MWP

ENVIRONMENTAL IMPACT ASSESSMENT REPORT (EIAR)

Volume 1: Non-Technical Summary

Department of Agriculture, Food and the Marine

November 2025

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Project No.	Doc. No.	Rev.	Date	Prepared By	Checked By	Approved By	Acceptance Code / Status
24984	6009	A	17/11/2025	VH/MT	CF	CF	FINAL

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1. Introduction

The Department of Agriculture, Food and the Marine (DAFM), the 'Applicant', is making an application to An Coimisiún Pleanála (ACP) under section 37L of the Planning and Development Act 2000, as amended, for permission to undertake works to complete a Deep Water Quay development at Ros an Mhíl Fishery Harbour Centre, Ros an Mhíl, Co. Galway. The DAFM has also made another application under the provisions of section 177E of the Planning and Development Act 2000, as amended, for retrospective permission in relation to development works already undertaken for the Deep Water Quay between 11th July 2023 and 20th May 2024.

Malachy Walsh and Partners (MWP) has been engaged by the Applicant to prepare this Environmental Impact Assessment Report (EIAR) to accompany the Application in respect of the remaining development works to be undertaken to complete the construction of the Deep Water Quay development.

The EIAR consists of a systematic analysis and assessment of the potential effects of the proposed project on the receiving environment. The intended purpose of the EIAR is to:

- inform decision makers and the public of the possible environmental effects and impacts associated with implementation of the proposed project,
- determine whether the identified impacts could be significant,
- suggest mitigation measures for potential impacts where feasible.

2. Site Location

Ros an Mhíl Harbour is located on the north-east shore of Cashla Bay near the village of Ros an Mhíl in Connemara. Ros an Mhíl is located, approximately 40 kilometres to the west of Galway city, within the functional area of Galway County Council. The location of the application site within Ros an Mhíl harbour is shown on **Figure 1**.

Ros an Mhíl village is located approximately 1km from the harbour. A number of residential dwellings, a local shop, a school, and a church are located within the village. Throughout the surrounding area there are a few localised industries making use of the harbour facilities. These include fish processing, net repairs, boat repairs and diesel and oil supply companies. These industries are dependent on the continued operation of Ros an Mhíl Harbour.

Ros an Mhíl is connected to Galway and the national primary road network via the regional R336 and R372 roads. The R336 / R372 provides a reasonable, albeit low capacity, highway route connecting Ros an Mhíl to Galway and the rest of the country.

Ros an Mhíl Harbour is primarily a fishing port and serves the Irish and foreign fishing fleet that operates off the coast of Galway. It lies between the major fishing ports of Killybegs to the north and Dingle and Castletownbere to the south. It can accommodate vessels up to approximately 5m draught.

The inner harbour is positioned on the north-east shore of upper Cashla Bay and is well sheltered. The existing harbour currently comprises two piers, known as Piers 1 and 2, along with a dedicated passenger ferry terminal and a small craft harbour. Pier 2 is the more recent development of the two piers. The disposition of these piers is such that they create an approximately rectangular shaped basin at the centre of the harbour.

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, wastewater treatment plant and a slipway. The commercial units are leased to private tenants. Other employers operating in the Harbour area include Bord Iascaigh Mhara (BIM) who operate an Ice Plant; and Iasc Mara Teoranta who operate a pelagic fish (mainly mackerel and herring) processing facility.

Figure 2 provides an aerial view of the present day status of the development site

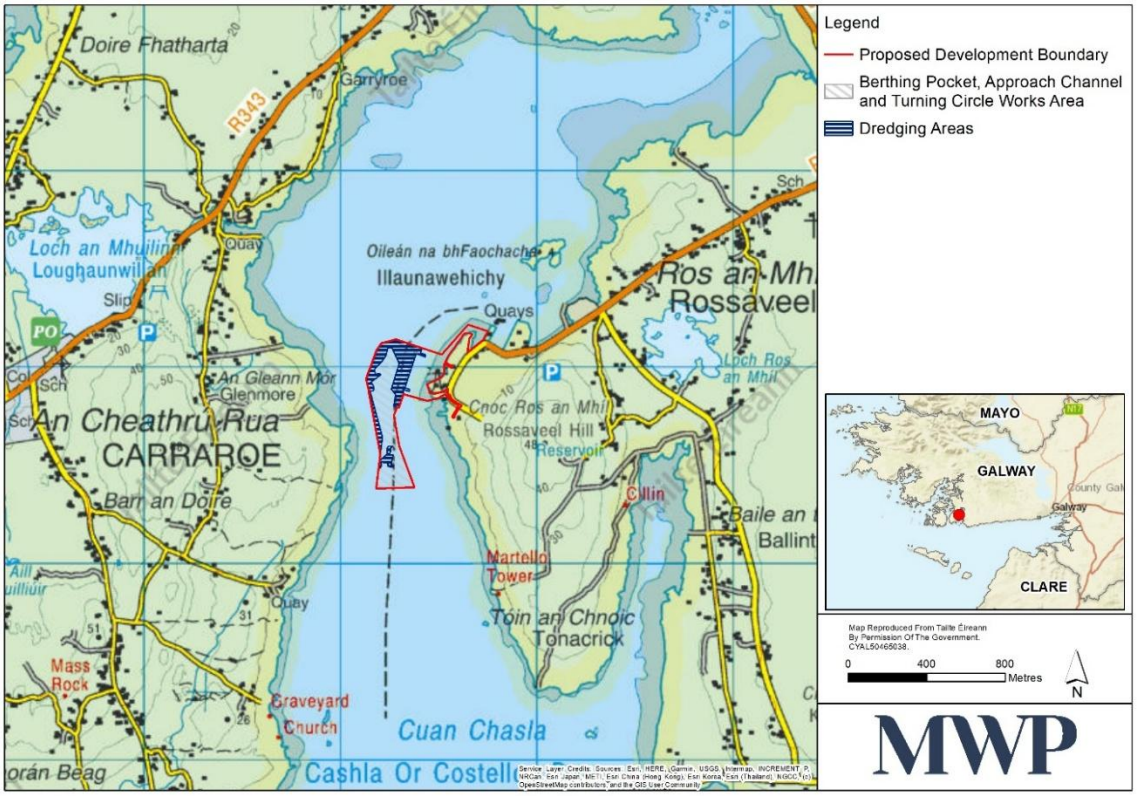

Figure 1: Location of the Development site at Ros an Mhíl

Figure 2: Photograph showing current view of the development site (Source Google Earth Pro)

3. Description of Development

The proposed Deep Water Quay Development will include the following main construction elements:

1. Works to complete a Deep Water Quay development as previously permitted by Galway County Council under Planning Ref 17/967 comprising
    a. Completion of a 200m quay wall construction using precast beams, precast caissons and precast L-wall units to full height of the quay wall;
    b. Dredging of a 30m wide x 200m long berthing pocket adjacent to the new quay to a depth of -10.0m CD (previously permitted to -12.0m CD);
    c. Dredging for a turning circle of 150m diameter (previously permitted at 200m diameter) to a depth of -7.0m CD (previously permitted to -8.0m CD) ;
    d. Backfilling behind the quay wall and raising ground level of reclaimed lands using rockfill up to +7mCD;
    e. Reinforced concrete deck behind the quay wall;
    f. Surfacing of the reclaimed lands;
    g. Asphalt roadway connecting the concrete apron at the quayside to the existing road;
    h. Install lighting columns, underground ducts, surface water drainage, outfalls, interceptor, foul water drainage system including pumping station;
    i. Placement of rock armour for revetments along northern and southern extent of reclaimed land;

j. Excavation by dredging and rock blasting (if required) of the navigation channel to provide for a fully dredged navigation channel of -7m CD and minimum width of 100m (previously permitted to -8.0m CD and minimum width of 74m);
k. A temporary site compound for contractor personnel including an effluent holding tank;
l. A temporary concrete batching plant to provide on-site concrete for the quay wall construction;
m. Install palisade fencing, roadside guard rails, gates and traffic barrier around land boundary of quay area; and

2. Further development comprising:

(i) A wastewater pipeline to connect proposed wastewater discharge points along the proposed quay to a new pumping station for onward discharge to an Údarás na Gaeltachta wastewater treatment network and plant at Ros an Mhíl; and
(ii) A new ESB electrical sub-station for dedicated power provision to the new deep-water quay.

4. Alternatives Considered

A detailed description and assessments of the alternatives considered is provided in Chapter 3 of the EIAR. This chapter provides an analysis of the alternatives (in terms of location, design and construction methods) which have been considered as part of the design of the development. In addition, the chapter profiles the need and objectives of the project.

4.1 Alternative site and layout options

The Ros an Mhíl deep-water quay has been the subject of the following previous planning applications:

- 2002 granted planning permission by Galway County Council with a subsequent amendment also granted planning permission by the Council in 2006 (and extension to the duration of that permission granted in 2011); and
- 2018 granted planning permission by Galway County Council, which expired in July 2023 and efforts to extend the planning permission were legally challenged and denied in October 2024.

