the favourable conservation condition of Atlantic salmon in the Connemara Bog Complex SAC*' (NPWS, 2015). The specific species Attributes and Targets for Atlantic salmon defined in relation to the achievement of the Conservation Objectives for the SAC are presented in Table 4-5, below. An assessment of the effects of the project against these measures is also included.

Table 4-5. Assessment of effects on site-specific conservation objectives attributes and targets of salmon for Connemara Bog Complex SAC (NPWS, 2015).

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Distribution: extent of anadromy/ % of river accessible	100% of river channels down to 2nd order accessible from estuary	The proposed development will not result in any change in distribution or accessibility of rivers for salmon. Thus, this attribute will not be adversely affected by the proposed project.	No
Adult spawning fish/ Number	Conservation Limits (CL) for each system consistently exceeded	Emptying into Cashla Bay, the Cashla River is part of the Connemara District (Fishery District No. 9(2)) and is listed as a watercourse with a salmon Conservation Limit (CL) of 419. The most recent catch advice forecasts a surplus catch of 126 salmon for this watercourse in 2025 which corresponds to a 1.3% of CL achieved. There is no data available on whether the river is meeting the Catchment-wide electrofishing (CWEF) mean minimum threshold of ≥17 salmon fry per 5 minutes of electrofishing (TEGOS[59], 2025). The proposed development has the potential to result in indirect water quality impacts that may affect out-migrating smolts and/or adult salmon returning to spawn. Therefore, there is potential for negative effects to these attributes and mitigation regarding water quality protection will be applied.	Yes Refer to **Section 5**
Salmon fry abundance/ Number of fry/ 5 minutes electrofishing	Maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry/5 min sampling		
Out-migrating smolt abundance/ Number	No significant decline		
Number and distribution of redds/ Number and occurrence	No decline in number and distribution of spawning redds due to anthropogenic causes		
Water quality/ EPA Q value	At least Q4 at all sites sampled by EPA		

4.4.2 Otter (*Lutra lutra*) [1355]

The conservation objective for otter is '*to maintain the favourable conservation condition of Otter in Connemara Bog Complex SAC*' (NPWS, 2015). The specific species Attributes and Targets for otter defined in relation to the achievement of the Conservation Objectives for the SAC are presented in **Table 4-6**. An assessment of the effects of the project against these measures is also included.

Table 4-6. Assessment of effects on site-specific otter conservation objectives attributes and targets for Connemara Bog Complex SAC (NPWS, 2015).

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Distribution/ percentage positive survey sites	No significant decline	The waters of Cashla Bay and around Ros an Mhíl Harbour are considered optimal otter foraging habitat and it is very likely that some of the SAC otter population use these waters as foraging grounds. The proposed development has potential to result in water quality impacts that may affect otter prey biomass and indirectly affect otter distribution. Therefore, there is potential for negative effects to the attribute and mitigation regarding water quality protection will be applied.	Yes Refer to **Section 5**

[59] TEGOS – Technical Expert Group on Salmon. TEGOS and its parent body the cross-border North South Standing Scientific Committee on Inland Fish (NSSSCIF) provide independent scientific advice to Inland Fisheries Ireland (IFI) for Atlantic salmon conservation work. Technical Expert Group on Salmon | TEGOS | Inland Fisheries Ireland Accessed: 27th June 2025.

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Extent of terrestrial habitat/ ha	No significant decline. Area mapped and calculated 2,194.8 ha	The proposed development will not result in any significant decline in the extent of terrestrial/ marine/freshwater (river) or freshwater (lake/lagoon) habitat for otter. Thus, these attributes are unlikely to be negatively affected by the proposed development.	No
Extent of marine habitat/ ha	No significant decline. Area mapped and calculated as 139 ha		
Extent of freshwater (river) habitat/ km	No significant decline. Length mapped and calculated as 564 km		
Extent of freshwater (lake/lagoon) habitat/ ha	No significant decline. Area mapped and calculated 3,908.6 ha		
Couching sites and holts/ number	No significant decline	MWP field survey did not identify any evidence of otter at the proposed development site. No holts or breeding habitat were identified and no decline in the number of couching sites and holts for otter are anticipated. However, the proposed development has potential to adversely impact water quality that may affect availability of suitable couching sites and holts. Therefore, there is potential for negative effects to this attribute and mitigation regarding water quality protection will be applied.	Yes Refer to **Section 5**
Fish biomass available/ kilogrammes	No significant decline	Ample food supply is normally associated with high water quality. Construction activities could potentially result in release of pollutants and/or sediments and affect otter prey biomass. Therefore, there is potential for this attribute to be negatively affected, mitigation regarding water quality protection will be applied.	Yes Refer to **Section 5**
Barriers to connectivity/ number	No significant increase.	The project is confined to the proposed development site and impediment of otter movement is not envisaged. No effects to this attribute are anticipated.	No

4.5 Assessment of Effects on the Conservation Objectives of Kilkieran Bay and Islands SAC [002111]

An evaluation was undertaken to determine which of the Qualifying Interests (QIs) of the Kilkieran Bay and Islands SAC (see **Section 4.2.2.2,** above) potentially lie within the zone of influence of the proposed development and required further assessment in the NIS. This was done through a scientific examination of ecological evidence and data as well as the results of the ecological field survey.

In this case, certain qualifying aquatic/water-dependant species were selected for further assessment. The remaining QI habitats and species were deemed to be outside the zone of influence of the proposed development and were not selected for further assessment in the NIS. The effects of the project on the qualifying interests potentially within the zone of influence of the proposed development have been assessed against the measures designed to achieve the conservation objectives of the site. The outcome of the assessment has been presented in the following sections.

4.5.1 Harbour Porpoise *(Phocoena phocoena)* [1351]

Harbour porpoise was added as a Qualifying Interest species for Kilkieran Bay and Islands SAC in 2024 and, as of 8th July 2025, there are no site-specific detailed conservation objectives available for the species. Therefore, for the purposes of this assessment, the harbour porpoise conservation objectives for the nearby Inishmore Island SAC (000213) have been used instead.

The conservation objective for Inishmore Island SAC is '*to maintain the favourable conservation condition of harbour porpoise*' (NPWS, 2024b). The specific species Attributes and Targets for harbour porpoise defined in relation to the achievement of the Conservation Objectives for Inishmore Island SAC are presented in Table 4-7. An assessment of the effects of the project against these measures is also included.

Table 4-7. Assessment of effects on site-specific conservation objectives attributes and targets of harbour porpoise for Inishmore Island SAC (000213) (NPWS, 2024b) [used in lieu of site-specific harbour porpoise conservation objectives for Kilkieran Bay and Islands SAC].

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Access to suitable habitat/ Number of artificial barriers	Species range within the site should not be restricted by artificial barriers to site use	The proposed development will not result in the physical impediment of harbour porpoise or reduce their ability to access suitable habitat. No significant effects to the species' conservation objectives are anticipated and this attribute will not be negatively affected by the proposed development.	No
Disturbance/ Level of impact	Human activities should occur at levels that do not adversely affect the harbour porpoise community at the site	No harbour porpoise was recorded within Cashla Bay or near the proposed development area and there are no live records for the species on the NBDC database for at least 7km (see Section 3.3.7.2, above). Although unlikely, the proposed development has the potential to adversely impact water quality that may affect harbour porpoise prey biomass, while noise generated during the proposed dredging activities may potentially affect the SAC's harbour porpoise community via impairment of the species' ability to utilise acoustic techniques to communicate and navigate. Therefore, there is potential for negative effects to this attribute, and mitigation regarding water quality protection and dredging activities will be applied.	Yes Refer to Section 5

4.5.2 Otter (*Lutra lutra*) [1355]

The conservation objective for otter is '*to restore the favourable conservation condition of Otter in Kilkieran Bay and Islands SAC*' (NPWS, 2014). The specific species Attributes and Targets for otter defined in relation to the achievement of the Conservation Objectives for the SAC are presented in Table 4-8. An assessment of the effects of the project against these measures is also included.

Table 4-8. Assessment of effects on site-specific otter conservation objectives attributes and targets for Kilkieran Bay and Islands SAC (NPWS, 2014).

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Distribution/ percentage positive survey sites	No significant decline	The waters of Cashla Bay and around Ros an Mhíl Harbour are considered optimal otter foraging habitat and it is very likely that some of the SAC otter population use these waters as foraging grounds. The proposed development has potential to result in water quality impacts that may affect otter prey biomass and	Yes Refer to Section 5

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
		indirectly affect otter distribution. Therefore, there is potential for negative effects to this attribute and mitigation regarding water quality protection will be applied.	
Extent of terrestrial habitat/ ha	No significant decline. Area mapped and calculated as 316 ha above high-water mark (HWM); 14 ha along riverbanks/ around ponds	The proposed development will not result in any significant decline in the extent of terrestrial/ marine/freshwater (river) or freshwater (lake/lagoon) habitat for otter. Thus, these attributes are unlikely to be negatively affected by the proposed development.	No
Extent of marine habitat/ ha	No significant decline. Area mapped and calculated as 2,996 ha		
Extent of freshwater (river) habitat/ km	No significant decline. Length mapped and calculated as 4.4 km		
Extent of freshwater (lake/lagoon) habitat/ha	No significant decline. Area mapped and calculated as 24 ha		
Couching sites and holts/ number	No significant decline	MWP field survey did not identify any evidence of otter at the proposed development site. No holts or breeding habitat were identified and no decline in the number of couching sites and holts for otter are anticipated. However, the proposed development has potential to adversely impact water quality that may affect availability of suitable couching sites and holts. Therefore, there is potential for negative effects to this attribute and mitigation regarding water quality protection will be applied.	Yes Refer to **Section 5**
Fish biomass available/ kilogrammes	No significant decline	Ample food supply is normally associated with high water quality. Construction activities could potentially result in release of pollutants and/or sediments and affect otter prey biomass. Therefore, there is potential for this attribute to be negatively affected, mitigation regarding water quality protection will be applied.	Yes Refer to **Section 5**
Barriers to connectivity/ number	No significant increase.	The project is confined to the proposed development site and impediment of otter movement is not envisaged. No effects to this attribute are anticipated.	No

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

The conservation objective for harbour seal is '*to maintain the favourable conservation condition of harbour seal in Kilkieran Bay and Islands SAC*' (NPWS, 2014). The specific species Attributes and Targets for harbour seal defined in relation to the achievement of the Conservation Objectives for the SAC are presented in **Table 4-9**, below. An assessment of the effects of the project against these measures is also included.

Table 4-9. Assessment of effects on site-specific conservation objectives attributes and targets of harbour seal for Kilkieran Bay and Islands SAC (002111) (NPWS, 2014).

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Access to suitable habitat/ Number of artificial barriers	Species range within site should not be restricted by artificial barriers to site use	The proposed development will not result in the physical impediment of harbour seal or reduce their ability to access suitable habitat. No significant effects to species' conservation objectives are anticipated and the attribute will not be negatively affected by proposed development.	No
Breeding behaviour/ Breeding sites	Conserve breeding sites in a natural condition	No harbour seal was recorded at the proposed development site during the MWP 2025 survey but there are numerous NBDC records of the species within the Cashla Bay and Ros an Mhíl Harbour areas (see **Section 3.3.7.1**, above). Furthermore, there are known haul-out sites within the inner reaches of Cashla Bay that are used year-round by harbour seals. Although unlikely, the proposed development has the potential to adversely impact water quality that may affect harbour seal prey biomass or effect the species' passage through the bay to the haul-out sites. Additionally, noise generated during proposed dredging activities may potentially affect the SAC's harbour seal community via impairment of the species' ability to utilise acoustic techniques to communicate and navigate. Therefore, there is potential for negative effects to these attributes, and mitigation regarding water quality protection and dredging activities will be applied.	Yes Refer to **Section 5**
Moulting behaviour/ Moult haul-out sites	Conserve moult haul-out sites in a natural condition		
Resting behaviour/ Resting haul-out sites	Conserve resting haul-out sites in a natural condition		
Disturbance/ Level of impact	Human activities should occur at levels that do not adversely affect the harbour seal population at the site		

4.6 Assessment of Effects on the Conservation Objectives of Connemara Bog Complex SPA [004181]

An evaluation was undertaken to determine which of the Special Conservation Interest (SCI) species of the Connemara Bog Complex SPA (see **Section 4.2.3.2,** above) potentially lie within the zone of influence of the proposed development and required further assessment in the NIS. This was done through a scientific examination of ecological evidence and data as well as the results of the ecological field survey.

In this case, two qualifying SCI species were selected for further assessment. The remaining SCI species were deemed to be outside the zone of influence of the proposed development and were not selected for further assessment in the NIS. The effects of the project on the qualifying interests potentially within the zone of influence of the proposed development have been assessed against the measures designed to achieve the conservation objectives of the site. The outcome of the assessment has been presented in the following sections.

4.6.1 Cormorant (Phalacrocorax carbo) [A017]

The conservation objective for cormorant is '*to restore the favourable conservation condition of cormorant in Connemara Bog Complex SPA*' (NPWS, 2023). The specific species Attributes and Targets for cormorant defined in relation to the achievement of the Conservation Objectives for the SPA are presented in **Table 4-10**, below. An assessment of the effects of the project against these measures is also included.

Table 4-10. Assessment of effects on site-specific conservation objectives attributes and targets of cormorant for the Connemara Bog Complex SPA (004181) (NPWS, 2023).

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Breeding population size/ Number of Apparently Occupied Nests (AON)	Long-term population is stable or increasing	Until 2016, the primary cormorant breeding colony within the SPA was located at Lough Scannive more than 30km northwest of the proposed development site. Habitats at the site are not considered optimal for nesting cormorant colonies, and it was established during the MWP field survey that no such colonies exist at the site, although several individual cormorant were observed close to the proposed development site (see **Section 3.3.4**, above). The proposed development is not expected to cause any significant decline in the breeding population of cormorant, but water quality impacts and/or disturbance of the species are possible which could potentially affect the breeding population and range. While no significant effects to this measure are expected, mitigation regarding water quality protection will be applied as a precaution.	Yes Refer to **Section 5**
Productivity rate/Number of fledged young per AON	Sufficient to maintain a stable or increasing population	Potential degradation of water quality and disturbance impacts could potentially affect food availability and food procurement by cormorant leading to an impact on productivity rate of breeding cormorant within the SPA. While no significant effects to this measure are expected, mitigation for water quality protection will be applied as a precaution.	Yes Refer to **Section 5**
Distribution: extent of available nesting options within the SPA/ Numbers and spatial distribution	Sufficient availability of suitable nesting sites throughout the SPA to maintain a stable or increasing population	Habitats within the footprint of the proposed development are not considered optimal for breeding cormorant colonies and cormorant are not currently known to occupy breeding colonies anywhere within the vicinity of Ros an Mhíl and Cashla Bay. While no significant effects to this measure are expected, mitigation regarding water quality protection will be applied as a precaution.	Yes Refer to **Section 5**
Prey biomass available/ Kilogrammes	Sufficient extent of biomass of available prey items across the site to help support the population	Cormorant are a piscivorous species that use Cashla Bay and Ros an Mhíl Harbour as foraging grounds. Reduced water quality could impact prey items of this specialist species while invasive species may disrupt fish stocks and reduce quality/availability of foraging resources, therefore, mitigation regarding water quality protection will be applied.	Yes Refer to **Section 5**
Disturbance at breeding site/ Level of impact	Disturbance occurs at levels that do not significantly impact on cormorant at breeding site	Habitats at the proposed development site are not considered optimal for nesting cormorant colonies and it was established during the MWP field survey that no such colonies exist at proposed development site, although several individual cormorant were observed close to the proposed development site (see **Section 3.3.4**, above). While the proposed development is not expected to cause any significant disturbance at cormorant breeding sites, water quality impacts are possible which could potentially affect this attribute, therefore, mitigation regarding water quality protection will be applied as a precaution.	Yes Refer to **Section 5**

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Disturbance at freshwater and marine areas immediately adjacent to the colony/ Level of impact	Disturbance occurs at levels that do not significantly impact on breeding cormorant	Cormorant are known to use areas near their colonies for non-site-specific maintenance behaviours such as bathing, preening, wing-drying and courtship. During the 2025 MWP survey, individual cormorants were observed carrying out some such behaviours on rocks out at sea but within the vicinity of the proposed development site. Reduced water quality could adversely impact the ability of cormorant to carry out such maintenance behaviours, therefore, mitigation regarding water quality protection will be applied.	Yes Refer to **Section 5**
Barriers to connectivity/ Number, location, shape, area (hectares)	No significant increase	Applies to breeding colonies of cormorant - the species often utilise extensive areas of freshwater for foraging. Cormorant was recorded infrequently during the MWP 2025 survey, and the species is considered to use the waters of Cashla Bay around the proposed development area as foraging grounds and/or as a corridor to other nearby foraging grounds. While it is unlikely the proposed development will present a significant barrier to connectivity, a reduction in water quality could impact prey items and reduce quality/availability of cormorant foraging resources, therefore, mitigation regarding water quality protection will be applied as a precaution.	Yes Refer to **Section 5**

4.6.2 Common Gull (*Larus canus*) [A182]

The conservation objective for common gull is '*to maintain the favourable conservation condition of common gull in Connemara Bog Complex SPA*' (NPWS, 2023). The specific species Attributes and Targets for common gull defined in relation to the achievement of the Conservation Objectives for the SPA are presented in **Table 4-11**. An assessment of the effects of the project against these measures is also included.

Table 4-11. Assessment of effects on site-specific conservation objectives attributes and targets of common gull for the Connemara Bog Complex SPA (004181) (NPWS, 2023).

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Breeding population size/ Number of Apparently Occupied Nests (AON)	No significant decline	Common gull breed, usually in colonies, on islands within the many lakes scattered across the SPA. It was established during the MWP 2025 site survey (see **Section 3.3.4**, above) that habitats at the proposed development site are not considered optimal for nesting common gull colonies and that the site is not currently used by common gull for breeding. The latest SPA population estimates for the species is 105 pairs which is a sizeable increase from the previous estimates – 36 pairs in 2001, and 40 pairs in 2010. The proposed development is not expected to cause a significant decline in the breeding population of common gull, but water quality impacts and/or disturbance of the species are possible which could potentially affect the breeding population and range. While no significant effects to this measure are expected, mitigation regarding water quality protection will be applied as a precaution.	Yes Refer to **Section 5**

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Productivity rate/Number of fledged young per AON	Sufficient to maintain population	Potential degradation of water quality and disturbance impacts to common gull could potentially effect food availability/procurement leading to an impact on productivity rate of breeding common gull. While no significant effects to this measure are expected, mitigation regarding water quality protection will be applied as a precaution.	Yes Refer to **Section 5**
Distribution: extent of available nesting options within the SPA/ Numbers and spatial distribution	Sufficient availability of suitable nesting sites throughout the SPA to maintain the population	Habitats within the footprint of the proposed development are not deemed optimal for breeding common gull colonies and there is an intervening distance of at least 6 km between the proposed development and the nearest point of SPA (and thus, the nearest possible breeding colony within the SPA). While no significant effects to this measure are expected, mitigation for water quality protection will be applied as a precaution.	Yes Refer to **Section 5**
Prey biomass available/ Kilogrammes	No significant decline	Common gull are opportunistic predators and scavengers (often in rubbish dumps) with a broad diet that includes terrestrial and aquatic invertebrates and small fish, therefore, the species could potentially use waters within and around the proposed development site as foraging grounds. Reduced water quality could impact prey items of common gull and reduce quality/availability of their foraging resources. Furthermore, during the breeding season, common gull can forage up to 50 km from the breeding colony (Woodward *et al*. 2019), thereby, making the proposed development site and surrounding areas within foraging distance of the SPA's common gull populations. Mitigation regarding water quality protection will be applied.	Yes Refer to **Section 5**
Disturbance at breeding site/ Level of impact	Disturbance occurs at levels that do not significantly impact on common gull at breeding site	Habitats at the proposed development site are not considered optimal for nesting common gull. It was established during MWP 2025 site survey (see **Section 3.3.4**, above) that habitats at the proposed development site are not considered optimal for nesting common gull colonies and the site is not currently used by common gull for breeding. While the proposed development is not expected to cause any significant disturbance at common gull breeding sites, water quality impacts are possible which could potentially affect this attribute, therefore, mitigation for water quality protection will be applied as a precaution.	Yes Refer to **Section 5**
Disturbance at areas ecologically connected to the colony/ Level of impact	Disturbance occurs at levels that do not significantly impact on breeding common gull	Common gulls are known to forage up to 50 km away from the breeding colony during the breeding season and likely use suitable foraging habitat in areas outside the SPA's boundary such as the proposed development site and surrounding areas. Reduced water quality could adversely impact the ability of common gull to carry out such foraging behaviour, therefore, mitigation regarding water quality protection will be applied.	Yes Refer to **Section 5**
Barriers to connectivity/ Number, location, shape, area (hectares)	No significant increase	Common gulls are known to forage up to 50 km away from the breeding colony during the breeding season and is considered likely use the waters of Cashla Bay around the proposed development site as foraging grounds and/or as a corridor to other nearby foraging grounds. While it is unlikely the proposed development will present a significant barrier to connectivity, a reduction of water quality	Yes Refer to **Section 5**

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
		could impact prey items and reduce quality/availability of common gull foraging resources, therefore, mitigation regarding water quality protection will be applied as a precautionary measure.	

4.7 Assessment of Effects on the Conservation Objectives of Inishmore Island SAC [000213]

An evaluation was undertaken to determine which of the Qualifying Interests (QIs) of the Inishmore Island SAC (see Section 4.2.4.2, above) potentially lie within the zone of influence of the proposed development and required further assessment in the NIS. This was done through a scientific examination of ecological evidence and data as well as the results of the ecological field survey.

In this case, one qualifying aquatic species was selected for further assessment. The remaining QI habitats and species were deemed to be outside the zone of influence of the proposed development and were not selected for further assessment in the NIS. The effects of the project on the qualifying interest species potentially within the zone of influence of the proposed development have been assessed against the measures designed to achieve the conservation objectives of the site. The outcome of the assessment is presented in the following section

4.7.1 Harbour Porpoise *(Phocoena phocoena)* [1351]

The conservation objective for harbour porpoise is '*to maintain the favourable conservation condition of harbour porpoise in Inishmore Island SAC*' (NPWS, 2024b). The specific species Attributes and Targets for harbour porpoise defined in relation to the achievement of the Conservation Objectives for the SAC are presented in Table 4-12, below. An assessment of the effects of the project against these measures is also included.

Table 4-12. Assessment of effects on site-specific conservation objectives attributes and targets of harbour porpoise for Inishmore Island SAC (000213) (NPWS, 2024b).

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Access to suitable habitat/ Number of artificial barriers	Species range within the site should not be restricted by artificial barriers to site use	The proposed development will not result in the physical impediment of harbour porpoise or reduce their ability to access suitable habitat. No significant effects to the species' conservation objectives are anticipated and this attribute will not be negatively affected by the proposed development.	No
Disturbance/ Level of impact	Human activities should occur at levels that do not adversely affect harbour porpoise community at the site	No harbour porpoise was recorded within Cashla Bay or near the proposed development area and there are no live records for the species on the NBDC database for at least 7km (see Section 3.3.7.2, above). Although unlikely, the proposed development has the potential to adversely impact water quality that may affect harbour porpoise prey biomass, while noise generated during the proposed dredging activities may potentially affect the SAC's harbour porpoise community via impairment of the species' ability to utilise acoustic techniques to communicate and navigate. Therefore, there is potential for negative effects to this attribute, and mitigation regarding water quality protection and dredging activities will be applied.	Yes Refer to Section 5

4.8 Assessment of Potentially Significant Cumulative Effects

As well as singular effects, the potential for in-combination or cumulative effects also need to be considered. A cumulative effect arises from incremental changes caused by another past, present or reasonably foreseeable future actions together with the proposed development. The EC (2021) guidelines on the provision of Article 6 of the Habitats' Directive state that the phrase '*in combination with other plans or projects*' in Article 3(3) of the Habitats Directive refers to the cumulative effects due to plans or projects '*that are currently under consideration together with the effects of any existing or proposed projects or plans*.'

When in-combination impacts are assessed, it is necessary to identify the types of impacts that may ensue from the project under consideration and from other sources in the existing environment that cumulatively are likely to affect aspects of the structure and function of the relevant European sites (EC, 2021).

Plans and projects relevant to the proposed development have been identified in Section 3.4, above.

4.8.1 Plans

The Galway County Development Plan (CDP) (2022–2028), referred to in Section 3.4.2, above, has been subject to Appropriate Assessment to ensure no adverse effects to the integrity of European sites. This Appropriate Assessment was fully integrated within the various stages of the CDP process to ensure that any ecological implications of the CDP do not adversely affect any areas designated as European Sites.

In general, County Development Plans incorporate a range of environmental and natural heritage policy safeguards to protect the natural environment. These safeguards will also apply to the proposal described in this report. No significant in-combination effects are predicted between the proposal and the Galway County Development Plan (2022-2028).

4.8.2 Existing Land-use and On-going Activities

4.8.2.1 Introduction

Irish waterbodies are frequently subjected to various anthropogenic activities and pressures that can adversely impact upon water quality. Indeed, more than half of affected waterbodies within the country are impacted upon by more than one pressure type.

As set out in Section 3.3.2, above, the proposed development site is located within the Cashla_SC_010 subcatchment which itself is located in the Galway Bay North Catchment (31). There has been an overall deterioration of water quality across the Galway Bay North Catchment (31) with fourteen waterbodies classified as 'At Risk' in Cycle 3 of not meeting waterbody environmental objectives compared with eight waterbodies classified as 'At Risk' in Cycle 2. The most significant pressure on waterbodies classified as 'At Risk' within the Galway Bay North Catchment (31) is from commercial forestry due mainly to release of sediment, clear-felling and drainage. Other significant pressures within the catchment include peat extraction, agriculture, hydromorphological changes, domestic wastewater, industry and unknown anthropogenic pressures (EPA, 2024). Additionally, the EPA's '*Water Quality in Ireland 2016-2021 Report*' lists the Galway Bay North (31) Catchment as one of thirteen catchments in the country 'with the lowest percentage of monitored satisfactory river water bodies' (Trodd *et al*, 2021).

Peat extraction and agricultural intensification have been identified as pressures on Connemara Bog Complex SAC (Table 4-13, below) while agricultural intensification is a medium threat within Kilkieran Bay and Islands SAC (Table 4-14, below). Connemara Bog Complex SPA is subject to a mix of pressures including peat extraction and

recreational threats (Table 4-15, below) while similarly, on Inishmore Island SAC the mix of pressures are mainly agricultural and extractive (Table 4-16, below).

Table 4-13. Most important threats, pressures and activities with impact on the Connemara Bog Complex SAC (002034) as defined in the associated Natura 2000 Data Form[60].

Threat Level	Threats and Pressures Code	Reference
High	C01.03.01	Hand cutting of peat
High	C01.03.02	Mechanical removal of peat
High	J01	Fire and fire suppression
Medium	A04.01.02	Intensive sheep grazing

Table 4-14. Most important threats, pressures and activities with impact on the Kilkieran Bay and Islands SAC (002111) as defined in the associated Natura 2000 Data Form[61].

Threat Level	Threats and Pressures Code	Reference
Medium	A04.01.01	Intensive cattle grazing
Medium	A04.01.02	Intensive sheep grazing
Medium	F01.01	Intensive fish farming, intensification

Table 4-15. Most important threats, pressures and activities with impact on the Connemara Bog Complex SPA (004181) as defined in the associated Natura 2000 Data Form[62].

Threat Level	Threats and Pressures Code	Reference
High	B	Silviculture, forestry
Low	D01.02	Roads, motorways
Low	G01.02	Walking, horse-riding, and non-motorised vehicles
Low	I01	Invasive non-native species
Medium	C01.03.02	Mechanical removal of peat
Medium	E01.03	Dispersed habitation

Table 4-16. Most important threats, pressures and activities with impact on the Inishmore Island SAC (000213) as defined in the associated Natura 2000 Data Form[63].

Threat Level	Threats and Pressures Code	Reference
High	A04.03	Abandonment of pastoral systems, lack of grazing
High	D03	Shipping lanes, ports, marine constructions
High	I02	Problematic native species

[60] Natura 2000 SDF - IE0002034 Accessed: 10th July 2025
[61] Natura 2000 SDF - IE0002111 Accessed: 10th July 2025
[62] Natura 2000 SDF - IE0004181 Accessed: 10th July 2025
[63] Natura 2000 SDF - IE0000213 Accessed: 10th July 2025

Threat Level	Threats and Pressures Code	Reference
High	K04.05	Damage by herbivores (including game species)
Low	A08	Fertilisation
Low	E04.01	Agricultural structures, buildings in the landscape
Medium	A02.01	Agricultural intensification
Medium	C01.07	Mining and extraction activities (other)
Medium	F02.02.02	Pelagic trawling
Medium	H02.07	Diffuse groundwater pollution due to non-sewered population
Medium	J01.01	Burning down
Medium	J02.01.02	Reclamation of land from sea, estuary or marsh

4.8.2.2 Commercial Forestry

Poorly managed and inappropriately sited commercial forestry operations can adversely affect water quality and aquatic habitats and species. The release of sediment and nutrients, and the impacts of acidification are the most common water quality issues arising from forestry. Forestry plantations may also bring about changes in stream flow regimes caused by associated land drainage (O'Boyle *et al.*, 2019). In the 3rd Cycle Galway Bay North (31) Catchment report, forestry has been identified as a significant pressure in one lake waterbody (Seecon) and three river waterbodies (Cashla_010, Invermore_010, and Invermore_020) (EPA, 2024). The Cashla_010 River Waterbody is a large waterbody that stretches over most of the Cashla_SC_010 subcatchment before ultimately draining to Clynagh Bay at a location between Casla village and Ros an Mhíl village.