The most detailed consideration of site and design alternatives was undertaken in advance of the 2002 application. This considered an in-shore quay option that was dismissed as impractical and inappropriate given that it would generate a significant, in the order of approximately five times greater, dredging quantities and the cost and environmental implications of the larger dredging volumes associated with inshore schemes was considered to heavily outweigh the advantages of avoiding marine works for an off-shore quay development.

The most suitable deep-water site identified was in the navigation channel about 380m west south-west of the existing fisheries harbour. Five off-shore options at this site were considered for the location and alignment of the deep-water quay as well as its associated vessel approach corridor and turning circle. These were all in the same deep-water area but considered different depths, angles of the quay and turning circle option. Option 5 was selected as the preferred option as it was close to the 5m contour which would provide for a smooth vessel departure and, with refinement, dredging quantities could be reduced slightly. There were also no significant negative features identified with this option.

There would be no significant difference in visual, traffic, material assets, water quality, flood, land and soils, cultural heritage, and population and human health effects between these different site options. The main environmental effects of concern would be related to the loss of marine habitat and disturbance or fatalities to

marine species and water quality effects during the construction phase. There are unlikely to be any significant differences in these effects from the 5 No. site options considered. Ultimately, the choice of site and design was based on need and practical, financial and operational constraints.

The 2002 assessment also considered different quay shape alternatives. A full reclamation with one deep water quay was one option considered, but there were other partial reclamation options associated with different quay wall shapes that were also considered. The advantages of the L and T quay shapes are that they would provide more berths of different depths and reduce the reclamation required. This would potentially reduce the loss of existing marine habitat although these areas would still be temporarily affected during the construction phase.

A full reclamation with one deep water quay would reduce the number of berths but would provide more onshore space for quayside fishing operations. From an environmental perspective, this option would lead to a greater loss of shallow coastal marine habitat compared to partial reclamation alternatives.

There was not expected to be any significant difference in visual, traffic, material assets, water quality, flood, land and soils, cultural heritage, and population and human health effects between these different shape options.

4.2 Differences between the 2017 and 2025 Planning Applications

The 2017 planning application proposed the preferred 2002 site option but did away with the inside quay. In this application the 2002 preferred development option for the deep-water quay was modified. The proposed -8mCD dredge depth in the channel and vessel manoeuvring area was maintained, but the alongside depth at the quay was increased to -12mCD to provide for the tidal arrival and departure of deeper draught vessels. The inside berthing face was also removed so that a larger open back-up hard standing area could be provided landward of the berthing face to better support quayside fishing operations. In addition to providing greater flexibility for quay side operations, removing the inside berthing face also reduced the capital cost of the development. This proposed full reclamation option with one 200m deep water quay was also more similar to the quays available at the Killybegs and Foynes harbours.

The current 2025 planning application to complete the works is largely the same as the 2017 application except for the following changes:

1. Some of the Údaras lands included in the 2017 planning boundary have been excluded.
2. The berthing pocket and quay wall trench will be blasted and dredged to -10mCD rather than the -12mCD proposed in 2017,
3. The dredging depth of the navigation channel and turning circle will reduce from -8mCD to -7mCD,
4. The dredging for a turning circle will reduce from the previously permitted 200m diameter to 150m diameter,
5. A new on-site substation is proposed, with a right of way to the existing neighbouring substation on the Údaras land.
6. An extension of the foul water connection pipeline along the road to the nearest pump station close to the existing Wastewater Treatment Plant (WWTP).
7. The proposed dredging of the turning circle and approach channel was excluded from the 2017 planning application boundary (but was indicated separately as the proposed dredging area). This was because the planning authority only had jurisdiction over the land-based activities and the DAFM did not need to apply for permission from other authorities for the dredging. In the 2025 planning application the proposed dredging area within the approach channel and turning circle is included in the planning application boundary due to the potential cumulative effects and to fully assess the potential effects on the marine environment.

8. There is also a minor change in the area to be dredged in the middle of the approach channel to remove some additional rocks on the west side that have been identified as a hazard and constraint for larger fishing vessels.

4.3 Alternative Deep Water Quay Construction Methodologies (2023-2024)

Various quay wall construction methods were considered in the preparation of the 2017 EIS. These included the following:

1. A Suspended Deck Option;
2. A Sheet-piled Wall Option; and
3. A Caisson Wall Construction.

These different methods and their effects were assessed, and the preferred and proposed option was the caisson wall construction method. This is the option granted planning permission in 2018. Construction on this quay wall began during the 2023 and 2024 harbour work. A portion of the foundations for this wall have been constructed, and all the caissons and other components have been manufactured and are in off-site storage.

This choice was largely informed by the comparative financial, practical and logistical aspects of the construction. This caisson quay wall was the simplest and most cost-effective option. From an environmental point of view the caisson wall construction method would also require less complicated and lengthy marine works.

All three of these options would require the same amount of reclamation and loss of existing shoreline habitat. The main differences in environmental effects would be related to the duration of the work and associated noise and water quality effects from construction and dredging activities. However, these were not expected to be substantially different. The sheet pile wall would require the use of more imported steel and coatings which would likely make greater contributions to carbon emissions and climate change. However, the use of concrete and steel supports for the precast concrete for the caissons would also contribute to carbon emissions and climate change.

There would be no significant difference in visual, traffic, material assets, flood, land and soils, cultural heritage, and population and human health effects between these different construction options.

4.4 Alternative Blasting and Dredging Options

All the blasting for the construction of the quay wall trench and berthing pocket were completed in 2024 and are the subject of the current substitute consent application (ACP Ref: SU07.323827). The effects of the blasting and dredging were assessed in the remedial EIAR and found to be not significant. The same methods of dredging and blasting are therefore the preferred option and are proposed to be continued for the remaining works. The assessment of alternative blasting and dredging methods was fully assessed in Chapter 3 of the remedial EIAR for the substitute consent application mentioned above.

5. Population and Human Health

The assessment of effects on population and human health (EIAR Vol 2 Chapter 4) evaluates the potential impacts of the remaining Ros an Mhíl deep water quay works on local population and human health. It reviews current conditions, predicts and characterises likely effects, assesses their significance, and identifies mitigation measures where needed. A key aim is to ensure the construction and operation phases do not diminish the quality of life

for individuals or communities. The analysis adopts the WHO's holistic definition of health, covering physical, mental, and social well-being and considering positive, neutral, and negative outcomes.

Ros a Mhíl Harbour sits on the north-east shore of Cashla Bay in Connemara, about 40 km west of Galway city, and supports fish processing, boat-and-net repairs, fuel services, a ferry terminal and a small marina. The surrounding Kilcummin area is sparsely populated, roughly 25 people per square kilometre, with steady population growth from 1,314 in 2016 to 1,403 in 2022, and locals generally reporting very good health. Land use is overwhelmingly maritime-focused, featuring two main piers, processing plants and support buildings, with little change anticipated beyond existing harbour lands. Employment is diverse, ranging from professional services to commerce and manufacturing, while tourism thrives through ferry links to the Aran Islands, the Wild Atlantic Way route and nearby cultural attractions.

The construction activities for the Ros an Mhíl Deep Water Quay will be confined entirely within the existing harbour footprint, about one kilometre from the nearest homes, so will not alter local settlement patterns or require any land take from agricultural or residential areas.

Noise from rock reclamation, quay wall assembly and dredging, and increased traffic will be managed under strict working hours (07:00–19:00 Mon–Fri; 07:00–14:00 Sat) and are not expected to significantly affect nearby communities. The site setup will include a contractor's compound and concrete batching plant within the designated development boundary, ensuring existing land uses remain undisturbed and landscape character impacts stay neutral and short-lived.

Up to 30 on-site construction personnel are anticipated, alongside off-site contracts for manufacturing and delivering caisson units and foundation beams from County Offaly, County Mayo, and nearby quarries. Local businesses will benefit from increased demand for accommodation, catering, transport and support services, providing a modest economic boost across the region.

Throughout the works, ferry operations, island services and marine tourism access will be maintained, with traffic coordination and clear segregation of construction zones to minimise disruption to visitors. Overall, the construction phase is predicted to have neutral to minor short-term effects on population, land use and human health; a positive but not significant uplift in employment and economic activity; and only an imperceptible impact on tourism and amenities.

During operations, the deep-water quay will slot seamlessly into the existing port, generating no new noise, traffic or lighting nuisances and leaving settlement patterns completely unchanged. It occupies land already dedicated to marine and industrial use, enhancing vessel berthing, fish processing and passenger services without displacing any agricultural or residential areas. Routine activities such as intermittent vessel movements, offloading and equipment use will produce only familiar harbour sounds, minimal dust and no measurable road-traffic or air-quality impacts, all well within the capacity of existing infrastructure.

The upgraded quay will sustain and potentially expand local employment in maritime, logistics and seafood processing, bolster suppliers and service businesses, and underpin future commercial investments without altering the region's economic character. Improved ferry handling and increased vessel capacity will also enrich the visitor experience for Aran Island passengers, preserving the harbour's working maritime aesthetic while reinforcing its role as a key tourism gateway.

During the construction phase of the project, the proposed best practice mitigation measures include the implementation of controlled working hours (Monday to Friday 07:00–19:00 and Saturday 07:00–14:00) and dust minimisation plan will be implemented to minimise any adverse effects on population and human health. During the operational phase there is not expected to be any increase in traffic or noise, and the visual effects will be slight and are aligned to the existing harbour and industrial character of the surrounding areas.