The significant issues posed are a combination of the general forestry pressures of clear-felling and an increased sediment loading that affects habitats. The proposed development's construction will involve a limited amount of dredging works within Cashla Bay and some minor earthworks onshore to facilitate underground service ducts/drains and cables that can mobilise silt and nutrients. This creates potential for negative water quality impacts on the waters of Cashla Bay due to the potential release of sediment during earthworks and dredging of the seabed. Similarly, during the proposed development's operational phase, there is also potential that surface water run-off from hard surfaces introduces sediment/nutrients into Cashla Bay.

Consequently, there is potential for the project to contribute to a cumulative impact on water quality of Cashla Bay by way of sediments and other pollutants potentially entering the bay's waters. These water quality effects, coupled with the abovementioned forestry effects, could exacerbate potential impacts associated with the proposed project within the Galway Bay North (31) Catchment, and thereby undermine the conservation objectives for the qualifying features of the four relevant European sites, namely Connemara Bog Complex (002034), Kilkieran Bay and Islands SAC (002111), Connemara Bog Complex SPA (004181), and Inishmore Island SAC (000213).

4.8.2.3 Peat Extraction

Peat extraction and draining of bogland can adversely affect the water quality of various river habitats and waterbodies via the release of ammonium and fine-grained suspended sediments, and by the physical alteration of river habitats. Furthermore, peatland drainage also results in changes to the hydromorphological condition of rivers. Ecological problems caused by peat extraction include increased erosion rates, siltation and nutrient loss

(O'Boyle *et al*., 2019). Peat drainage and extraction have been identified as significant pressures in three river waterbodies (Cashla_010, Invermore_020, and Knockadoagh_010) within the Galway Bay North (31) Catchment resulting in elevated nutrient concentrations and alterations of habitat morphologies due to siltation (EPA, 2021).

The water quality effects of the proposed development's construction and operational phases, together with the previously discussed effects of peat extraction, could exacerbate potential impacts associated with the proposed development within the Galway Bay North (31) Catchment and undermine the conservation objectives for the qualifying features of the four relevant European sites, namely Connemara Bog Complex (002034), Kilkieran Bay and Islands SAC (002111), Connemara Bog Complex SPA (004181), and Inishmore Island SAC (000213).

4.8.2.4 Agriculture

Agriculture is the dominant pressure source in Ireland, effecting 53% of Irish waterbodies from 2013 to 2018. The main impacts of farming are the loss of excess nutrients and sediment to water. Excess ammonium may also be a problem in some waterbodies. These losses arise from point sources such as farmyards or from diffuse sources such as spreading of fertilisers and manures. Excess phosphorus and sediment are typical issues for rivers and lakes, and too much nitrogen is the main issue for estuaries and coastal waters (O'Boyle *et al*., 2019).

In the 3rd Cycle Galway Bay North (31) Catchment report, agriculture has been identified as a significant pressure for two river waterbodies (Gowlabeg_010 and Owengowla_010) where organic pollution and pastureland are likely contributors to the decline in the waterbodies' statuses since classification undertaken in Cycle 2 (EPA, 2021). Both these waterbodies are located at a considerable distance from the proposed development site and within a different subcatchment. However, since agriculture is the most prevalent pressure on Irish watercourses, it is considered that water quality effects arising from the proposed development, together with the previously discussed water quality effects of agricultural activities, could exacerbate potential impacts associated with the proposed development within the Galway Bay North (31) Catchment and undermine the conservation objectives for the qualifying features of the four relevant European sites, namely Connemara Bog Complex (002034), Kilkieran Bay and Islands SAC (002111), Connemara Bog Complex SPA (004181), and Inishmore Island SAC (000213).

5. Mitigation

5.1 Introduction

As outlined in the impact assessment of the preceding sections, the construction and operation of the proposed deep water quay has the potential to cause temporary direct and/or indirect and/or significant impacts to certain aquatic QI species for which the Connemara Bog Complex SAC, Kilkieran Bay and Islands SAC, and Inishmore Island SAC is designated, and two SCI bird species for which the Connemara Bog Complex SPA is designated, and therefore, adversely impact the integrity of these four European sites. Consequently, several planned mitigation measures are proposed below 'to remove, pre-empt or reduce the impacts identified in the appropriate assessment to a level where they will no longer affect the integrity of the site(s)' (EC, 2021).

5.2 Mitigation by Design

Consultations and meetings between the Applicant and the Project Manager, Engineers, and Ecologists occurred frequently and continuously during the design phases of the deep water quay. Cognisance was given to more sensitive ecological features to ensure minimal ecological effects arise because of the proposed development and

to limit, where possible, the footprint of the proposed development on more ecologically valuable habitats. The final site layout was determined based on multi-discipline inputs and consideration of needs, assessments of topography, biodiversity, land and soils, archaeology, hydrology, landscape and the engineering constraints.

The following design aspects of the deep water quay were incorporated into the proposed development to avoid, prevent and/or minimise any potential significant ecological impacts, in as much as was practicably possible:

- To minimise wave activity at the berth, the approach channel (refer to **Appendix 2**) will be relatively narrow with a width of just over 5.7 times the beam of the design ship which will allow for single-way traffic only, however, two-way traffic is not desirable due to the proximity of the turning circle.
- Siting of the proposed deep water quay in a well-sheltered area of the bay with a relatively narrow entrance to the turning area will minimise any potential affects from wave action and reduce the possibility of any issues arising with regards vessel manoeuvres.
- Using the caisson wall construction methodology will require less complicated and less lengthy marine works than the alternative sheet-piled option which would require a considerable amount of marine-based works for a more protracted period of time.
- The deep water quay has been designed to integrate an appropriate drainage network to minimise the risk of surface water run-off during the proposed development's operational phase (see **Appendix 2** of this document and **Section 2.5.10** in **Chapter 2, Project Description**, in **Volume III** of the EIAR).

5.3 Mitigation by Management

5.3.1 Construction Environmental Management Plan (CEMP)

A Construction and Environmental Management Plan (CEMP) has been prepared and will be updated throughout pre-construction and construction and will be implemented on site to reduce the risk of pollution and improve the sustainable management of resources. The detailed CEMP will outline construction practices and environmental management measures which will be implemented during the construction phase to ensure that the entire development is constructed in accordance with best practice and with minimum impact on the surrounding environment.

The CEMP will provide for systematic waste management by identifying types and quantities of wastes, and their management, documentation, treatment/disposal, and parties responsible, at all stages of the project. Implementation of proposed and agreed mitigation measures, monitoring and follow-up arrangements, and management of impacts will be managed through the CEMP. This will ensure that the proposed development will be carried out in accordance with any planning conditions applicable and within the agreed schedule.

The construction works will be strictly managed in line with the Contractor's CEMP and will include measures for the management of fuel, concrete, stockpiles, run-off, spills and the provision of emergency procedures. The CEMP and associated pollution control measures have been devised with reference to the following:

- *Control of water pollution from linear construction projects. Technical guidance (C648)* (Murnane *et al.,* 2006).
- *Control of water pollution from construction sites. Guidance for consultants and contractors* (Masters-Williams, 2001).
- *Guidelines for the crossing of Watercourses during Construction of National Road Schemes* (NRA[64], 2008).
- *The management of noxious weeds and non-native invasive plant species on National Roads* (NRA, 2010).

[64] National Roads Authority, now known as Transport Infrastructure Ireland (TII)

Construction method statements will be prepared prior to construction commencement and incorporated into the CEMP before submission to Galway County Council for agreement and approval prior to commencement of any construction activity. The finalised CEMP will include, but not limited to, the following environmental controls:

- Management of excavations and blasting;
- Surface water management plan (sediment and erosion control);
- Fuels and oils management;
- Management of concrete;
- Construction waste management plan;
- Wheel wash management procedure;
- Construction dust management;
- Construction noise management;
- Ecological management plan for the protection of habitats and fauna;
- Management of invasive species;
- Monitoring and auditing procedures; and
- Environmental accidents, incidents and corrective actions.

5.3.2 Appointed Environmental Officer

A suitably qualified and experienced Environmental Officer will be employed during the construction phase of the project to ensure all environmental impact prevention controls relevant to construction activities occurring at the time are in place. Duties will include, but are not limited to, a review of all method statements to ensure works are undertaken in compliance with the CEMP and Conditions of Planning; delivery of toolbox talks; undertaking required pre-construction surveys for protected species; and, monitoring all construction phase activities to ensure all environmental controls and NIS and EIAR mitigation is implemented in full.

The appointed Environmental Officer will have demonstrated professional experience in managing large-scale construction works and will be awarded a level of authority to stop construction activity if there is potential for adverse environmental effects other than those predicted and mitigated for.

5.3.3 General Protection of Water Quality

5.3.3.1 Construction Run-off and Sediment Control

Best practice mitigation measures will be implemented with regard to run-off and sediment control as follows:

- Erosion control, where run-off is prevented from flowing across exposed ground and becoming polluted, and sediment control, where run-off is slowed to allow suspended sediment to settle, are important elements in run-off and sediment control. Erosion and sediment controls are to be implemented prior to any site clearance works commencing.
- Clean water run-off will be intercepted and diverted away from construction site run-off to avoid cross-contamination of clean water with soiled water.

- The area of exposed ground will be minimised. The amount of material excavated is to be kept to a minimum. Excavations will only be carried out following installation of appropriate sediment controls measures which will slow run-off and trap suspended sediment.
- The drainage system will be inspected regularly during construction, in particular after heavy rainfall/storm events, to check for blockages/drainage issues. Where any drainage issues are identified, these will be addressed on the same day to ensure water quality protection.

5.3.3.2 Management of Concrete

The following measures will be implemented during concrete works at the site:

- A designated trained operator, experienced in working with concrete, will be employed during the concrete-pouring phase and pouring will be supervised by the Construction Manager, a suitably qualified Engineer, and the appointed Environmental Officer.
- All concrete used at the site will be ready-mixed and delivered from the on-site concrete batching plant in sealed concrete delivery trucks, as required.
- To reduce the possibility of the dispersal of any cementitious material underwater during construction, a special cement-based material known as anti-washout concrete (AWC) will be used. AWC increases the cohesion of concrete, thereby enabling it to remain undispersed for longer and significantly reduce washout volumes.
- Designated concrete washout areas in the form of polythene-lined skips or polythene-lined washout pits will be provided adjacent to where concrete is being batched at the on-site batching plant. Concrete washouts will be located away from waterbodies and will not be permitted in any other area of the site.
- To prevent accidental spillage of concrete, the concrete delivery chute will be securely fastened using a lock chain or similar device while control measures will be in place at the loading points of the concrete skips/pumps.
- Tremie pipes guided by underwater divers will be used to deliver the wet concrete into the correct areas during construction. There will be constant communication via radios between the divers and the land-based concrete pump operator to ensure that, if necessary, the flow of concrete can be stopped immediately. Tremie pipes are specifically designed to be extremely watertight.
- Any small volumes of incidental wash generated from cleaning hand tools, cement mixers or other plant, as required, will be trapped on-site to allow sediment to settle out and reach neutral pH before clarified water is released into bins or allowed to percolate to ground. Settled solids will be appropriately disposed of off-site.

5.3.3.3 Management of Fuel/Oil

Site management should include the checking of equipment, materials storage and transfer areas, drainage structures and their attenuation ability on a regular basis during the construction phase of the project. The purpose of this management control is to ensure that the measures in place are operating effectively, prevent accidental leakages, and identify potential breaches in the protective retention and attenuation network during earthworks operations.

Appropriate fuel management will include the following elements:

- Mobile bowsers, tanks and drums will be stored in secure, impermeable storage areas on flat ground a minimum distance of 50 metres from any watercourse or other water-conducting features e.g. drains.

- Fuel containers will be stored within a secondary containment system e.g., bund for static tanks or a drip tray for mobile stores. Chemicals will be bunded and where applicable, stored within double skinned tanks/containers with the capacity to hold 110% of the volume of chemical contents.
- Ancillary equipment such as hoses and pipes will be contained within the bund.
- Taps, nozzles or valves will be fitted with a lock system and be regularly inspected for leaks and/or signs of damage. Fuel/oil stores including tanks and drums will also be inspected regularly for the same reasons.
- Where required, refuelling on-site will only be carried out at a designated area at least 50 metres from any watercourse with the use of a delivery fuel truck, operated by appropriately trained personnel. Only designated trained operators will be authorised to refuel plant on site.
- Only mechanically sound plant will be permitted to gain access to the site.
- Controls will be regularly inspected and maintained. Regular cleaning and servicing of bunds, gullies, pipe work, oil interceptors will be carried out to ensure this system is operating at its optimum.
- Procedures and contingency plans will be set up to deal with emergency accidents or spills. An emergency spill kit with oil boom and absorbers will be kept on site in the event of an accidental spill. The contents of the spill kit will be replenished if used and they will be checked on a scheduled basis during environmental inspections and audits. All crews will be trained in the use of spill kit equipment.
- All emergency procedures and equipment will be in place prior to the commencement of any works.
- The Local Authority will be informed immediately of any spillage or pollution incident that may occur on-site during the construction phase.

5.3.3.4 Refuelling of Construction Plant On-Site

All plant, such as excavators and dumpers, will be refuelled on-site, while rigid and articulated vehicles and all site vehicles (jeeps, cars and vans) will be refuelled off-site. The plan outlined in the CEMP will have regard to the following elements:

- Refuelling will be carried out using 110% capacity double-bunded mobile bowsers. The refuelling bowser will be operated by trained personnel. The bowser will have spill containment equipment which the operators will be fully trained to use.
- Plant nappies or absorbent mats to be placed under refuelling point during all refuelling to absorb drips.
- Mobile bowsers, tanks and drums will be stored in secure and impermeable storage area, 50 metres away from drains and open water.
- To reduce the potential for oil leaks, only vehicles and machinery will be allowed onto the site that are mechanically sound. An up-to-date service record will be required from the main contractor.
- Should there be an oil leak/spill, it will be contained immediately using easy-to-access oil spill kits. An oil spill kit that includes absorbing pads and socks will be kept at the site compound and within site vehicles and machinery. All oil and contaminated material will be removed from site and properly disposed of in a licensed facility.
- Correct action in the event of a leak or spill will be facilitated by training all vehicle/machinery operators in the use of the spill kits and the correct containment and cleaning up of oil spills or leaks. This training will be provided by the Environmental Manager at site induction.