An effect during the construction phase is only likely to arise if this phase of the proposed development is to run concurrently with construction of another project. Based on a review of developments, plans and projects in proximity to construction works, there is no significant cumulative effects anticipated on Population and Human Health.

6. Biodiversity – Terrestrial Ecology

The proposed development at Ros an Mhíl Harbour in Connemara, County Galway involves the completion and operation of a deep-water quay. The project site itself is not subject to any nature conservation designations. However, four designated sites the Connemara Bog Complex SAC (002034), Kilkieran Bay and Islands SAC (002111), Connemara Bog Complex SPA (004181), Inishmore Island SAC (000213) are located within the Zone of Influence (ZOI). These sites are protected for their important habitats and species, including seabirds and marine life. A Natura Impact Statement (NIS) has been undertaken and concluded that the construction and operation of the proposed Ros an Mhíl a deep water quay 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.

The main ecological features considered in this assessment include coastal and marine birds (such as waders, gulls, corvids, and passerines), mammals (including otters and Irish hares), and common amphibians and reptiles. Field surveys confirm the absence of otters and other protected mammals like hedgehogs and badgers within the study area, which is characterised by ongoing industrial activity and disturbance. Habitats on-site are largely previously disturbed or engineered and do not support significant populations of sensitive species. The small areas of scrub and grassland previously present are considered to be of local importance only and have limited ecological value.

During the future construction works, temporary disturbance and displacement of birds and mammals may occur due to increased human activity, noise from piling, dredging, vibrations, artificial lighting, and the movement of heavy machinery. Water quality could be temporarily affected by sediment disturbance, construction runoff, or accidental spillages, which may impact aquatic, foraging or breeding habitats in the wider area. However, no permanent habitat loss is expected as the works will be confined to already disturbed or developed areas.

These impacts are assessed as temporary to short-term and unlikely to result in significant adverse effects. Disturbance to mobile species such as birds and mammals is not expected to have lasting consequences due to their ability to move to nearby alternative habitats. Similarly, any potential impacts on amphibians and reptiles are expected to be slight and reversible.

The project will be constructed in accordance with a Construction Environmental Management Plan (CEMP) which includes best practice mitigation measures such as sediment and runoff control, noise and vibration management, lighting restrictions, and spill prevention protocols to minimise disturbance and protect water quality. These measures will reduce the potential for negative effects on biodiversity during construction and operation.

Cumulative effects in combination with other local projects have also been considered and are not predicted to give rise to significant biodiversity impacts.

Overall, with the implementation of mitigation and good construction practices, no significant residual effects on biodiversity are anticipated as a result of the proposed development.

7. Land and Soils

The Land and Soils chapter of the Environmental Impact Assessment Report evaluates how the proposed development at Ros an Mhíl Harbour may affect the local ground conditions, including soil and geology. It reviews the current environment, predicts potential impacts, assesses their significance, and outlines mitigation strategies. Investigations included a review of the detailed geotechnical survey of the area with 81 boreholes and extensive lab testing of soil and rock samples, as well as a geophysical survey to map subsurface features and identify construction challenges.

The land uses on and around the Ros an Mhíl Deep Water Quay site includes a mix of seaport facilities, pastures, and moors and heaths. The site lies on gently sloping terrain with elevations between 1.60 and 7.20 metres and is underlain by complex geological formations, primarily granite and granodiorite from the Devonian period. Surrounding soils are mostly poorly drained peaty podzols with thin or absent topsoil, resulting in sparse vegetation. The area is mapped as having bedrock at or near the surface and lies on a poor aquifer with limited groundwater productivity. Radon levels are high, with about 20% of homes in the area likely to exceed safe thresholds. While nearby geological heritage sites and quarries exist, none are close enough to be impacted by the development. No metallic or non-metallic mineral deposits are recorded within the site itself.

During the construction phase of the proposed Ros an Mhíl deep-water quay, the development is expected to have neutral to minor negative effects on land use, soils, and geology. The site lies within an existing seaport area, and construction will take place on unused and reclaimed land, causing no change to surrounding land uses. The reclaimed ground will be surfaced with concrete and bituminous materials, creating an impermeable area for fisheries traffic. Potential risks include contamination from fuel, oil, cement, and wastewater, which could affect soil quality and groundwater if not properly managed. Soil erosion and sedimentation are also concerns, especially if exposed areas are left untreated. Dredging activities, necessary for vessel access, will involve removing soft seabed materials using backhoe dredgers, with the dredged material reused in land reclamation. Without mitigation, these activities pose short-term, localised risks to the land and soils environment, but with proper controls, impacts are expected to remain minimal.

During the operational phase, the proposed deep-water quay at Ros an Mhíl Harbour is expected to have a positive and lasting impact on local land use by improving harbour facilities for the fishing industry, which is vital to the surrounding community. The development will not alter existing land classifications but will enhance functionality within the seaport area. The reclaimed land will be permanently surfaced and equipped with a drainage system to prevent contamination and erosion, resulting in minimal impact on soils, geology, and nearby water quality.

Mitigation measures have been proposed to minimise potential impacts on land and soils during both the construction and operational phases of the proposed Ros an Mhíl deep-water quay. During construction, adherence to recommended practices is expected to keep environmental effects to a minimum. In the operational phase, safeguards include regular maintenance of drainage systems, proper storage and handling of hazardous materials, containment of spills, and strict waste management protocols, such as prohibiting sea disposal and ensuring onboard sewage is treated appropriately. These measures aim to ensure only minor impacts on local soils, geology, and hydrogeology.

Residual effects from the proposed development at Ros an Mhíl Harbour are generally minor, with most construction-related effects rated as not significant after mitigation. During operation, the development is expected to have significant positive effects on land use and soils, while potential impacts on water quality are considered not significant. A review of nearby planning applications found no other developments likely to contribute to cumulative effects, which are therefore considered negligible and require no additional mitigation.

In conclusion, the proposed development is not expected to cause any significant impacts on land, soils, or geology during either the construction or operational phases, provided that the recommended mitigation measures are properly implemented.

8. Water

This chapter of the EIAR considers the potential effects on the existing water environment arising from the proposed development. The overarching concern is ensuring no substantial reduction in water quality due to the project. It reflects the objectives of the Water Framework Directive (WFD 2000/60/EC) which is to prevent the deterioration of water bodies and to protect, enhance and restore them with the aim of achieving at least good status, and to achieve compliance with the requirements for designated protected areas.

The deep-water quay development is located within the Hydrometric Area 31 waterbody, a catchment of Galway Bay North. Cashla_SC_010 is the subcatchment, while the river sub basin is Keeraunnagark_North_010. Cashla Bay is designated as a coastal waterbody (IE_WE_190_0000), considered 'Not at Risk' under the WFD. Cashla Bay flows into the Aran Islands, Galway Bay, Connemara coastal waterbody (IE_WE_010_000), south of the development. The coastal water body has a 'Review' status under the WFD. The development is located in the Spiddal groundwater body, EPA code IE_WE_G_0004. It contains the catchments of the Corrib, Errif-Clew Bay and Galway Bay North. The groundwater body is deemed 'Not At Risk' under the WFD and in the most recent monitoring results available, 2016-2021, and has an overall value status of 'Good'.

A Flood Risk Assessment (FRA) was conducted by Hydro Environmental Limited in 2016/7. The development site is located in an area designated as Flood Zone A. This is an area with the highest probability of flooding, exceeding 0.5% for coastal areas, meaning there is a greater than 1-in-200 chance of coastal flooding occurring in these zones. The results of hydrodynamic modelling conducted in 2002 indicated that the construction of the deep-water quay would not significantly affect the current hydrodynamic regime in Ros an Mhíl Harbour.

Of the remaining construction activities to be completed, the most likely to affect water quality include the preparatory dredging for the quay wall, dredging (and blasting if required) of the approach channel, remaining backfill works and the installation of the 152m of quay wall foundations and the construction of the wall itself.

Once operational, the deep-water quay is not anticipated to produce any significant effects on water quality. There will be no further blasting or drilling of bedrock that would lead to an increase in suspended sediment. There may be some maintenance dredging required to be carried out to ensure the quay and berthing pocket remain navigable for vessels and maintain a level of -7m CD and -10mCD respectively. This future dredging work will be carried out under permit if required. 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 that will avoid and minimise any contamination of the adjacent sea waters by polluted surface water drainage.

The mitigation outlined for the initial EIAR regarding water quality can be followed for the remaining works to be completed. There were no negative impacts recorded on water quality during the duration of the works that were being carried out. However, continued turbidity, or the cloudiness of water, will be monitored during construction works as part of the water quality management efforts to ensure that water quality is protected.

Surface water runoff during the operational phase has the potential to carry pollutants into Cashla Bay. To minimize this risk the deep-water quay has been designed to integrate an appropriate drainage network with interceptors to manage drainage and prevent contamination of the water in Cashla Bay.

There are no anticipated residual effects on water quality envisaged from the works to be completed. The deep-water quay has been designed to be future proofed from flood events, with a level of +7.0mCD, an extra 300mm above the recommended +6.7mCD that was suggested in the FRA. The majority of works around the Bay are related to residential developments and are not considered to have a significant cumulative effect with the proposed development.

The proposed development is already located in the existing Ros an Mhíl Harbour complex, and the same safety and management protocols will be followed on the new deep-water quay proposed development. During the construction phase of the project, best practice measures will be implemented to minimise any adverse effects on water quality. There are also no significant negative effects on water quality anticipated during the operational phase due to the design of the height of the deep-water quay (+7mCD), the associated surface water drainage system with interceptors and the proposed mitigation measures.

9. Marine

This chapter of the EIAR considers the potential effects on the existing marine environment arising from the proposed development. The overarching concern is ensuring no substantial effects on the marine environment. The chapter has been written in adherence to the relevant legislation, including the Marine Strategy Framework Directive (MSFD 2008/56/EC), the objectives of the Water Framework Directive (WFD 2000/60/EC), the Birds Directive (2009/147/EC) and the Habitats Directive (92/43/EEC).

EXISTING BASELINE CONDITIONS : Benthic Communities and Fauna

The existing littoral zone within this study area comprises of boulders and is relatively sheltered to wave action. The upper shore consists of a narrow band of Pelvetia canaliculata with the spiral wrack Fucus spiralis below it. In parts, barren rock or yellow and grey lichens dominate the upper shore. The mid-shore is dominated by dense knotted wrack Ascophyllum nodosum, which supports the epiphytic algae Vertebrata lanosa. The green algae Cladophora rupestris is present on the rocks below the A. nodosum zone. Within the A. nodosum zone, raised areas of bedrock are colonised by barnacles and limpets. A narrow band of the serrated wrack Fucus serratus is present below the A. nodosum zone and below that kelp Laminaria digitata is present in the sublittoral fringe.

The main channel is predominantly coarse gravel and sand with decaying red and green seaweeds with tunicates on them and anemones buried in the sand and the starfish Asterias rubens on the substrata. The pinnate sea pen Virgularia mirabilis was also recorded from the area. There is also a patch of circalittoral muds in the centre of the channel.

The western margin of the channel is mainly dominated by a mixed substratum with L. saccharina and mixed filamentous algae (SS.SMp.KSwSS.SlatR). There are also patches of sandy gravel dominated by seagrass Zostera marina along this western margin (SS.SMp.SSgr.Zmar). The Zostera beds in the southern part of the western margin are extensive whereas the beds in the northern part are quite sparse.

Aquafact surveyed the study area in June 2025 to reconfirm the habitats and communities identified in previous surveys.

Taxonomic identification of benthic fauna across all seven subtidal grab stations surveyed in the vicinity of the Ros an Mhíl Harbour yielded a total count of 255 taxa comprising 6,052 individuals ascribed to nine phyla. Of the 225 taxa identified, 155 were identified to species level. The remaining 70 taxa could not be identified to species level due to life stage (juveniles) or damage.

The Drop-down video (DDV) survey identified areas suitable for grab survey (for fauna and sediment contaminants) as well as identifying locations of potential reef habitat. Two main broadscale habitats,

'SS.SMx.CMx - Circalittoral mixed sediment' and 'SS.SMp - Sublittoral macrophyte-dominated communities on sediments', were identified from the DDV survey.

Marine Mammals

Marine mammals in Ireland are protected under the EU Habitats Directive (92/43/EEC). All cetaceans are listed under Annex IV of the Habitats Directive as species requiring strict protection in their natural range (Article 12, EC Council Directive 92/43/EEC). The harbour porpoise Phocoena phocoena and the bottlenose dolphin Tursiops truncatus, together with both seal species occurring in Irish waters, the grey seal Halichoerus grypus and the harbour seal Phoca vitulina, are listed in Annex II and further protected under Article 3 of the Directive, as species whose conservation requires the designation of Special Areas of Conservation (SACs).

Harbour seals are known to haul out at several locations in Cashla Bay. A robust baseline population assessment was conducted in 2003, numbers at haul out sites in Cashla Bay ranged from 1 to 12 individuals. Subsequent monitoring surveys recorded maximum counts in inner Cashla Bay of 108, 77 and 77 in 2009, 2010 and 2011 respectively, while counts of 74 and 72 were recorded in inner Cashla Bay in 2012 and 2013 respectively. Grey seals are recorded within Cashla Bay; however, there are no known grey seal haul out or breeding sites in Cashla Bay. Grey seal individuals are known to frequent the area to forage within the active fishing port of Ros an Mhíl.

A number of cetaceans have the potential to occur in the vicinity of the development. A search of the IWDG casual cetacean sightings database, accessed through the National Biodiversity Centre portal revealed that five species of cetacean were recorded in Cashla Bay and adjacent waters in Galway Bay, species recorded were bottlenose dolphin, common dolphin Delphinus delphis, harbour porpoise, minke whale Balaenoptera acutorostrata and humpback whale Megaptera novaeangliae. Of these species, only bottlenose dolphins were recorded in inner Cashla Bay, while bottlenose dolphin and minke whale were recorded in at Cashla Point.

Basking shark Cetorhinus maximus occur around all Irish coasts with greatest numbers occurring on our Atlantic seaboard. A number of records are noted in outer Galway Bay, while a single basking shark was also recorded in in Cashla Bay in 2012.

Otter Lutra lutra, an Annex II species, which is a qualifying interest of the Kilkieran Bay and Islands SAC and the Connemara Bog Complex SAC, occurs within Cashla Bay (NBDC, 2025) and may forage in the vicinity of the proposed deep-water quay.

Fish and Shellfish

The Cashla system is a good example of western acidic spate river which supports both Atlantic salmon Salmo salar and sea trout Salmo trutta. Juvenile salmon spend two years in freshwater before migrating to the sea as smolts in April or May. The spawning stock in the Cashla river varied between circa 500-1000 individuals from 2019-2023.

Juvenile salmon spend two years in freshwater before migrating to the sea as smolts in April or May. From January to May, spring (multi-sea winter, MSW) salmon return to Irish rivers, from June to October summer salmon (1SW or 'grilse') are present. Grilse generally make up the majority of the spawning stock, with spring salmon contributing a smaller proportion. The spawning stock in the Cashla river varied between circa 500-1000 individuals from 2019-2023 and is currently assessed as above the advised Conservation Limits for the river.

Inland Fisheries Ireland fish counter data for the year 2023 reported; 69 spring salmon, 389 grilse, 68 late summer salmon, and 827 sea trout in the Cashla river.

European eel Anguilla anguilla are reported from numerous sites in Connemara and potentially occur within the Cashla catchment also. Adult European eels leave Irish rivers between September and January with juvenile 'glass eel' returning from January to March.

Commercial and Recreational Fisheries

A number of commercially important shellfish species also occur within the bay. Ros an Mhíl is an active fishing port with an active inshore fishing fleet, larger inshore vessels (>10m) from Ros an Mhíl generally fish along the north shore of Galway Bay and out to the Aran Islands, however a number of smaller inshore vessels (<10m) operate within Cashla Bay. These vessels may target European lobster and brown crab throughout the year with creels or shrimp with shrimp pots from September to December. A set net fishery targeting bait, crayfish Palinurus elephans or pollack Pollachius pollachius (pending availability of quota) may also occur in outer Cashla Bay and Galway Bay. Line fishing for Mackerel or Pollack can also occur depending on availability of quota. A mixed demersal fishery and seasonal pelagic mid-water trawl fishery are also noted in the North Sound and north shore of Galway Bay.

Two recreational shore mark locations are reported within Cashla Bay: at Ros an Mhíl harbour and Carraroe. Reported species include cod, pollack, dogfish species, thornback ray Raja clavata, black pollack Pollachius virens, mackerel, wrasse species, whiting, European conger eel Conger conger, mullet Chelon spp. and European flounder Platichthys flesus.

Assessment of Marine Effects

The construction impacts relevant to the assessment of marine effects included:

- Habitat Disturbance or Structure change;
- Suspended Sediments, smothering and siltation rate changes;
- Underwater Noise, and;
- Death or injury by collision.

The significance of the effects of each of these impacts were assessed taking into consideration the sensitivity to Important Ecological Factors (IEFs) and the magnitude of the impact.

The significance of the marine effects due to habitat disturbances and structure change impacts as rates as slight, as the relevant IEFs that could be affected had a medium to low sensitivity and the construction phase impacts had a low magnitude.

The significance of the marine effects due to the impact of suspended sediments, smothering and siltation rate changes was determined to be not significant to slight, as the relevant IEFs that could be affected had a medium to low sensitivity or were not sensitive, and the construction phase impacts had a low magnitude.

Death or injury by collision during the construction phase was deemed to be of and imperceptible significance due to negligible sensitivities of the relevant IEFs and a negligible impact magnitude.

Underwater noise effects for dredging, drilling and blasting differed and were assessed separately. There were also differences in the degree of sensitivity to noise amongst the IEFs.

Regarding **injury** from underwater noise during **dredging and drilling works**, the significance of the effect was determined to be of imperceptible for most IEFs while for the Group 3 fish the effect was not significant. Magnitude across all IEFs are considered negligible.