- In the event of a major oil spill, a company who provide a rapid response emergency service for major fuel spills will be immediately called for assistance, their contact details will be kept in the site office and in the spill-kits kept inside site vehicles and machinery.

5.3.3.5 Storage

The storage of materials, containers, stockpiles and waste, however temporary, will follow best practice at all times and be stored at designated areas. All containers will be stored upright and clearly labelled. Sufficient storage will be supplied near all working areas.

Storage will be located as follows:

- Away from drains and streams;
- On an impermeable base;
- Under cover to prevent damage from the elements;
- In secure areas;
- Well away from moving plant, machinery and vehicles.

Temporary storage of Cement Bound Granular Mixtures (CBGM) during construction will be on hardstand areas, or areas that are not prone to run off and where there is no direct drainage to surface waters. The area will be appropriately bunded in the form of sandbags, geotextile sheeting, or silt fencing. This method will prevent any solids run-off.

5.3.4 Management of Construction Waste

- Appropriate storage of all non-hazardous and hazardous wastes on-site will be undertaken to minimise potential for environmental impacts.
- Dedicated bunded storage containers will be provided for hazardous wastes which may arise such as batteries, paints, oils, chemicals etc, if required.
- In the event that any buried waste or potentially contaminated dredge material is encountered, it will be stored in stockpiles within the site separately from clean dredged material. The stockpiles will be cordoned off and labelled as unusable until such a time as laboratory results are available to determine if the material is suitable for reuse. All equipment will be cleaned down in a designated area prior to leaving the site.
- In the unlikely event of hazardous material being encountered, it will be transported for treatment/recovery or disposal in suitable facilities.
- All wastes are to be removed from site by appropriate licenced waste contractors to suitable waste facilities.

5.3.5 Biosecurity

To reduce risk of introduction or spread of invasive species to the proposed development site, the following measures are recommended in relation to site biosecurity:

- Prior to being brought to site, validation should be provided by all suppliers that construction plant, machinery and vehicles are free from invasive species. Similarly, certification is to be obtained from

suppliers that all raw materials to be imported to site including soil, fill, sand, gravel and landscaping materials are free from invasive species.

- All vehicles, machinery and equipment/tools are to arrive to site clean and steam washed. Visual inspections are to take place. All Personal Protective Equipment (PPE) brought to site is to be clean and dry with any attached vegetation or debris removed.
- A schedule of regular site inspections for invasive species is to be prepared and undertaken for the duration of the construction works. These inspections are to encompass the IAPS growing season for the duration of the construction works programme to monitor existing IAPS growth, identify any new IAPS stands, inspect materials storage areas and monitor implementation of IAPS management measures on-site, where required e.g., fencing, signage etc.
- Where there is a requirement for IAPS control areas, all vehicles, equipment/tools, footwear etc used in these areas will be thoroughly cleaned in a designated area once works in that area are complete to prevent spread of IAPS. The use of tracked machinery within IAPS infested areas is to be prohibited. The use of tracked machinery within close proximity of IAPS infested areas is to be strictly controlled. This should be undertaken with direction from the appointed Environmental Officer.

5.3.6 General Protection of Habitats

- The footprint of the construction area, site compound and materials storage areas will be clearly marked out prior to commencement of works with reference to design drawings, under the supervision of the project engineer and appointed Environmental Officer, so that it is visible to all contractor staff and machine operators.
- The extent of access for all construction plant and machinery is to be clearly marked out, particularly along the southern boundary of the site to avoid impacts on more sensitive habitat, namely areas of 'Scrub (WS1)', which have been identified within central parts of the site and near the rocky shores at southwestern parts of the site. A heavy machinery exclusion zone will be established using temporary stakes and signage, as required, to prevent encroachment by heavy machinery onto this habitat. This will be undertaken in consultation with the appointed Environmental Officer. There shall be no side casting of material or any other construction-related activity within this area. All operatives will be made aware of this works exclusion zone.
- All operatives will be made aware of the immediate proximity of Cashla Bay to the site as part of toolbox talks.

5.3.7 General Protection of Fauna

- Disturbance of fauna generally will be reduced by controlling the movement of construction vehicles and personnel.
- Construction materials and wastes are to be kept in designated areas to reduce risk of accidental injury/entrapment of any wildlife on-site.
- There is no anticipated requirement for the removal or pruning of vegetation. However, should the need arise, the Environmental Officer will be present to oversee vegetation removal and ensure the implementation of any necessary mitigation measures should a previously unknown breeding/resting site of designated QI species is encountered.

- Mammals and birds are mobile and so are expected to disperse from the area; however, young or hibernating animals are vulnerable to impacts during vegetation clearance. Prior to any vegetation clearance, the area will be checked by the Environmental Officer to check for the presence of young or hibernating animals.
- Should any resting or breeding place of any protected species be discovered within the Site during the pre-construction or construction phases, the Environmental Officer is to be informed immediately, and the advice of NPWS sought. Any works in the area are to cease immediately, and the area is to be cordoned off until the Environmental Officer has authorised recommencement of works.
- In accordance with Section 40 of the Wildlife Acts, vegetation removal, including tree removal, will be conducted outside of the restricted bird nesting period (March 1st to 31st August, inclusive). This will not only protect nesting birds, but a range of biodiversity.
- All temporary construction lighting is to be switched off outside daylight hours. Construction lighting is to be directed in towards the site to reduce indirect alteration of adjacent habitats outside the site and to minimise nocturnal impacts on faunal species.
- To reduce the level of night-time disturbance to nocturnal fauna, construction activities should be restricted to standard construction hours. Theses hours are provisionally set as 07.00 to 19.00 from Monday to Friday, inclusive, and 07.00 to 14.00 hours on Saturday. Construction work should not take place outside of these hours unless in exceptional circumstances.

5.3.8 Marine Mammals and Dredging

Since marine mammals such as harbour seal and harbour porpoise use acoustic techniques to communicate and navigate, the noise associated with dredging activities has the potential to disturb/displace them via auditory and/or behavioural effects. However, as discussed in Section 4.3.3.5, above, noise emissions of dredging events are generally within a range least likely to elicit significant behavioural responses from either harbour porpoise or harbour seal. Considering this, and the scale and scope of the dredging works required, significant disturbance/displacement effects to harbour porpoise or harbour seal are unlikely to occur, but as a precautionary measure and in-line with standard best practice, the mitigation measures outlined hereunder are recommended.

The standard industry best-practice guidelines contained within the Department of Arts, Heritage and the Gaeltacht's (DAHG) '*Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters*' (DAHG, 2014) should be implemented throughout the period of dredging works and monitored by a suitably qualified Marine Mammal Observer (MMO). A summary of the mitigation procedures recommended for dredging operations is presented below in Table 5-1.

Table 5-1. Summary of the mitigation procedures recommended for implementation during dredging activities (as set out in the DAHG (2014) guidelines).

Marine Mammal Observer (MMO)
A qualified and experienced marine mammal observer (MMO) shall be appointed to monitor for marine mammals and to log all relevant events using standardised data forms.
In the context of the DAHG (2014) guidance, a qualified MMO is defined as a visual observer who has undergone formal marine mammal observation and distance estimation training (JNCC MMO training course or equivalent) and has a minimum of six weeks full-time marine mammal survey experience at sea over a 3-year period within European waters.
The MMO is tasked with monitoring the Operator's (developer/construction personnel) implementation of the technical guidance and mitigation, and with conducting survey effort for marine mammals in accordance with this guidance and mitigation.

General Pre-Dredging Guidelines

Dredging activities will only commence during daylight hours where effective visual monitoring, as performed and determined by the MMO, has been achieved. If effective visual monitoring is not possible, dredging operations will be postponed until the MMO determines that effective visual monitoring is possible.

An agreed and clear on-site communication signal must be used between the MMO and the Works Superintendent as to whether the dredging may or may not proceed, or resume following a break. It shall only proceed on positive confirmation with the MMO.

Unless specific information is otherwise available to inform the mitigation process or unless a specific distance modification has been agreed with the Regulatory Authority, a 500-metre radial distance of the dredging sound source will be established and known as the Monitored Zone.

Pre-Start Monitoring

In waters measuring up to 200 metres deep, the MMO shall conduct pre-start-up constant effort monitoring at least 30 minutes before dredging operations are due to commence. Sound-producing activity (dredging) shall not commence until at least 30 minutes have elapsed with no marine mammals detected within the Monitored Zone by the MMO.

This prescribed Pre-Start Monitoring shall subsequently be immediately followed by normal dredging operations. The delay between the end of Pre-Start Monitoring and the necessary full dredging output must be minimised.

Dredging Operations

Once normal dredging operations have commenced, there is no requirement to halt or discontinue the activity should:

- the sun set and night-time fall;
- the weather and/or visibility conditions deteriorate; or,
- marine mammals occur within the Monitored Zone.

Breaks in Sound Output

If there is a break in dredging sound output for a period greater than 30 minutes (e.g., due to equipment failure, engine shutdown or location change) then all Pre-Start Monitoring steps must be undertaken in accordance with the above conditions prior to the recommencement of any dredging activity.

Reporting

Full reporting on MMO operations and the mitigation measures undertaken must be provided to the Regulatory Authority within 30 days of completion of the relevant coastal/marine plan or project (deep water quay construction).

The MMO's report should include a daily log concerning the testing and operation of all relevant sound-producing equipment/activities and a record of all marine mammal detections, if any.

Marine Mammal Recording Forms to be used by the Operator and MMO are included in Appendices 6 and 7 of the DAHG (2014) Guidance.

Management measures for the control of noise and vibration to further reduce the risk of any potentially significant disturbance/displacement effects will also include starting the dredger at the lowest revs of the pump but then gradually increasing the revs over a fifteen-minute period to allow any unseen harbour seal or harbour porpoise to move further away from the sound source before the pumps reached full power.

One further simple mitigatory measure is to ensure the adequate maintenance of the backhoe dredger, including lubrication and repairs of potential noise sources, since a well-maintained dredger that operates efficiently is less likely to result in fugitive noise emissions (WODA, 2013).

5.3.9 Otter – Protection of Species

As per best-practice guidance set out in NRA (2009), pre-construction otter surveys will be undertaken to ensure that newly established holts/couches do not occur within the works area before the commencement of construction. The survey should be undertaken no more than ten to twelve months before construction begins and should be supplemented by an additional survey immediately prior to site works commencing if more than four weeks have elapsed since the initial pre-construction survey.

Should a holt be identified, additional surveys/enabling works will only be undertaken under the appropriate NPWS licence. Implementation of best-practice guidelines for otter will be overseen by the appointed Environmental Officer.

5.3.10 Protection of Birds

5.3.10.1 Pre-Construction Surveys

A pre-construction bird survey of the site will be conducted by the Environmental Officer or a suitably qualified ecologist/ornithologist in advance of any works so that any new breeding areas/colonies along the shoreline are identified. If any are found, best-practice mitigation will be recommended by the appointed Environmental Officer in consultation with the Planning Authority and NPWS.

5.3.10.2 Recommended Timing of Works

Where possible, works should be conducted in early autumn or late spring to avoid the main breeding and wintering periods for bird activity. By delaying works until later in the breeding season, the likelihood of an overlap between construction activity and breeding activity within the bay will be reduced.

5.3.11 Noise Management Measures

The contractor will put in suitable controls for monitoring of noise using monitors that can take real time noise readings. The contractor will put in place trigger limits and works will be stopped to review whenever the trigger limits are exceeded.

Control measures on site will include:

- Proper maintenance of plant and machinery to minimise the noise produced by on-site operations;
- All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the contract;
- Machines used intermittently will be shut down or throttled back to a minimum during those periods when they were not in use; and,
- Any plant, such as generators or pumps, which will be required to work outside of normal working hours, will be surrounded by an acoustic enclosure.

5.3.12 Vibration and/or Dust Management Measures

The following mitigation measures will be implemented at the site during all activities that may induce significant vibration and/or dust:

- For activities confined to specific locations and of limited duration, measures will be taken to minimise vibration due to plant and machinery on the site.
- Vibration monitoring will be carried out at any potentially affected properties during the works.

- Mandatory speed limits will be enforced within the harbour area particularly in weather conditions which are likely to generate dust.
- Material handling systems and main site compound stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting shall be applied as required if particularly dusty activities are required during dry or windy periods; and
- All complaints to be reported to the Site Manager and developers Project Manager and logged within an on-site register.

5.3.13 Risk of Accidents

Given the temporary nature of the construction stage and the scale of the proposed project, as well as the environmental controls that will be implemented from the outset, the risk of disasters (typically considered to be natural catastrophes e.g. a very severe weather event) or accidents (e.g. fuel spill, traffic accident) is considered low. To minimise environmental risk, no concrete pours will take place during severe weather events such as during flooding or heavy rainfall (10 mm/hr).

Best construction practice, including that for Health and Safety, will be employed to minimise the risk of any accidents occurring. All work on site will be carried out in compliance with the Safety, Health and Welfare at Work Act 2005, the Safety, Health and Welfare at Work (Construction) Regulations 2013, and all relevant Legislation and Work Practice to ensure that the construction areas, site environs and public roads remain safe for all users.

5.3.14 Turbidity Monitoring

A compact, durable and lightweight HydroLab MS5 probe containing a self-cleaning turbidity sensor, LDO (Luminescent Dissolved Oxygen) sensor, a temperature sensor and a conductivity sensor will be used to measure turbidity. The Probe will be mounted on a moored Toroidal buoy (1,350 mm in diameter) with galvanised steel/aluminium superstructure and baffle light fitted with 2 No. solar panels and battery box for housing the system and battery. The baffle light on each will ensure a subdued light output with less spill giving a softer glow that minimises any potential adverse ecological effects.

Each probe will have a telemetry system to relay data on a half-hourly basis back to a terrestrial monitoring station located at Ros an Mhíl Harbour. The monitoring station will include a data logging system with a real-time visual display of the transmitted data. To meet these requirements, two buoys will be deployed at the project site prior to initiations of works and will be decommissioned on completion of works. The proposed locations of these buoys are shown in Table 5-2.

Table 5-2. Proposed locations for surface water monitoring buoys.

Reference	Latitude	Longitude
Data Buoy 1	53.26311	-9.568614
Data Buoy 2	53.26728	-9.568247

5.4 Operational Phase Mitigation Measures

5.4.1 Water Quality Protection

Once completed and operational, the proposed development and harbour surface will be above the high-water flood level and will have an installed surface water drainage network with oil/fuel interceptors to manage drainage and prevent contamination of the waters of Cashla Bay.

Operational phase mitigation measures with regards water quality include the following:

- It is essential that the entire drainage system is well maintained and monitored for blockages/obstructions. It will be the responsibility of the site management team to ensure the drainage system is maintained and a programme of maintenance for the proposed storm water network and foul water network should be composed and enforced to ensure ongoing optimal effectiveness of the whole drainage system.
- There will be no disposal of waste at sea.
- All chemicals used on-board vessels will be stored in sealed, labelled drums in locked chemical cabinets in suitably bunded areas and with material safety data sheets. All Control of Substances Hazardous to Health (COSHH) guidelines on handling hazardous materials will be complied with and adhered to.
- Any accidental spillages on-board vessels will be contained and controlled using absorbing materials.
- Spill kits and hydrocarbon absorbent materials will be readily available on site, and all operators will receive comprehensive training in their proper use to ensure rapid response should spills occur.
- Vessels without sewage treatment systems will have suitable holding tanks and will bring waste on-shore for treatment in the sewage system operated by Údarás na Gaeltachta and all waste discharges will be monitored and recorded as per vessel procedures.

5.4.2 Lighting

During the operational phase of the proposed development, lighting will be provided in accordance with Section 3.1.3 of the Code of Practice: Safety and Health in Ports (ILO, 2018) which contains recommendations in relation to lighting for port facilities appropriate in the context of a deep water quay.

The site is already an operational harbour and bay with existing street lighting and the proposed lighting masts will have an average level of illumination of 50 lux in accordance with ILO (2018) recommendations. Although such levels of illumination are not expected to have the potential to cause significant ecological impacts, as a precautionary measure, the proposed floodlights will be of an asymmetrical beam design installed with the glass oriented parallel to the ground. This ensures that light is cast downward to minimise any horizontal light spill and, thereby, reduce disturbance to wildlife.

5.4.3 Compliance with International Regulations and Standards

The operational activities of the deep water quay will be conducted in accordance with applicable international regulations and standards including the following:

- International Labour Organization (ILO) Code of Practice: Safety and Health in Ports (ILO, 2018)

- Occupational Safety and Health (Dock Work) Convention, 1979 (No. 152) adopted by the General Conference of the ILO[65]
- ILO Recommendation concerning Occupational Safety and Health in Dock Work, 1979 (No. 160)[66]
- International Maritime Organisation (IMO) Solid Bulk Cargoes Code and Supplement (IMSBC Code)[67]
- International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (IBC Code)[68]
- International Code for the Safe Carriage of Grain in Bulk (International Grain Code)[69]
- Code of Practice for the Safe Loading and Unloading of Bulk Carriers (BLU Code)[70]
- International Maritime Dangerous Goods Code (IMDG Code)[71]

6. Residual Impacts

Based on the best scientific information available, it has been determined that in the absence of mitigation, the proposed development has potential for significant adverse water quality and/or indirect species disturbance/displacement impacts within the Connemara Bog Complex SAC, Kilkieran Bay and Islands SAC, Connemara Bog Complex SPA, and Inishmore Island SAC.

Detailed mitigation measures have been prescribed with regards to the protection of water quality and water-dependant species during the construction phase.

With the implementation of the recommended mitigation measures, as outlined in **Section 5**, above, it is objectively concluded that significant adverse residual impacts on the Conservation Objectives of any of the identified European sites evaluated herein, namely the Connemara Bog Complex SAC, Kilkieran Bay and Islands SAC, Connemara Bog Complex SPA, and Inishmore Island SAC, will not occur as a result of the proposed development, either independently or in combination with other plans or projects.

7. Conclusion

The Habitats Directive 92/43/EEC provides legal protection for species and habitats of European importance via the selection of geographical areas considered to be of particular importance to a region's most valuable and threatened species. This pan-European Natura 2000 network of protected areas, otherwise known in Ireland as 'European sites', includes Special Areas of Conservation (SACs) designated for habitats, plants and non-avian species, and Special Protection Areas (SPAs) designated for avifauna and their habitats (under the Birds Directive (79/409/ECC as codified by Directive 2009/147/EC)). To ensure the longevity of these European sites and to maintain or restore the favourable conservation statuses of the habitats and species within them, Articles 6(3) and 6(4) of the Habitats Directive set out a series of steps/stages that must be applied to plans and projects that may have a significant effect on a European site.

[65] Convention C152 - Occupational Safety and Health (Dock Work) Convention, 1979 (No. 152) Accessed: 21st July 2025
[66] Recommendation R160 - Occupational Safety and Health (Dock Work) Recommendation, 1979 (No. 160) Accessed: 21st July 2025
[67] IMSBC Code | IMO e-Publications Accessed: 21st July 2025
[68] IBC Code | IMO e-Publications Accessed: 21st July 2025.
[69] INTERNATIONAL-GRAIN-CODE.pdf Accessed: 21st July 2025.
[70] BLU Code | IMO e-Publications Accessed: 21st July 2025.
[71] IMDG Code – 2024 Edition | IMO e-Publications Accessed: 21st July 2025.

A Screening for Appropriate Assessment (Stage 1) was undertaken to identify whether the proposed development is likely to have significant direct or indirect impacts (or significant impacts could not be ruled out) on European sites identified as being within the zone of impact influence of the proposed development. The zone of impact was ascertained through the application of the Source-Pathway-Receptor (SPR) model and as a precautionary measure, all European sites located within fifteen kilometres of the proposed development site were considered. The screening process concluded that the proposed construction and operation of a deep water quay near Ros an Mhíl Harbour was not likely to have significant direct or indirect effects, either individually or in combination with other plans or projects, on one European site within the zone of influence. However, the same conclusion could not be reached with regards four European sites, namely Connemara Bog Complex SAC, Kilkieran Bay and Islands SAC, Connemara Bog Complex SPA, and Inishmore Island SAC, and significant effects because of the proposed development could not be ruled out. Consequently, the project proceeded to Stage 2 of the Appropriate Assessment process, and a Natura Impact Statement was produced.

This Natura Impact Statement (Stage 2) has considered the impact of the proposed development on the integrity of four European sites, namely the Connemara Bog Complex SAC, Kilkieran Bay and Islands SAC, Connemara Bog Complex SPA, and Inishmore Island SAC, either alone or in combination with other plans or projects, in relation to the structure, function and conservation objectives of each site. Following an examination, analysis and evaluation of the relevant information and best scientific knowledge, including in particular the nature of the predicted impacts from the proposed development, and with the implementation of the mitigation measures proposed, it has been determined the proposed construction and operation of a deep water quay near Ros an Mhíl Harbour in County Galway will not adversely affect (either directly or indirectly) the integrity of four European sites, namely the Connemara Bog Complex SAC, Kilkieran Bay and Islands SAC, Connemara Bog Complex SPA, and Inishmore Island SAC, either alone or in combination with other plans or projects, in light of the specific conservation objectives of each site.

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Appendix 1

Stages of Appropriate Assessment

Stage 1 - Screening

This is the first stage of the Appropriate Assessment process and is undertaken to determine the likelihood of significant direct and indirect effects on Natura 2000 sites, in light of their conservation objectives, because of a proposed project or plan, individually or in-combination with other plans or projects. It determines the need for a full Appropriate Assessment.

If it can be concluded that no significant direct and indirect impacts to Natura 2000 Sites are likely, in light of their conservation objectives, either individually or in-combination with other plans or projects, then the assessment can stop here. If not, it must proceed to Stage 2 for a more detailed assessment.

Stage 2 - Natura Impact Statement (NIS)

The second stage of the Appropriate Assessment process assesses the impact of the proposal (either alone or in combination with other projects or plans) on the integrity of the Natura 2000 Site(s) with respect to the conservation objectives of the site(s) and its ecological structure and function. This is a much more detailed assessment than Stage 1. A Natura Impact Statement containing a professional scientific examination of the proposal is required and includes any mitigation measures deemed necessary to avoid, reduce or offset negative impacts.

If the outcome of Stage 2 is negative i.e. adverse impacts to the Natura 2000 site(s) cannot be scientifically ruled out, despite mitigation, the plan or project should proceed to Stage 3 or be abandoned.

Stage 3 - Assessment of alternative solutions

A detailed assessment must be undertaken to determine whether alternative ways of achieving the objective of the project/plan exists.

Where no alternatives exist, the project/plan must proceed to Stage 4.

Stage 4 - Assessment where no alternative solutions exist and where adverse impacts remain

The final stage is the main derogation process examining whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project to adversely affect a Natura 2000 Site where no less damaging solution exists.

Appendix 2

Further Details of the Proposed Development's Construction and Operational Phases

Contents

Figures

Plates

Appendix

1. Introduction

The following subsections summarise the main construction phases and operational phase elements of the proposed deep water quay development at Ros an Mhíl in County Galway. Refer throughout to **Planning Drawings** in **Appendix A**.

1.1 Construction Phase

1.1.1 Reclamation Works

The existing reclaimed land from previous works (under parent Planning Application: 17/967) will be used as a working platform for construction of the quay wall. This land is currently at the +5 metre CD ground level but once the quay wall is constructed, the area will be raised by a further 2 metres to reach the +7 metres CD level required to ensure protection against flooding. The fill materials for this reclamation work will derive from imported rock, and dredged rock from the existing protective berm (to be removed once the quay wall is constructed), and material dredged during the remaining dredging works for the berthing pocket, quay wall foundations, turning circle, and approach channel.

The marine materials will be dredged from the barges and the berm using long-reach excavators.

1.1.2 Dredging and Blasting

Dredging activities that are yet to be undertaken include the following:

1. Initial dredging of previously constructed quay wall foundations to clear any rocks that may have fallen from the slopes onto the quay wall foundations.
2. Dredging at the remainder of the quay wall foundations (152 metres in length).
3. Dredging of protective rock berm after quay wall construction. This is currently located within the already blasted berthing pocket on the west side of the proposed quay wall. This dredged rock will be used as fill behind the quay wall (landside).
4. Dredging of the seabed within the turning circle and approach channel to a level of -7 metres CD. The majority of this material is expected to consist of sands, silts and gravels and it will be used as fill within the reclamation area. There may be some rock encountered within the dredging area that may require blasting, however, this is expected to be minimal (perhaps 3-10 blasts).

The marine area west of the -10 metres CD dredged berthing pocket will be dredged to a depth of -7 metres CD, with a ship turning circle of 150m diameter provided (see green and red areas in **Figure 1-1**). It is expected that approximately 3,000 m^3 of sand, gravel and silt will need to be dredged in this area. Bathymetric surveys were previously undertaken to identify the areas where dredging in the channel would be required.

When dredging soft or weak materials such as silks and soft clays, there is a need to reduce the volume of water brought up with the material. For this reason, hydraulic methods of dredging, which dilutes the dredged mixture, are not suitable. Backhoe dredgers are suitable for removing sands and clays at close to their *in situ* density. In addition, backhoes can be used to remove general soft underlying material above the rock before drilling and blasting if required. Since the rock dredging has and will be carried out using backhoe dredgers, the same technology will also be used to remove all the soft material.

As the seabed material is dredged, it will be loaded by the backhoe dredger on to a dumper truck on a self-propelled barge. Once loaded, the barge will then sail to the adjacent shoreline where the dumper truck will disembark and transport the material within the reclamation location.

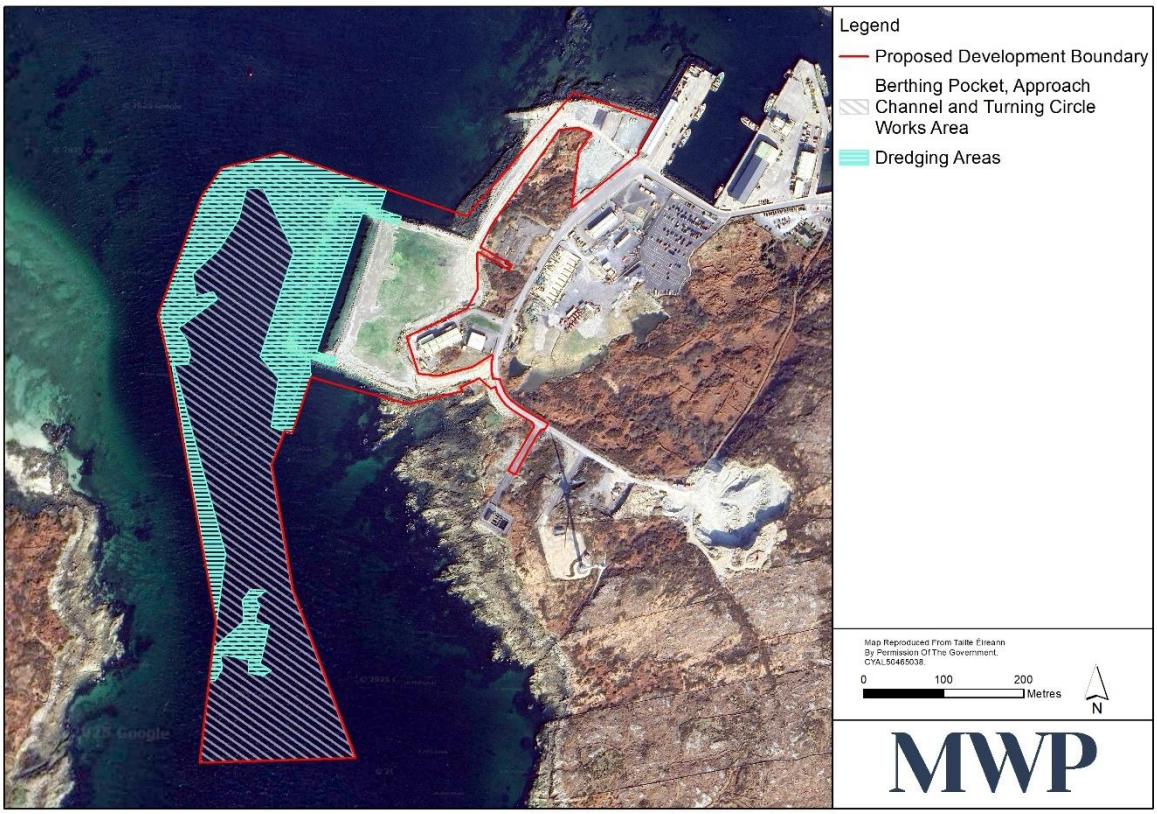

Figure 1-1: Marine areas to be dredged for completion of the proposed development.