Significance for **disturbance** from **dredging** activities was determined to be not significant for all IEFs except for low frequency cetaceans, which was considered imperceptible. Magnitude was deemed Low apart from low frequency cetaceans again, which was considered negligible.

Injury effects to IEFs due to noise impacts from blasting ranged from not significant to moderate depending on species sensitivity (which ranged from medium to low) and the magnitude of the impact was ranged from medium to negligible. Disturbance to species from blasting was determined not significant to slight. While all IEFs has a low sensitivity, the magnitude of the impact ranged from with a negligible to low.

Operational Phase Effects

During the operational phase the presence of infrastructure and increased vessel activity have the potential to impact on the marine ecology. Relevant pressures were identified based on the OSPAR (2011) pressure definitions; these were aggregated into the following pressures for the purpose of this assessment.

- Permanent loss of habitat or change of habitat type due to presence of infrastructure;
- Death or injury by collision.

Habitat loss or habitat change pre-mitigation was determined to be not significant and negligible magnitude, while death or injury by collision during the operation phase was deemed to be not significant and low magnitude.

Construction Phase Mitigation Measures

The mitigation outlined for the initial EIAR regarding the marine environment can be followed for the remaining works to be completed.

For pollution control, there was potential for accidental spills or leaks of fuels, oils, or hydraulic fluids from construction equipment operating near or on the water. To mitigate these risks, best-practice construction environmental management must be maintained. Key measures include bunded fuel storage, spill kits, and regular equipment checks to prevent hydrocarbon leaks and timing in-water works outside biologically sensitive periods, where possible.

The unmitigated impact on salmon and sea trout caused by injury resulting from blasting noise was assessed as ‘Moderate’ in recognition of the presence of vulnerable life stages present in the area, and the sensitivity of the local populations. To mitigate potential impacts to these species operational restrictions shall be implemented to restrict operations during sensitive periods.

- No blasting shall be conducted between 1st April and 31st May, inclusive, as this is the time of year when smolts of both species will be transiting through Cashla Bay.
- No blasting shall be conducted between 1st June and 31st August, inclusive, as this is the peak migration of returning adults of both species through Cashla Bay.

The remaining construction works of the deep-water quay at Ros an Mhíl present potential pathways for the introduction and spread of invasive alien species (IAS) in the marine environment. Marine infrastructure developments often act as vectors for IAS through increased vessel traffic, ballast water discharge, and the attachment of non-native organisms to construction materials, equipment, and vessel hulls. Quay structures, pontoons, and submerged surfaces can also serve as new hard substrates for colonisation by opportunistic non-native fouling organisms, which may subsequently spread to surrounding natural habitats. To minimise the introduction and spread of IAS, a suite of biosecurity measures should be implemented during the construction phase. These include cleaning and inspection of all marine plant, vessels, and construction equipment before deployment on site, sourcing materials such as rock fill from terrestrial, non-marine locations and avoiding

material with prior aquatic exposure, ensuring that ballast water management practices comply with IMO Ballast Water Management Convention standards, regular monitoring of new structures for colonisation by non-native species, Development of a Biosecurity Risk Assessment and, if needed, a Rapid Response Plan for any detected IAS. With proper controls, the likelihood of IAS establishment due to the development is considered low, though continued vigilance during the remainder of the construction phase remains important.

Marine mammal mitigation guidelines were applied for drilling, blasting and dredging operations. These include:

- A dedicated MMO shall be on site during all dredging, drilling and blasting operations, including within the protective berm, and for all operations where an excavator bucket is expected to make contact with the seabed or material on the seabed;
- A clear line of communication between the MMO and operators will be established;
- All mitigation measures shall be implemented for all species of cetacean, seal, marine turtle, otter and basking shark;
- A 30-minute pre-watch prior to operations shall be undertaken. The MMO shall maintain constant surveillance of the mitigation zone from a suitable platform;
- A mitigation zone of 500m radius from the sound source shall be implemented. For blasting, this will be 1,000m;
- A WMO sea state four or less, 1km or more of visibility beyond the limits of the mitigation zone, and daylight, is required for the MMO to conduct a pre-watch;
- Following the detection of a marine mammal within the mitigation zone during the pre-watch, a delay in commencement of operations shall be adhered to until the animal is visibly observed to have left the mitigation zone, or at least 15 minutes has elapsed since the animal was last detected in the mitigation zone;
- During any breaks in sound of >30 minutes, a full 30-minute pre-watch shall be conducted prior to recommencement of operations.

Operational Phase Mitigation Measures

Surface water runoff during the operational phase has the potential to carry pollutants into Cashla Bay. These pollutants can include fuels and oils from vehicles, sediment run off, heavy metals and chemicals from activity on the deep-water quay. To minimize this risk the deep-water quay has been designed to integrate an appropriate drainage network with interceptors to manage drainage and prevent contamination of the water in Cashla Bay.

The remaining operational mitigation measures required involve the following:

- The installed surface water drainage system and interceptors will be monitored for blockages and integrity and maintained to ensure their ongoing optimal effectiveness;
- No waste will be disposed of at sea;
- Hazardous wastes will be stored in sealed, labelled drums in locked chemical cabinets;
- Spills on deck will be contained and controlled using absorbing materials;
- Vessels without sewage treatment systems will have suitable holding tanks and will bring waste onshore for treatment in the sewage system operated by Údarás na Gaeltachta;
- All chemicals used on-board should be handled in compliance with COSHH instructions on handling hazardous materials;
- Chemicals will be stored appropriately in suitably bunded areas and with material safety data sheets; and;
- All waste discharges will be monitored and recorded as per vessel procedures.

The operational phases of the deep-water quay at Ros an Mhíl presents potential pathways for the introduction and spread of invasive alien species (IAS) in the marine environment. To minimise the introduction and spread of IAS, a suite of biosecurity measures should be implemented during the operational phases. With proper controls, the likelihood of IAS establishment due to the development is considered low, though continued vigilance during the operational phase remains important, particularly given the quay's role in facilitating marine access and transport.

Residual marine impacts were identified for the permanent loss of benthic marine habitat to land habitat resulting from the reclamation of land and construction of the pier wall, however, the impacted benthic habitats are widespread in Irish waters including the Connemara coast, and are not identified as habitats of conservation concern or protected under any national or international Legislation or Agreement. No significant residual impacts were identified for any other IEF identified.

It is concluded, in light of the marine impact assessment, that the construction of the project in line with mitigation measures outlined above, will have minimal adverse impacts on the receiving environment either individually or cumulatively with other developments in the area.

10. Material Assets

The material assets assessment has addressed the construction and operational related impacts of the proposed development on material assets located in the vicinity of the proposed Ros an Mhíl Deep Water Quay in County Galway. Material Assets in the vicinity of the proposed development include electrical/grid infrastructure, wastewater infrastructure, water supply, surface water drainage, telecommunications, gas and waste management.

The site for the proposed quay is mainly along the shoreline and involves reclaimed land, so there were no existing services or infrastructure on most of the site before the previous construction works began and no new services were installed during the previous works. Table 10-1 below provides a summary of the existing material assets and services within and around the existing Ros an Mhíl harbour area.

Table 10-1: Summary Table of Existing Material Assets in and around the proposed development area.

#	Material Asset	Existing Situation
1	Grid Capacity and Electrical Infrastructure	Electricity to the Ros an Mhíl harbour area is supplied by overhead power lines along a nearby road and underground cables that connect to a substation close to the quay site. This substation then distributes power to the harbour area.
2	Waste Water Infrastructure	The harbour's wastewater is managed by a system operated by Údarás na Gaeltachta, which uses gravity-fed pipes and pumping stations to send sewage to a treatment plant located just south of the site. This plant treats the sewage before releasing it into Cashla Bay. The plant currently operates below its full capacity.
3	Water Supply	Water is supplied to the harbour by a main pipe from the nearby Carraroe/Ros an Mhíl system, and smaller pipes distribute water around the harbour. The Department of Agriculture, Food and the Marine

#	Material Asset	Existing Situation
		(DAFM) manages the water supply within the harbour area. There is no specific water supply infrastructure installed yet at the quay site.
4	Surface Water Drainage	Before the development, much of the site had no drainage infrastructure. The area includes coastal land and parts of Cashla Bay. However, the wider harbour area has drainage systems made up of stormwater drains and gullies.
5	Telecommunications	Fibre telecommunications are provided throughout the harbour by Eir.
6	Gas	There are no gas transmission lines within the development site.
7	Waste Management	No specific waste management activities are currently carried out on the development site itself. However, the wider port area is covered by a Port Waste Management Plan maintained by the DAFM to ensure proper handling of waste and to protect the marine environment.

Tables 10-2 and 10-3 below provide a summary of the construction and operational pre-mitigation effects on material assets. Table 10-4 summarises the proposed mitigation measures.