1.1.3 Quay Wall

1.1.3.1 Construction of Quay Wall Foundation

During the previous works, 48 metres of quay wall foundations were installed. A further 152 metres will be laid as part of construction the proposed quay wall with foundations also being laid for the quay wall returns at the northern and southern end of the main wall. These foundations consist of precast reinforced concrete ground beams (12m long x 0.35m wide x 0.5m high) placed along front and rear lines of the proposed quay wall. The pre-cast concrete beams for the quay wall have been constructed off-site and will be delivered.

Plate 1-1 illustrates how the caissons would be placed on the foundation beams. The foundation beams will be lowered into the quay wall trench using land-based cranes and a levelling frame designed specially to lower the beams into position. Plate 1-2 shows this lowering frame with two beams attached before it was lowered into the quay wall trench during the previous works period. This frame has four adjustable hydraulic legs, which, once lowered into the trench and sitting on the bed, will adjust the levels of the beams and frame to the correct level for the foundations of the Quay wall. The top of the foundation beams needs to be at a level of -10 metres CD on the 200-metre-long front wall of quay and at -4.74 metres CD on the return walls of the quay. Once correctly positioned, divers will direct liquid concrete delivered via a Tremie Pipe (see Plate 1-3) to surround the concrete beams to hold them in position and ensure their stability and proper bearing. Once concreted into position and when the concrete has cured, the frame operator will release the beams, and the next set of beams will be installed.

Plate 1-1. Concrete caisson boxes (7 x 4 x 2 metres) being placed on precast concrete foundation beams during onshore trials.

Plate 1-2. Bespoke frame used to accurately lower the quay wall foundation beams in place.

Plate 1-3. Anti-washout liquid concrete being delivered via Tremie Pipe and directed by underwater divers to surround and hold the foundation beams in place.

1.1.3.2 Pre-cast Concrete Caissons

Bespoke pre-cast concrete caisson units have already been manufactured off-site for the proposed quay wall and are being stored at Banagher Concrete in County Offaly and at Harringtons Quarry in County Mayo. These are large concrete box units measuring approximately 7 metres x 4 metres x 2 metres (length x width x height) and weighing approximately 29 tonnes each (see Plate 1-4). These caissons will be delivered to site and used for the construction of the new quay wall.

Plate 1-4. Mock-up arrangement of concrete box caissons on precast concrete ground beams.

1.1.3.3 L-Wall Pre-cast Concrete Units

Fabrication of the bespoke pre-cast concrete L-Wall Units measuring 2.5 metres x 1.4 metres x 3.4 metres (length x width x height) and weighing approximately 12 tonnes each commenced off-site at Banagher Concrete in County Offaly during the previous works period (see **Plate 1-5**). These are required for placement on top of the caisson wall, as part of the construction of the upper section of the quay wall. These will be installed at the top of the quay wall above the caissons on the seaside. Thereafter, rock will be used to fill the area behind the caissons and these L-Shaped units.

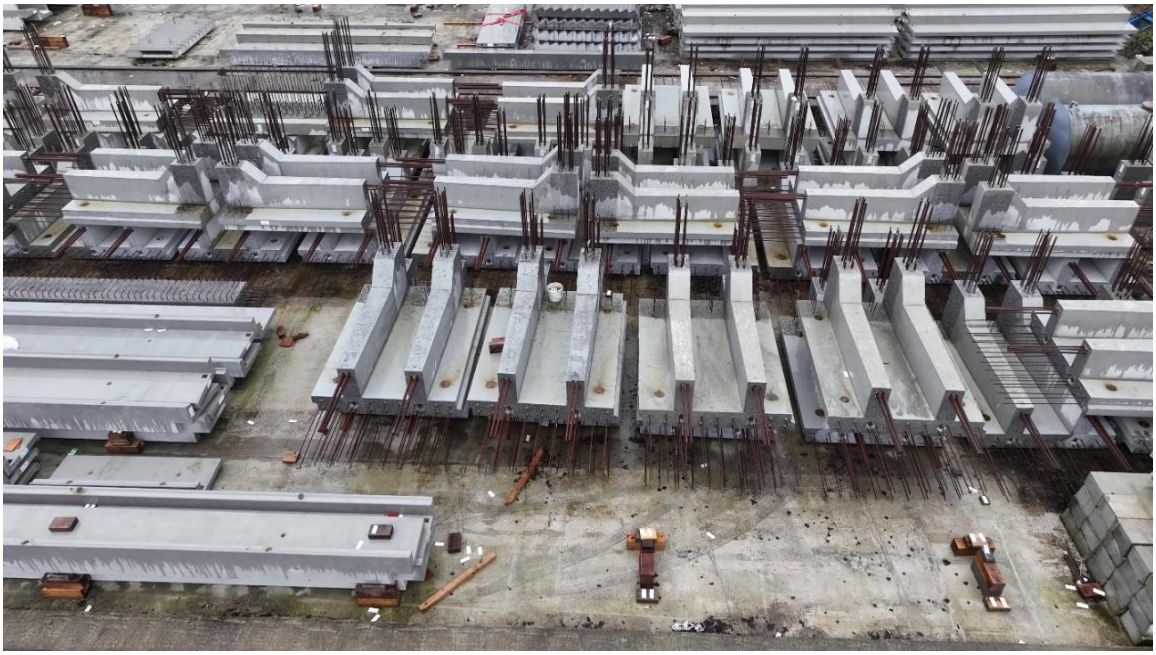

Plate 1-5. Precast wall sections to be placed on top of uppermost row of box caissons.

1.1.3.4 Quay Wall Construction

The overall length of the quay wall will be 200 metres. There will be two return walls located at either end of the main quay wall - one measuring 47 metres long at the northern end of the quay wall, and the other measuring 35 metres long at the southern end.

Quay wall construction involves the placement of the pre-cast caissons on top of the foundation beams/plinth (as illustrated in **Plate 1-5**). To form the wall, the caissons are installed in rows such that the short side forms the face of the wall. The wall is to be seven metres thick. The lowermost row is placed on top of ground beams. Rows are laid using a pattern similar to “stretcher bond” used in brickwork. Each caisson overlaps midway with the caissons in the row above and below. Once each row is positioned, they will be filled with concrete using a Tremie pipe (see **Figure 1-2**) prior to proceeding to next row. Six rows of caissons are to be installed on the 200m long quay wall. Precast wall sections are to be placed on top of the filled caissons.

The returns at either end of the quay wall will have three rows of caissons with precast wall sections on top. The top of the foundation will be a 4.74m CD for each of the returns. The southern return will extend for 35m from the front face of the main quay wall. The northern return will extend 47m from the face of the main quay wall.

Once the caisson wall is constructed, the 121 L-wall units will be connected to the top of the wall on the sea side, to reach the full height of the quay wall.

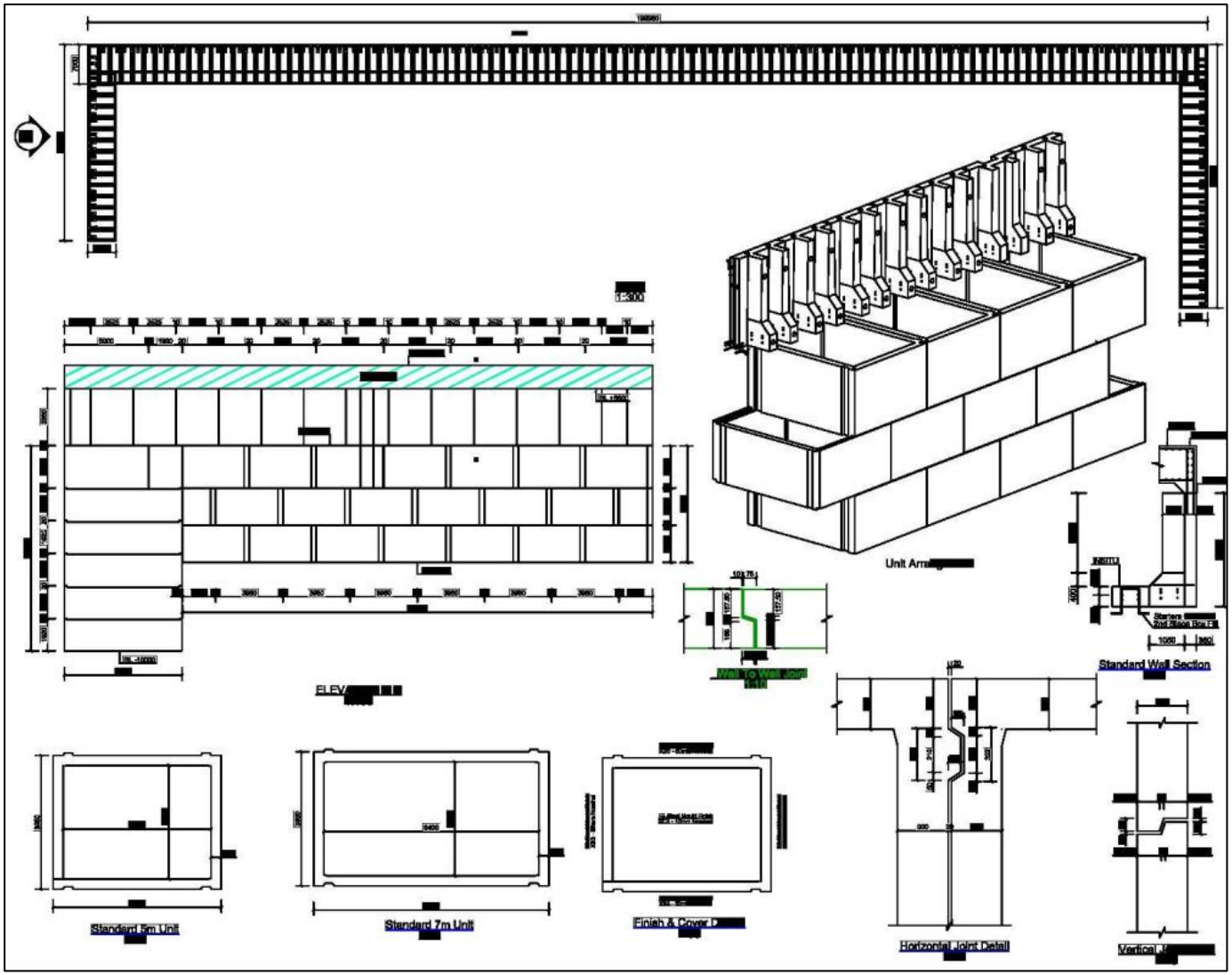

Figure 1-2: Caisson Quay Wall Design.

1.1.4 Fill Behind Quay Wall

Once the quay wall is constructed, the rock used for the protective berm around the quay wall will be excavated and dredged before being used to fill the remaining marine area behind the quay wall. The excavators previously used will be used for dredging and reclamation works.

The ground level of the reclaimed area east of the quay wall will then be raised another 2 metres above existing ground levels using dredged and imported fill material. This will include an imported Clause 804 capping layer of approximately 300 mm deep.

1.1.5 Final Ground Surface

A reinforced concrete slab, extending along the entire length of the quay and measuring 36m wide commencing at the front face of the quay wall, will form the quay deck. The slab will be laid to falls with the storm water being collected by means of road gullies. The storm water collector pipe will pass through an oil interceptor before being discharged to sea via a non-return valve. Prior to casting of the reinforced concrete deck, the area of the slab is to be surcharged with a three-meter depth of stone for a period of at least four weeks.

The remaining reclaimed land will be topped with a surface dressing using bituminous tack coat with stone chips. This will be used as a running surface for fisheries-related traffic within the area during the operational phase.

1.1.6 Protective Rock Armour Revetments

Construction of two 125m protective rock revetments from the existing shoreline to the proposed quay wall will be required - one to the north of the proposed quay wall, and one to the south. 112m of these rock revetments have already been constructed during the previous works period. Another 138m length of rock armour still needs to be installed to complete the revetment works. This will involve the use of underlying geotextile on which will be placed a 1.1m deep underlayer on top of which will be placed two layers of rock armour of sizes from 0.5. to 6 tonnes imported from local quarries. A total of 3,918 m^3 of this rock will be imported from local quarries. An example of the laying of a geotextile underlayer and rock armour layers along part of the southern revetment during the previous works is shown in Plate 1-6.

1.1.7 Access Roads and Entrance

A new asphalt access road connecting the concrete apron at the quayside to the existing road at the southern side of the site is proposed to be constructed. This will be a 200m long x 7.8m wide access route. There are to be 1.8m wide pedestrian footpaths on both sides of this access route as well as 1.2m high vehicle safety barriers on each side of the route.

Plate 1-6. Construction of rock armour for the revetment (underlaid with geotextile).

1.2 Operational Phase

1.2.1 Water Supply Services

Uisce Éireann currently provides a 250mm diameter water main to the edge of the harbour area. This water main is supplied by the Carraroe / Ros an Mhílg system. From the edge of the harbour area, a 100/150mm water main system supplies the existing harbour area. The water network within the harbour area is under the control of the Department of Agriculture, Food and the Marine (DAFM), which is responsible for distribution and water rates, thereafter.

It is proposed to extend this 100/150mm system to provide potable water to the deep water quay. The new water main will connect to the existing system at the beginning of the proposed access road, the new line will then run through a service duct in the road out to the deep water quay itself. The main will loop around the outside of the deep water quay in a service duct. Taps and hydrants will be provided at regular intervals for use on the deep water quay. The estimated maximum water demands at the quay is expected to be:

- Maximum Hourly Demand 50 m^3/hr
- Maximum Daily Demand 150 m^3/day

No significant increase in water demand is expected as a result of the new harbour facilities as the existing fisheries facilities and uses are expected to spread out. Water usage in the Fishery Harbour is typically 600m^3 per month between October and March and 300m^3 per month between April and September.

The existing harbour area is serviced by a sewerage system operated by Údarás na Gaeltachta. The sewerage system comprises of gravity fed lines that discharge into two pumping stations. The pumping stations pump sewage under pressure to the wastewater treatment plant. Treated sewage is disposed of through an outlet into Cashla Bay. Information provided by Údarás na Gaeltachta for the effluent treatment plant details the ultimate capacity of the plant as 2,100 m^3/week. The current loading is understood to be 956 m^3/week.

The deep water quay has been designed to accommodate mainly reefer ships (refrigerated cargo ships) and trawlers. A large number of reefer ships have their own onboard wastewater treatment systems and can discharge at sea in accordance with International Maritime Organisation requirements 3. However, in the event that wastewater collection/treatment facilities are required, then it is expected that the maximum loading would be of the order of 35m^3/week. It is proposed to provide sewerage discharge points at regular intervals along the deep water quay to be used by fishing vessels. The discharge points will feed into a 150 mm gravity sewer pipe that will run down the length of the quay. The gravity line will discharge into a small pumping station, which will in turn discharge into the existing sewerage network which is operated by Údarás na Gaeltachta.

Foul pumping station for DAFM harbour usage will have a typical maximum sewage volume from harbour/boats of 5 m^3/day at a max flow rate of 1.8 litres/second.

1.2.2 Stormwater Drainage Network

The deep water quay will be provided with cross falls to allow runoff to flow into road gullies and from there into a collector pipe under the centre of the quay. The central storm drain discharge will be processed by a proprietary oil separator system prior to discharge directly into the sea. The oil separator system will be serviced regularly, and any sludge build up will be collected by a licenced Contractor and disposed to an appropriately licenced facility.

Storm drainage network including road gullies, gully pots, manholes, pipe work 150mm diameter to 375mm diameter and a fuel separator to be laid beneath the surfaced dressed area as well as the concrete apron.

1.2.3 Vessel Fuel Bunkering

Vessels requiring fuel at the deep water quay will be serviced by road tankers discharging directly to the vessels. The frequency of these road tankers is not expected to be significant and will be less than one per day on average.

1.2.4 Electricity Supply and Substation

1.2.4.1 ESB Substation

The proposed development will include the construction of a new ESB Substation with an MV connection at the harbour development site, which will serve all of the electrical requirements of this site. This is to be constructed at the eastern boundary of the site. This substation will be connected to the existing substation on the lands to the east of this site.

1.2.4.2 Electrical Ducts

Electrical ducts throughout the site will connect the power supply at the proposed new ESB Substation to installed Utility boxes located along the quay and to the High Mast Lights, CCTV cameras, Foul sewer pump station and Fuel Interceptor on the site.

1.2.5 Lighting

Lighting will be provided in accordance with Section 3.1.3 of the '*Code of Practice: Safety and Health in Ports*' (2005) published by the International Labour Organization (ILO), which contains recommendations in relation to lighting for port facilities and which are considered appropriate in the context of the proposed deep water quay. These recommendations include:

- Adequate lighting of all working port areas should be provided during the hours of darkness and at times of reduced visibility.
- Different levels of lighting may be appropriate in different areas;
- On access routes for people, plant and vehicles, and in lorry parks and similar areas, the minimum level of illumination should not be less than 10 lux; and
- In operational areas where people and vehicles or plant work together, the minimum level of illumination should not be less than 50 lux.

It is proposed that 4 no. 25m high lighting masts will be provided on the deep water quay. Each mast will be fitted with 8 no. Lanterns complete with an adjustable electronic photocell. Feeder cabinets will be located adjacent to high masts. The average level of illumination will be 50 lux in accordance with the International Labour Organization recommendations. In addition, eight no. 6m high masts similar to existing street lighting already extant at Ros an Mhíl Harbour will be provided on the access road to the deep water quay.

There will be 3 no. quay hazard lights fixed on 3.3m high x 355mm diameter poles at the front corners of the quay and on northern return on quay wall.

1.2.6 Telecommunications Ducting

Underground ducting for telecommunications networks will be installed alongside the electrical network for the harbour. Eircom Telecoms company will supply a fibre broadband service into and throughout the Ros an Mhíl Harbour area.

1.2.7 Boundary Fencing, Safety and Security

1.2.7.1 Fencing of Proposed Development Site's Land Boundaries

Permanent security fencing to be installed along the site's land boundaries (see Plate 1-7). This fence will be a 2.4m high coated steel palisade fence coloured green. There will be matching gates at the entrance to the site.

Plate 1-7. Example of proposed 2.4-metre-high Palisade Fencing.

1.2.7.2 Seashore Security Barriers and Safety Facilities

The following security and safety facilities will be installed along the seashore of the harbour:

- Crash barriers along either side of the access road (see Plate 1-8)
- Automatic Security Barriers will be installed at the site entrance.
- Steel toe rails (see Plate 1-8) will be installed along the quay wall.
- 13no. 50T Stag Horn Bollards and 3no. 100T Stag Horn Bollards to be installed along quay edge.
- 10no. galvanised steel ladders (8m long) to be installed on face of quay wall.

Plate 1-8. Security/Safety facilities to be installed along the quay wall – toe rail (right), and bollard (left).

1.2.8 Development Lands Ownership

The proposed project lands are private lands - owned by the DAFM, and part by Údarás na Gaeltachta. Údarás na Gaeltachta have invested in basic infrastructure in the harbour area. To date the investment has taken the form of two commercial buildings; service roads and a slipway. The commercial units are leased to private tenant.

Appendix A

Planning Drawings

NOTES:

1. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, SERVICES AND ENGINEERING DRAWINGS.
2. ANY DISCREPANCIES BETWEEN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
3. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED.
4. USE DIMENSIONS ON DRAWINGS (DO NOT SCALE FROM DRAWINGS).
5. GRID AND COORDINATES ARE IN METRES RELATIVE TO I.T.M.
6. ALL LEVELS ARE IN METRES RELATIVE TO CHART DATUM (CD).
   O.D (MALIN) = +2.903MCD
   (POOLBEG) = +0.2MCD
7. MEAN HIGH WATER (MHW) = +4.4MCD
   MEAN LOW WATER (MLW) = +1.3MCD

CONSTRUCTION NOTES:

1. THE FOLLOWING SERVICES ARE TO BE PROVIDED TO THE BERTH AND HARDSTANDING AREA VIA SERVICE TRENCH(ES) AND/OR DUCTS:
   a) ELECTRICITY
   b) FRESH WATER
   c) FIRE FIGHTING FACILITIES
   d) TELECOMMUNICATIONS
   e) FOUL WATER DRAINAGE
2. SURFACE WATER DRAINAGE IS TO BE PROVIDED CONNECTING TO SUITABLE INTERCEPTOR PITS.
3. FURNITURE TO BE PROVIDED AT BERTH INCLUDES:
   a) BOLLARDS
   b) MOORING RINGS
   c) OVER-SIDE EMERGENCY LADDERS
   d) OVER-SIDE EMERGENCY LADDERS
   e) LIFE BELT MOUNTINGS
   f) SALT WATER FIRE HYDRANTS
   g) FRESH WATER HYDRANTS
   h) ELECTRICAL COMMUNICATION BOXES
4. BERTH AND SECURE HARDSTANDING TO BE LIT BY MEANS OF HIGH MAST FLOODLIGHTS.

CONCRETE NOTES:

1. STRUCTURAL CONCRETE SHOULD BE C40/50 WITH A MINIMUM CEMENT CONTENT OF 400kg/m3 (>46% GGBS). MASS CONCRETE SHOULD BE C20/25.
2. THE COVER FOR ALL STEEL REINFORCEMENT SHALL NOT BE LESS THAN 75MM UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
3. CONCRETE FINISH SHOULD BE U4.

GRANULAR FILL NOTE:

1. CLASS 6A MATERIAL IS TO BE USED TO FORM THE CORE OF THE NEW QUAY IN THE RECLAIMED AREA.
2. REFER TO VOL A: WORKS REQUIREMENTS APPENDIX 6/7 FOR SUB-GRADE AND SUB-BASE TESTING AND SURCHARGING.

LEGEND:

- DEVELOPMENT BOUNDARY
- 2.4M PALISADE FENCE
- ARMCO VEHICLE-BARRIERS
- ROADWAY - ASPHALT
- FOOTPATH - CONCRETE
- PIER - CONCRETE
- RECLAIMED AREA - SURFACED DRESSED

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SHEET NO:
1:2,500 | 3400-C, 3399-B AND 3400-A
1:5,000 | 3399

REV	DATE	DESCRIPTION	BY	APP
0	21.11.25	ISSUED FOR PLANNING	JK	CF

PROJECT:

ROS AN MHÍL DEEP WATER QUAY

TITLE:

SURFACE FINISH GENERAL LAYOUT

CLIENT:

DEPARTMENT OF AGRICULTURE, FOOD & THE MARINE

MWP
ENGINEERING AND ENVIRONMENTAL CONSULTANTS
CORK | TRALEE | LONDON | LIMERICK
mwp.ie

DRAWN:	CHECKED:	APPROVED:
JK	CF	CF
PROJECT NUMBER: 24984	DATE: NOVEMBER 2025	SCALE @ A1: AS SHOWN

ACCEPTANCE CODE:	PURPOSE OF ISSUE:	PURPOSE CODE:
S	ISSUED FOR PLANNING PERMISSION	P3

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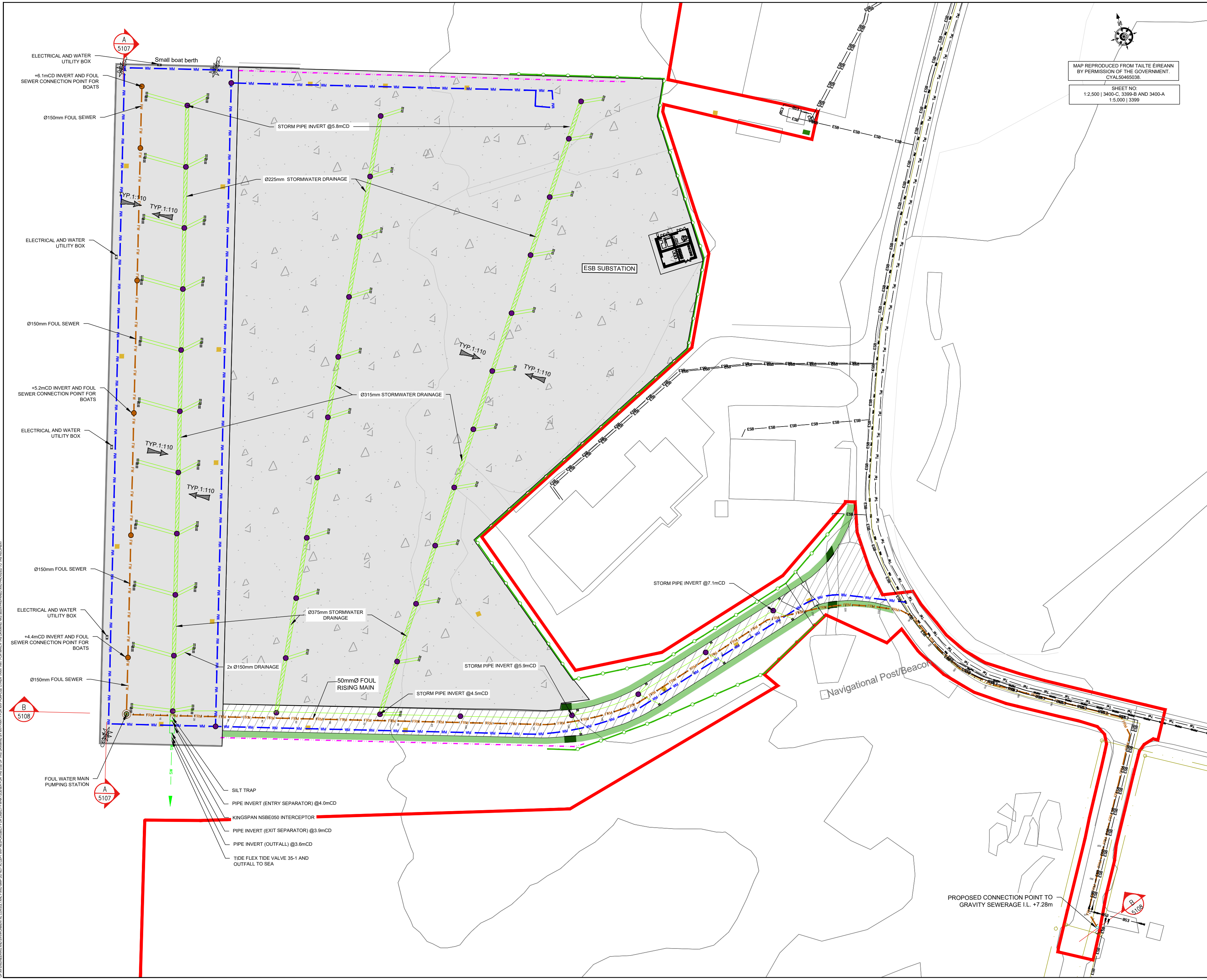

NOTES:

1. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, SERVICES AND ENGINEERING DRAWINGS.
2. ANY DISCREPANCIES BETWEEN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
3. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED.
4. USE DIMENSIONS ON DRAWINGS (DO NOT SCALE FROM DRAWINGS).
5. GRID AND COORDINATES ARE IN METRES RELATIVE TO I.T.M.
6. ALL LEVELS ARE IN METRES RELATIVE TO CHART DATUM (CD).
   O.D (MALIN) = +2.903MCD
   (POOLBEG) = +0.2MCD
7. MEAN HIGH WATER (MHW) = +4.4MCD
   MEAN LOW WATER (MLW) = +1.3MCD

CONSTRUCTION NOTES:

1. THE FOLLOWING SERVICES ARE TO BE PROVIDED TO THE BERTH AND HARDSTANDING AREA VIA SERVICE TRENCH(ES) AND/OR DUCTS:
   a) ELECTRICITY
   b) FRESH WATER
   c) FIRE FIGHTING FACILITIES
   d) TELECOMMUNICATIONS
   e) FOUL WATER DRAINAGE
2. SURFACE WATER DRAINAGE IS TO BE PROVIDED CONNECTING TO SUITABLE INTERCEPTOR PITS.
3. FURNITURE TO BE PROVIDED AT BERTH INCLUDES:
   a) BOLLARDS
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   c) OVER-SIDE EMERGENCY LADDERS
   d) OVER-SIDE EMERGENCY LADDERS
   e) LIFE BELT MOUNTINGS
   f) SALT WATER FIRE HYDRANTS
   g) FRESH WATER HYDRANTS
   h) ELECTRICAL COMMUNICATION BOXES
4. BERTH AND SECURE HARDSTANDING TO BE LIT BY MEANS OF HIGH MAST FLOODLIGHTS.

CONCRETE NOTES:

1. STRUCTURAL CONCRETE SHOULD BE C40/50 WITH A MINIMUM CEMENT CONTENT OF 400kg/m3 (>46% GGBS). MASS CONCRETE SHOULD BE C20/25.
2. THE COVER FOR ALL STEEL REINFORCEMENT SHALL NOT BE LESS THAN 75MM UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
3. CONCRETE FINISH SHOULD BE U4.