Table 10-2: Summary Table of Construction Effects on Material Assets

#	Material Asset	Construction Phase Effects	Significance Rating
1	Grid Capacity and Electrical Infrastructure	A new electrical substation will be built on site to power the harbour. Temporary brief power interruptions to nearby homes or businesses might happen during connections but will be rare and short.	Not Significant
2	Waste Water Infrastructure	New sewer pipes and pumping stations will be installed to handle wastewater from fishing vessels. Construction might cause brief, minor disruptions or temporary local impacts on wastewater flow or nearby water quality, but no long-term problems are expected.	Slight
3	Water Supply	The existing water system for the harbour will be extended to supply the new quay. Brief localized water shutoffs may occur during connections, but these will be short and infrequent. Construction must follow good practices to avoid contamination.	Slight

#	Material Asset	Construction Phase Effects	Significance Rating
4	Surface Water Drainage	Measures will be in place to prevent pollution from construction runoff. Temporary, minor local impacts on drainage or nearby waters might occur.	Slight
5	Telecommunications	No changes or disruptions to telecom services are expected during construction.	Imperceptible
6	Gas	There is no gas supply connection needed or available in the area, so no effects on gas infrastructure.	No Effect
7	Waste Management	Construction will generate typical waste which will be carefully managed to avoid litter or pollution. Without proper management, minor negative local effects could occur, but a waste plan is in place to prevent this.	Slight

Table 10-3: Summary Table of Operational Effects on Material Assets

#	Material Asset	Operational Phase Effects	Significance Rating
1	Grid Capacity and Electrical Infrastructure	The new power supply system will function without noticeable effects on the local electricity network.	Imperceptible
2	Waste Water Infrastructure	The existing treatment system has enough capacity to handle waste from the new quay. Effects on wastewater services will be negligible.	Imperceptible
3	Water Supply	The extended water supply system will operate smoothly, providing water to the quay without impacting the current network.	Imperceptible
4	Surface Water Drainage	The quay will have drainage with an oil separator to treat runoff before releasing it into the sea. Regular maintenance will be needed to prevent minor long-term impacts on local waters.	Slight
5	Telecommunications & Gas	No new connections or impacts on telecommunications or gas infrastructure are expected during operation.	No Effect
6	Waste Management	Strict waste control procedures will continue during operation to minimize environmental impact, focusing on recycling and proper disposal to protect the marine environment.	No Effect

Table 10-4: Summary of the proposed mitigation measures for the various material asset effects.

#	Material Asset	Mitigation Measures
1	Grid Capacity and Electrical Infrastructure	During the construction phase, the contractor will take all necessary steps to ensure that existing electricity services and utilities are maintained without interruption unless previously agreed with the power company (ESB Networks). Any work near electrical infrastructure will be carried out in close consultation with ESB Networks, following their safety guidelines to protect workers and equipment. If new connections are needed, the contractor will obtain permits and follow all requirements set by ESB Networks. In the operational phase, no specific mitigation measures are expected to be necessary, as the development will not significantly affect electricity infrastructure once construction is complete.
2	Waste Water Infrastructure & Water Supply	Throughout construction, mitigation measures outlined in the Construction Environmental Management Plan (CEMP) will be followed during the installation of water and wastewater infrastructure. Any temporary water supply for the temporary site compound will be agreed with DAFM. To enable leak detection, a water supply meter will be installed for the temporary water supply. The water meter will monitor consumption of water and will be used to help confirm potential leaks. Wastewater from on-site welfare facilities will be collected in holding tanks and regularly removed by licensed waste contractors to prevent contamination. No mitigation is expected to be needed during the operational phase, as water and wastewater systems will be stable and fully integrated by then.
3	Surface Water Drainage	The contractor will implement the surface water management practices detailed in the CEMP and Surface Water Management Plan (SWMP) during construction. This includes putting in place sediment controls before excavation to prevent runoff from contaminating watercourses, with regular checks to ensure their effectiveness. Once operational, the drainage system will be maintained through scheduled cleaning and monitoring to keep it functioning properly and prevent blockages.
4	Telecommunications	None proposed or needed
5	Gas	None proposed or needed
6	Waste Management	Waste generated during construction will be managed according to a Waste Management Plan that emphasises reducing waste, reusing materials, and recycling wherever possible. Prior to starting work, the contractor will update this plan with specific details on waste contractors and disposal locations to ensure compliance and efficiency. During the operational phase, the quay will continue to follow strict waste management practices in line with the existing Port Waste Management Plan. This includes ongoing efforts to minimize waste, segregate materials properly, and recycle. Staff training and regular audits will support these sustainable practices to protect the marine environment.

After applying all mitigation measures, the project is not expected to cause any significant negative effects on electricity, water, wastewater, surface water drainage, telecommunications, gas, or waste management. Any impacts that do occur will be minor, local in scale, temporary or brief during construction, and essentially unnoticeable during operation..

11. Archaeology and Cultural Heritage

This chapter assesses how the proposed deep-water quay at Ros an Mhíl may affect the surrounding archaeological, architectural, and cultural heritage. It aims to identify any heritage features within or near the site and recommend measures to protect them. The assessment builds on previous studies and includes a detailed desktop review of historical records, maps, and inventories, as well as site inspections of both land and marine environments. Geophysical and sonar surveys were used to detect underwater anomalies that could indicate archaeological remains. The study is guided by national and international heritage laws and conventions, ensuring that any monuments or culturally significant features are safeguarded throughout the development process.

The baseline heritage environment around the proposed deep-water quay at Ros an Mhíl was assessed within 500m and 1km buffers to understand its archaeological, architectural, and cultural context. The area lies on the coastal edge of Cashla Bay, near Rossaveel Hill, and includes low-lying reclaimed land and intertidal zones. Historical records and cartographic sources reveal a rich cultural landscape, with evidence of prehistoric activity such as fulachta fiadh and standing stones, medieval ecclesiastical sites, and post-medieval structures like mills and Martello towers. Two recorded monuments, a Martello Tower and a children’s burial ground, are located about 1km southeast of the site. No protected structures or unrecorded heritage features were found within the development footprint. Underwater surveys identified potential archaeological features in Cashla Bay, but these lie outside the area of direct impact. The site is also within the Gaeltacht region, where the Irish language and cultural identity are protected under local planning policies.

During the construction phase, no cultural heritage features are expected to be found within the development footprint, and the project is not expected to impact any known or potential archaeological, architectural, or cultural sites nearby. All predicted effects are deemed insignificant or imperceptible. However, as the site lies within a Gaeltacht region, the use of English-only signage could slightly undermine the area's Irish language heritage, representing a minor, local, and short-term negative effect without mitigation.

During the operational phase of the deep-water quay, no impacts on unknown cultural heritage or archaeological features are expected from maintenance dredging, as these areas will have already been addressed during construction. Again, the use of English-only signage in this Gaeltacht region may slightly undermine the prominence of the Irish language, representing a minor, local, and long-term negative effect if not mitigated.

Mitigation measures for the proposed development focus on safeguarding cultural heritage and supporting the local Gaeltacht community. While no known archaeological features are at risk, there is a small chance of uncovering underwater artefacts during dredging. To address this, the developer must follow legal obligations under the National Monuments Acts and prepare an Archaeological Method Statement approved by the National Monuments Service. This will guide monitoring and protection of nearby heritage features. Additionally, to preserve the Irish language and cultural identity of the area, signage will prioritise Irish, contractors will be encouraged to hire Irish-speaking workers, and an Irish-speaking Liaison Officer will be appointed during construction.

No residual effects are expected on cultural heritage features following the completion of the proposed development. Known archaeological sites lie outside the project footprint and will remain undisturbed. While there is a slight possibility of encountering unknown underwater archaeology during dredging, this will be managed through monitoring and adherence to national guidelines. Language and cultural heritage impacts related to the Gaeltacht setting will be fully mitigated through bilingual signage and the employment of Irish-speaking personnel. No cumulative effects are anticipated, provided the proposed mitigation measures are implemented.

In conclusion, no known archaeological, architectural, or cultural heritage features exist within the development footprint, and previous construction activities between January 2023 and May 2024 did not uncover any unrecorded heritage resources. The remaining construction works are therefore not expected to impact any potential subsurface or underwater heritage features. Should any previously unknown archaeological material be encountered during dredging, it will be effectively managed through the implementation of the approved pre-construction Archaeological Method Statement. Known heritage sites located outside the development area are sufficiently distant, and any effects from the remaining works are predicted to be negligible or imperceptible.

12. Noise and Vibration

The noise and vibration impact assessment has considered potential impacts of noise and vibration from the proposed Ros an Mhíl (Deep Water Quay development. The assessment considers impacts during both the construction and operational phases and evaluates how noise and vibration could affect sensitive receptors. The chapter also outlines the mitigation that will be taken to prevent or reduce any adverse effects.

The Ros an Mhíl area is a quiet rural and coastal setting with relatively low levels of existing noise. The main contributors to the existing sound environment are marine activities within the current harbour, low levels of road traffic, localised fishing and industrial activity, and natural sounds such as waves and wind. To understand current conditions, a detailed baseline noise survey was carried out at the nearest noise-sensitive locations (NSLs), including nearby residential properties. These surveys showed that overall noise levels in the area are generally low, particularly during night-time periods, confirming the area's rural and tranquil character.

There are no significant existing sources of vibration in the area.

Construction of the deep water quay will involve activities such as dredging, quay wall construction, reclamation, and general earthworks and marine-based operations. These works have the potential to generate elevated noise and vibration.

The assessment found that construction works for marine infrastructure such as the quay wall, could generate intermittent high noise levels, especially near the shoreline. However, most of the heavy works are located at a sufficient distance from the nearest houses or other sensitive receptors. As a result, while temporary increases in noise are expected during certain phases of construction, the effects on people living in the area are not predicted to be significant, particularly when planned mitigation measures are in place.

Construction-related vibration levels are predicted to be below the thresholds for damage to buildings and will not be perceptible at most residential properties. Impacts on wildlife from underwater noise and vibration will be managed through timing of works and adherence to marine mammal protection guidelines.

Once completed and operational, the deep water quay will be able to accommodate larger shipping vessels but no increase in fishing activities is envisaged.

Therefore, there are no significant noise and vibration impacts during the operational phase expected.

The potential for cumulative noise and vibration impacts from the proposed development in combination with other nearby or future projects was also considered. No significant cumulative impacts are predicted due to the relatively isolated location and the limited scale of other developments in the area.

During construction, a range of practical measures will be implemented to minimise noise and vibration impacts. These include using quieter equipment, switching off machinery when not in use, maintaining vehicles and haul routes, and locating noisy activities away from nearby homes and sensitive sites where possible. Additional protective features, such as noise barriers, will be used when needed. Advance notice will be given to nearby residents before particularly noisy activities like blasting.

A comprehensive noise and vibration monitoring protocol will be included in the Construction Noise and Vibration Management Plan. This will involve monitoring:

- Regularly throughout construction (not at pre-arranged times),
- During particularly noisy or high-risk phases of work,
- In response to valid noise or vibration complaints,
- At representative locations near sensitive properties, and
- For every blast, with monitoring carried out by the blasting contractor at high-risk locations.

Special attention will be given to protecting nearby historic structures, such as the Martello Tower. Although the structure is considered robust and unlikely to be damaged, continuous vibration monitoring will be carried out throughout construction to ensure its protection. During construction, noise and vibration levels will be monitored regularly, particularly during key phases or in response to any complaints.

Once the development is complete and operational, no noise or vibration mitigation or monitoring will be required, as the development is not expected to cause any significant impact during this phase.

In summary, after all proposed mitigation is in place, the development is not expected to cause any significant residual noise or vibration effects during either the construction or operational phases. During the construction phase, noise from site activities and traffic will be temporary and managed through best practice measures. As a result, any remaining noise impacts will be local, short-term, and range from imperceptible to not significant. Vibration during construction is expected to be neutral and imperceptible, even in nearby sensitive areas. For the operational phase, noise levels from the completed development will remain within acceptable thresholds at all nearby sensitive locations. These operational noise effects will be local, long-term, and not significant.

In summary, with mitigation in place, construction noise and vibration will be minor and well-controlled. Operational noise will not cause any noticeable impact. There will be no significant residual effects from noise or vibration. Operational noise and vibration levels will remain comparable to existing conditions due to design-led mitigation and best practice management. The development will be compatible with the quiet, rural setting of the area, ensuring minimal disturbance to local communities and the environment.

13. Air Quality and Climate

The Air and Climate Chapter assesses the potential effects of the proposed development on air quality and climate during its construction and operational phases.

The assessment followed best practices and current guidelines. It evaluated the baseline air quality, the potential impact of construction activities such as dust and vehicle emissions, and the potential climate impacts associated with the construction and operation of the harbour. The cumulative effects of nearby developments and future climate change impacts were also considered.

Under the Air Quality Standards Regulations (2011), the harbour is located in Zone D, Rural Ireland (areas excluding Dublin, Cork City and other large cities and towns). Long term trends (2010-2023) for small towns in Ireland show a downward trend for the main pollutants of concern, PM2.5 and NO2. The primary sources for these pollutants are solid fuel combustion and vehicle emissions. The annual mean for those years is well below the EU annual limit value however further improvement will be required when Directive (EU) 2024/2281 is required to be transposed into national legislation by December 2026.

Construction phase air quality impacts would include emissions from vehicle exhausts. The movement of machinery, construction vehicles and the use of generators during the construction phase would generate exhaust fumes containing predominantly carbon dioxide (CO2), sulphur dioxide (SO2), nitrogen oxides (NOx), carbon monoxide (CO), and particulate matter (PM10). Traffic levels during the construction period of the development were below the Transport Infrastructure Ireland (TII) criteria which warrant a quantitative assessment of construction traffic and are therefore unlikely to cause significant air quality effects. The construction stage traffic is therefore considered to have the potential for a not significant, adverse and short term effects on air quality.

In terms of air quality, the greatest likelihood of effects during the construction stage will be from dust emissions associated with the construction works. Using Institute of Air Quality Management (IAQM) methodology, the dust emission magnitude is considered low risk across all construction activities. There are no highly sensitive receptors in close proximity to the development area. As part of the Construction Environmental Management Plan, dust mitigation measures will be implemented. Therefore, effects from dust will be temporary and not significant, with mitigation measures applied.

During the operational phase there will be no additional traffic generated and no other source of significant pollutants.

Dredging operations can sometimes lead to the release of unpleasant odours, particularly if the dredged material contains decaying organic matter or other contaminants. During historical dredging operations in Ros an Mhíl Harbour, hydrogen sulphide (H2S) was not encountered. However, during the site investigation works undertaken by Fugaro in 2001, there was evidence of a high organic content in some locations (inner harbour area) with a moderately strong to strong organic odour noted. As such, odour mitigation measures have been specified in order to minimise the effect of this operation to prevent any nuisance which might be experienced at sensitive receptors.

The climate assessment in the Air Quality Chapter is divided into two distinct sections –a climate change risk assessment (CCRA) and a greenhouse gas assessment (GHGA) .

Climate change risks to the harbour are primarily sea level rise and storm surges. Through mitigation by design, the level of the deep water quay is proposed to protect against the present day 200-year return period tidal flood level and incorporate an additional allowance for sea level rise. It is therefore assumed that the development will be resilient to climate change risk.

Greenhouse Gas Assessment: Emissions from domestic maritime and aviation sectors form less than 5% of sectorial transport emissions (Government of Ireland, 2024). Further, ports and airports are key to our connectivity as an island nation, and ports act as key strategic delivery partners for other sectoral decarbonisation plans.

Ros an Mhíl fishing fleet has remained relatively stable over the years however there has been a slight decline in the larger vessel categories. The development of a deep-water quay will ensure the sustainability of the harbour operation in the longer term.

Carbon emissions for transport projects would include embodied carbon from the production, transport and construction of materials. The use of concrete, aggregates and steel materials in the construction of the deep water quay will result in greenhouse gas emissions. This is a consequence of any significant infrastructure construction project.

The total greenhouse gas emissions from the construction stage represents 0.0447% of Ireland's 2030 GHG emissions target.

Although shipping is one of the most energy-efficient modes of transportation, the maritime sector continues to pursue strategies and measures to reduce greenhouse gas (GHG) emissions from international shipping worldwide. The FuelEU Maritime regulation us an EU-wide law that requires member states, of which Ireland is one, to increase the share of renewable and low-carbon fuels in the fuel mix of international maritime transport.

Ships at berth can affect air quality due to emissions from their auxiliary engines which are used for power while docked. This engines power essential functions like lighting, refrigeration and communications while docked.

The projects GHG effects are mitigated through good practice measures and compliance with existing and emerging policy requirements. The International Maritime Organisation are implementing strategies to achieve net zero targets. The proposed development will have electrical plug in points for boats when using the quay which will help in reducing emissions. Shore power allows at-berth vessels to plug into the local electrical gird and turn off auxiliary engines that would otherwise burn fossil fuels.

Other projects considered for cumulative effects are detailed in Chapter 1 of the EIAR (Vol. 2). An effect during the construction phase on air quality is only likely to arise if these phases of the proposed developments are to run concurrently with construction of another project. Based on a review of developments, plans and projects in proximity to construction works, there will been no significant cumulative air quality effect.

For GHG Assessment, the receptor is the global climate and impacts on the receptor from a project are not geographically constrained, therefore the normal approach for cumulative assessment in EIA is not considered applicable. However, by presenting the GHG effect of a project in the context of its alignment to Ireland's trajectory of net zero and any sectoral carbon budgets, this assessment will demonstrate the potential for the project to affect Ireland's ability to meet its national carbon reduction target. Therefore, the assessment approach is considered to be inherently cumulative.

In conclusion, the effect on greenhouse gas emissions from the construction and operation of the project will be negative, not significant and long term. Best practice construction measures will be implemented to minimise any adverse effects on air quality and climate. During the operational phase, vessels will be connected to a shore electrical supply minimising greenhouse gas emissions while berthed.

14. Landscape and Visual

This chapter evaluates the potential effects of the proposed deep-water quay at Ros an Mhíl on the surrounding landscape, seascape, and visual amenity. A 5km study area was used, with particular focus on receptors within 2km, where visibility is most likely. Desktop research, field surveys, and Zone of Theoretical Visibility (ZTV) modelling indicate that the quay will be difficult to discern beyond 5km and is unlikely to cause significant visual or landscape impacts beyond 2km. The assessment considers landscape character, value, sensitivity, and the magnitude of change. It also evaluates how different types of viewers, such as residents, tourists, and commuters, might perceive the development based on factors like scenic value, cultural significance, and sense of place. Overall, the study provides a structured approach to understanding how the quay may interact with its visual and environmental context.