GRANULAR FILL NOTE:

1. CLASS 6A MATERIAL IS TO BE USED TO FORM THE CORE OF THE NEW QUAY IN THE RECLAIMED AREA.
2. REFER TO VOL A: WORKS REQUIREMENTS APPENDIX 6/7 FOR SUB-GRADE AND SUB-BASE TESTING AND SURCHARGING.

LEGEND:

- DEVELOPMENT BOUNDARY
- 2.4M PALISADE FENCE
- ARMCO VEHICLE-BARRIERS
- PROPOSED 150MMØ GRAVITY SEWER MAIN
- PROPOSED 50MMØ PRESSURE SEWER MAIN
- PROPOSED SURFACE WATER DRAIN
- PROPOSED WATER MAIN
- PROPOSED DRAINAGE CHANNEL
- DRAINAGE MANHOLE
- FOUL WATER MANHOLE
- TRAPPED ROAD GULLIES
- EXISTING E.S.B.
- EXISTING EIRCOM
- EXISTING WATER

REV	DATE	DESCRIPTION	BY	APP
0	21.11.25	ISSUED FOR PLANNING	JK	CF

PROJECT:

ROS AN MHÍL DEEP WATER QUAY

TITLE:

WATER, FOUL WATER & DRAINAGE GENERAL ARRANGEMENT

CLIENT:

DEPARTMENT OF AGRICULTURE, FOOD & THE MARINE

MWP
ENGINEERING AND ENVIRONMENTAL CONSULTANTS
CORK | TRALEE | LONDON | LIMERICK
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JK	CF	CF
PROJECT NUMBER: 24984	DATE: NOVEMBER 2025	SCALE @ A1: 1 : 500

ACCEPTANCE CODE:	PURPOSE OF ISSUE:	PURPOSE CODE:
S	ISSUED FOR PLANNING PERMISSION	P3

DRAWING NUMBER:	REV:
24984-XX-XXX-DR-MWP-CE-5104	0

NOTES:

1. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, SERVICES AND ENGINEERING DRAWINGS.
2. ANY DISCREPANCIES BETWEEN THESE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
3. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED.
4. USE DIMENSIONS ON DRAWINGS (DO NOT SCALE FROM DRAWINGS).
5. GRID AND COORDINATES ARE IN METRES RELATIVE TO I.T.M.
6. ALL LEVELS ARE IN METRES RELATIVE TO CHART DATUM (CD).
   O.D (MALIN) = +2.903MCD
   (POOLBEG) = +0.2MCD
7. MEAN HIGH WATER (MHW) = +4.4MCD
   MEAN LOW WATER (MLW) = +1.3MCD

CONSTRUCTION NOTES:

1. THE FOLLOWING SERVICES ARE TO BE PROVIDED TO THE BERTH AND HARDSTANDING AREA VIA SERVICE TRENCH(ES) AND/OR DUCTS:
   a) ELECTRICITY
   b) FRESH WATER
   c) FIRE FIGHTING FACILITIES
   d) TELECOMMUNICATIONS
   e) FOUL WATER DRAINAGE
2. SURFACE WATER DRAINAGE IS TO BE PROVIDED CONNECTING TO SUITABLE INTERCEPTOR PITS.
3. FURNITURE TO BE PROVIDED AT BERTH INCLUDES:
   a) BOLLARDS
   b) MOORING RINGS
   c) OVER-SIDE EMERGENCY LADDERS
   d) OVER-SIDE EMERGENCY LADDERS
   e) LIFE BELT MOUNTINGS
   f) SALT WATER FIRE HYDRANTS
   g) FRESH WATER HYDRANTS
   h) ELECTRICAL COMMUNICATION BOXES
4. BERTH AND SECURE HARDSTANDING TO BE LIT BY MEANS OF HIGH MAST FLOODLIGHTS.

CONCRETE NOTES:

1. STRUCTURAL CONCRETE SHOULD BE C40/50 WITH A MINIMUM CEMENT CONTENT OF 400kg/m3 (>46% GGBS). MASS CONCRETE SHOULD BE C20/25.
2. THE COVER FOR ALL STEEL REINFORCEMENT SHALL NOT BE LESS THAN 75MM UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
3. CONCRETE FINISH SHOULD BE U4.

GRANULAR FILL NOTE:

1. CLASS 6A MATERIAL IS TO BE USED TO FORM THE CORE OF THE NEW QUAY IN THE RECLAIMED AREA.
2. REFER TO VOL A: WORKS REQUIREMENTS APPENDIX 6/7 FOR SUB-GRADE AND SUB-BASE TESTING AND SURCHARGING.

LEGEND:

- DEVELOPMENT BOUNDARY
- 2.4M PALISADE FENCE
- ARMCO VEHICLE-BARRIERS
- LIGHT MAST (25M HIGH)
- LIGHT MAST (6M HIGH)
- CCTV
- QUAY HAZARD LIGHT
- ELECT — ELECTRICAL CABLE

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MAP REPRODUCED FROM TAILTE ÉIREANN BY PERMISSION OF THE GOVERNMENT. CYAL50465038.

SHEET NO:
1:2,500 | 3400-C, 3399-B AND 3400-A
1:5,000 | 3399

REV	DATE	DESCRIPTION	BY	APP
0	21.11.25	ISSUED FOR PLANNING	JK	CF

PROJECT:
ROS AN MHÍL DEEP WATER QUAY

TITLE:
ELECTRICAL GENERAL ARRANGEMENT

CLIENT:
DEPARTMENT OF AGRICULTURE, FOOD & THE MARINE

MWP
ENGINEERING AND ENVIRONMENTAL CONSULTANTS
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DRAWN:	CHECKED:	APPROVED:
JK	CF	CF
PROJECT NUMBER: 24984	DATE: NOVEMBER 2025	SCALE @ A1: AS SHOWN

ACCEPTANCE CODE:	PURPOSE OF ISSUE:	PURPOSE CODE:
S	ISSUED FOR PLANNING PERMISSION	P3

DRAWING NUMBER:	REV:
24984-XX-XXX-DR-MWP-CE-5105	0

Appendix 3

Planning Search Results

Application No.	Applicant	Location	Proposed Development	Decision
2561595	Minister of Agriculture Food and the Marine	Ros an Mhíl, Rossaveel Fishery Harbour Centre	Replacement of the existing shelters with new structures and public realm improvements	Received: 31/10/25 Decision due: 03/01/26
2560441	Oliver McDonagh	Ros an Mhíl, Galway	Construction of new dwelling house with a new garage and sewerage system. Gross floor space of proposed works: 218.00 sqm(H), 67.20 sqm(G)	Received: 17/04/25 Further information requested: 06/06/25
2460887	Julia Quinn	Na Doiriú Theas Baile na hAbhainn, Galway	Construction of a dwelling house, garage/shed and sewerage service. Gross floor area of proposed works: 79.30 sqm (h) & 48.00 sqm (g)	Granted: 01/04/25
2460370	Padraic O Briain	Ros a Mhíl, Co. na Gaillimhe	Constructtion of commercial centre with: (a) Ticket sales unit, (b) Ferry Offices, (c) Restaurant, (d) five retail outlets with parking and ancillary works. Gross floor area of proposed works: 995 sqm	Granted: 28/03/25
2460716	Padraic Ó Briain	Ros a Mhíl, Co. na Gaillimhe	Re-use car park previously approved under pl ref 041483 and to carry out other ancillary works on the site. Gross floor area of proposed works: 10sqm	Granted: 22/11/24
2460110	Áine and Seán O'Túathail	Ros an Mhíl, Ballynahown	Retention of: 1) existing dwelling house as constructed 2) attic conversion 3) existing garage as constructed 4) storage shed 5) all on revised site boundaries, all ancillary site works and site services. Gross floor space of work to be retained: 210.96 sqm (house) & 72.60 sqm (garage) & 19.04 sqm (shed).	Granted: 06/05/24
2460267	Eoin De Paor	Barr an Doire, An Cheathru Rua, Co. Na Gaillimhe	Construction of single-storey residential house of 226.24m² with 4 bedrooms, sewerage system, a place for relaxation and for work and services.	Granted: 07/05/24
2360504	ESB (Electricity Supply Board)	Aran Islands – Carraroe South Barraderry, Ballintleva, Carrowroe North, Derrynea and Carrowroe South	Development of 2 No. new single pole structures and refurbishment and upgrading works [including (where necessary) replacement of existing poles along existing overhead electricity line, minor ground works e.g. replacement or installation of stays, and maintenance or improvement works]; and all associated ancillary works including provision of temporary accessways. Replacement poles will be constructed at, or immediately adjacent to, the existing structures that they will replace. Replacement poles and new poles will have a maximum height of 12m above ground; and be similar in appearance to existing poles. Planning permission is sought for a 10-year period.	Granted: 05/06/2024
2360373	Minister of Agriculture, Food & the Marine	Rossaveel Fishery Harbour Centre	Development will consist of a 6 sqm wind lobby to the front of the existing Fishery Harbour Centre and modifications to the existing ramp access.	Granted: 03/07/23
2261326	Michael O Flaherty	Ros an Mhíl, Ballynahown	(a) First Floor Attic Conversion (75.08m²) (b) Alteration to Front & Rear Elevation including Ground Floor Extension (25.57.m²) (c) Partial Demolition to Rear of Dwelling (2.14m²) & all associated site works.	Granted: 03/07/23
2260729	Department of Agriculture, Food and the Marine	Ros an Mhíl	For a new storage building and all ancillary works. Gross floor space of proposed works: 316.50.	Granted: 05/12/22
221076	Minister of Agriculture, Food & the Marine	Rossaveel, Fishery Harbour Centre	The reclamation of a waterlogged area to the south of the Department of Agriculture, Food and the Marine's public car park.	Granted: 06/03/23
221001	Gearóid Mac Donnacha	Ros an Mhíl	For storage of fishing equipment and all other site work. Gross floor space of proposed work: 133.8 sqm.	Granted: 19/06/23
221000	Gearóid & Seosaimhín Mac Donnacha	Ros an Mhíl	Alteration to design of residential house permitted under Planning Applications 22/365 and 21/973. Gross floor space of proposed works: Extension 135 sqm. and Garage: 88 sqm.	Granted: 21/11/22
22985	Coláiste Chamuis Teoranta	Ros an Mhíl	Permission for 1) 1 no. new classroom, 1 no. new resource room, staff office, general office, 3 no. bathrooms, store room, first aid room, principal's office, hallway joining existing building, 2) provision of 2 no. signs on external walls of building extension, 3) services and all associated site works. Gross floor space: 347.93 sqm.	Granted: 21/11/22

Application No.	Applicant	Location	Proposed Development	Decision
22981	Bord Bainistíocht Scoil Cholmcille, Ros a Mhíl	Ros an Mhíl	a) Extension of Scoil Cholmcille, Ros a' Mhíl, b) Construction of pre-school, c) Upgrading of wastewater system, d) all other ancillary works. Gross floor space: 286 sqm.	Granted: 12/06/23
22448	Coláiste Chamuis Teoranta	Rossaveel Ballynahown	Permission to 1) Extend school building to create 4 No. new classrooms, a principal's office, a passage/circulation space, storage rooms, kitchen and dining room; 2) Alteration of toilet facilities to provide 10 No. unisex toilet cubicles and 2 No. staff toilet cubicles; 3) Addition of 8 No. staff bedrooms to existing on-site residential house; 4) Installation of photovoltaic panels on the roof of school building extension; and 5) Parking, services and all ancillary site works.	Granted: 11/07/22
22365	Gearóid and Seosaimhín Mac Donnacha	Ros an Mhíl	Alteration to the proposed layout of residential house and garage permitted under Planning Application 21/973. Gross floor space of proposed works is House: 98 sqm.; and Garage: 88 sqm.	Granted: 20/06/22
212255	Coláiste Chamuis Teoranta	Tealta na Hóige, Ros an Mhíl	Permission for 1) extension to existing Coláiste Chamuis building consisting of 2 no. new classrooms, 1 no. new resource room, alterations to 1 no. existing resource room, and a hallway adjoining existing building, 2) alterations to existing bathroom facilities to provide 16 no. unisex toilet cubicles, 1 no. wheelchair accessible cubicle, 2 no. staff toilet cubicles and store room, 3) alterations to pedestrian and vehicular access ways, bus parking, parking, services, site landscaping and all associated site works, 4) replacement and upgrade of existing wastewater treatment plant on site.	Granted: 14/03/22
21300	Minister of Agriculture, Food & the Marine	Rossaveel Ballynahown	Reclamation of foreshore and dredging of a new small craft harbour basin at Rossaveel Fishery Harbour Centre, Rossaveel, Co. Galway.	Granted: 29/11/21
201940	Bord Bainistíocht Scoil Cholm Cille	Ros an Mhíl	Extension of school and any related works. Gross floor space of proposed works: 44.81 sqm. Gross floor space of work to be retained 386.24 sqm and 27.8 sqm.	Granted: 25/10/21
201633	Bád Chlós Ros an Mhíl Teo	Ros an Mhíl	For 1) construction of boat maintenance and repair centre with offices and storage areas, and other ancillary works, 2) construction of new pier and mobile boat lift, 3) Installation of boat yard and car park 4) Construction of sewage treatment plant. Gross floor space of works: 1,268 sqm.	Granted: 12/07/21
GCC: 191378 ABP: 305960	Cumhacht an Tigh Sholais Teoranta	Ros an Mhíl (Rossaveel)	Construction, operation and decommissioning of one 10m high telecommunication mast, including a small concrete foundation and installation of underground ducting for power and communication cables to/from electrical substation building for wind turbine development. One no. telecommunication antenna and a lighting conductor will be attached to mast. The antenna is required for operation of grid connection for wind turbine granted under Planning Ref 2011/420.	GCC Grant: 25/10/19 Appealed: 26/11/19 ABP Grant: 25/03/20
GCC: 19746 ABP: 305079	Department of Agriculture, Food and the Marine	Ros an Mhíl (Rossaveel)	Construction of Amenity Facilities for the small Craft Harbour at Rossaveel Fishery Harbour Centre consisting of welfare facilities at ground floor level and an administration office at first floor level with associated ancillary services.	GCC Grant: 09/07/19 Appealed: 06/08/19 ABP Grant: 04/12/19
18547	Minister of Agriculture, Food & the Marine	Rossaveel	Refurbishment of existing slipway to improve low tide access. Raising and widening of slipway deck and the addition of a berthing face. Extension of existing rubble mound breakwater and re-grading of rock revetment to provide further protection of the small draft Harbour.	Granted: 06/08/18