The development is set within a high-value coastal landscape in west Connemara, characterised by rocky inlets, low hills, and scenic views across Cashla Bay. Ros an Mhíl Harbour lies at the mouth of the Cashla River, surrounded by jagged cliffs, stony beaches, and gently rising terrain, with Ros an Mhíl Hill and Carraroe forming prominent visual features.

The area includes dispersed Gaeltacht settlements such as Ros an Mhíl, An Cheathrú Rua, and Casla, connected by regional roads and coastal bohereens. The R372 forms part of the Wild Atlantic Way, a popular tourist route, and the harbour provides ferry access to the Aran Islands.

The site lies within Landscape Character Area 17, which holds a 'High' landscape value and sensitivity rating, with its coastal edge designated as 'Special'. The setting is described as open, exposed, and scenic, with a mix of wetland, rocky outcrop, and scattered dwellings.

Prior to development, the site featured a natural rocky shoreline adjacent to existing port infrastructure. Aerial views show that the reclaimed area now consists of rock embankments and a cleared central zone, visually consistent with neighbouring commercial and administrative facilities.

During the construction phase, the proposed deep-water quay will permanently alter approximately 200 metres of coastline and seabed, extending further into Cashla Bay than the existing harbour. While this change is irreversible, the affected shoreline is already heavily modified by previous industrial use and maritime infrastructure. Construction of the remaining works will span around 24 months and involve dredging, construction of the quay wall, backfilling behind it to bring the ground level up to +7m CD, the installation of various underground services, fencing, barriers and a substation, the installation of rock armour, and use of heavy machinery. Temporary facilities such as a construction compound, concrete batching plant, storage areas, and worker amenities will also be established. These activities will intensify operations within the harbour and reduce the sense of tranquillity in the surrounding area, particularly within 1 km. However, as the works are short-term and occur within an already active harbour setting, the overall significance of landscape and visual impacts is considered low.

During the operational phase, the proposed deep-water quay will introduce a noticeable physical change to the coastline, forming a flat geometric platform that contrasts with the natural rocky shore. However, its location adjacent to the existing Ros an Mhíl Harbour ensures it blends well with surrounding man-made structures and industrial activity. Rock armour on the southern and northern ends of the quay wall will help visually integrate the quay with the natural shoreline. The development will extend harbour operations, increase vehicle and vessel movements and introduce temporary fisheries equipment storage areas, but these changes align with typical harbour functions and are likely to be accepted by the local community. Overall, the landscape and seascape impact is considered medium-low, reflecting a logical and cohesive extension of the existing harbour.

Mitigation measures for landscape and visual impacts focus primarily on the strategic siting of the proposed deep-water quay adjacent to the existing Ros an Mhíl Harbour. This location helps integrate the new development into

the existing harbour setting, reducing the likelihood of significant visual or landscape disruption. Rather than screening, visual assimilation is favoured, with rock armour along the quay's edges helping to soften its appearance and blend it with the natural shoreline. As the design and placement already account for visual sensitivity, the predicted effects before mitigation are considered to be the same as the residual effects after mitigation.

There are therefore expected to be no significant residual landscape, seascape, or visual effects. Visual effects at various viewpoints are rated as slight to imperceptible, with mitigation achieved through thoughtful siting and design that complements the surrounding harbour environment.

While the quay adds to the built form and activity level of the harbour, it aligns with the existing scale and character of Ros an Mhíl. It also helps consolidate a previously underutilised reclaimed area. As a result, the development is not expected to generate any significant cumulative landscape or visual impacts.

Following a detailed assessment, it is concluded that the proposed development will not result in any significant landscape or visual impacts. Its design and location within the existing harbour context ensure it integrates effectively with the surrounding environment.

15. Traffic

This chapter evaluates the potential traffic impacts of the proposed Ros an Mhíl Deep Water Quay on the local road and transport network. It draws on national and local planning and transport guidelines, including those from Galway County Council and Transport Infrastructure Ireland (TII). Baseline traffic data was collected through on-site surveys and automatic counters. Junction capacity analysis was conducted using PICADY software to assess traffic flow and delays at key intersections. The study identifies potential impacts and outlines mitigation measures, with significance and duration assessed in line with EPA EIAR Guidelines.

The Ros an Mhíl Deep Water Quay site is located at the western end of the R372 Regional Road, adjacent to existing harbour infrastructure. The R372 connects with the R336 and L1200 local roads, forming part of the Wild Atlantic Way tourist route. The surrounding road network includes pedestrian footways, school zones, car parks, and public transport links, notably Bus Éireann route 424.

Traffic surveys conducted in April 2025, alongside TII data from Maam Cross, indicate that peak traffic volumes occur during the summer tourist season, especially in August. The R372 and R336 roads currently operate well within their capacity, with volume-to-capacity ratios ranging from 36% to 66% in 2024. Even with projected traffic growth to 2043, both roads are expected to remain within acceptable capacity limits.

Galway County Council's Development Plan (2022–2028) supports transport infrastructure improvements, including upgrades to the R336 corridor. The R372 at Ros an Mhíl is not subject to access restrictions, and future traffic volumes associated with the quay are expected to be manageable within the existing road network.

Subject to approval construction of the Ros an Mhíl Deep Water Quay is expected to last approximately 24 months. During this period, around 4,930 heavy vehicle truck movements will occur, with peak daily deliveries reaching up to 60 trucks over a six-week span. The site will host up to 30 personnel daily, and access will be provided from both the northeast and southern ends. Traffic modelling shows that the additional construction traffic will result in minor increases to peak hour volumes, up to 14 vehicles on the R372 and 7 vehicles on the R336, but both roads and junctions will continue to operate well within capacity. Junction analysis using PICADY confirms minimal delays and queue lengths, even during peak tourist season. Overall, the construction phase is expected to have slight to moderate short-term negative effects on the local road network.

During the operational phase, the Ros an Mhíl Deep Water Quay will enhance fishing facilities without increasing quotas or generating additional road traffic. Fishing activity occurs from October to April, outside the peak summer tourist season, and typically involves up to 20 truck movements on a single day each week, mostly during early morning or late evening hours. According to EPA effect rating criteria, the development will have imperceptible, long-term to permanent neutral effects on local traffic volumes.

During construction of the Ros an Mhíl Deep Water Quay, traffic mitigation will include a wheel wash facility and dust suppression system to reduce air quality effects, along with restrictions on heavy vehicle movements near Scoil Colmcille during school start and finish times to ensure safety. No operational traffic mitigation is required, as the completed development is not expected to generate additional traffic.

Based on EPA EIAR Guidelines, the construction phase of the Ros an Mhíl Deep Water Quay will result in slight to moderate short-term negative residual traffic effects, mitigated through measures such as wheel washing, dust suppression, and HGV restrictions near the local school. In contrast, the operational phase will have imperceptible long-term to permanent neutral traffic effects, with no additional mitigation required. Cumulatively, when accounting for predicted future traffic growth and other developments, construction-related impacts remain slight to moderate and temporary, while operational traffic levels are expected to remain stable and within capacity limits.

In conclusion, the traffic assessment for Ros an Mhíl Deep Water Quay confirms that both construction and operational phases will have minimal impact on the local road network. Construction-related traffic will be short-term and manageable, with mitigation measures in place to reduce disruption and ensure safety, particularly near sensitive receptors like the local school. Once operational, the quay will not generate additional traffic, and existing fishing activities will continue without affecting peak tourist flows. Overall, the development is expected to have slight to imperceptible traffic effects, with no significant long-term impact on road capacity or transport infrastructure.

16. Interactions of the Foregoing

Chapter 15 of the EIAR (Vol. 2) considers the interaction between all the specific environmental aspects and effects that are assessed in each of the individual assessment topic areas or chapters of this EIAR. The purpose of this chapter is to draw attention to important interactions and interdependencies between one factor or topic and another.

A matrix of interactions was generated to summarise the relevant interactions and interdependencies between specific environmental aspects. The matrix presented contains each of the environmental topics, which were considered as part of this environmental impact assessment, on both axes. These interactions have been identified for the construction [C] and operational [O] phases of the project. Based on this assessment it has been concluded that there is no significant adverse or cumulative interactions between any of the various environmental topic areas as a result of the proposed development.

17. Mitigation Measures

The proposed construction and operational mitigation measures are profiled in Chapter 16 of the EIAR (Vol. 2). These mitigation measures cover the full range of potential effects and incorporate best practice measures to avoid and minimize potential environmental effects. Best practice protocols have been incorporated in full into

the outline Construction Environmental Management Plan (CEMP) (see Appendix 2A in EIAR Vol. 3)to avoid and mitigate any potential noise, dust, traffic, and health and safety effects. Soil, water and marine protection measures include sediment controls, secure chemical storage, spill prevention, and marine mammal monitoring. Infrastructure and waste systems are proposed to prevent service disruption and contamination. The potential residual (post-mitigation) effects after application of the proposed mitigation measures has been assessed as not significant.

18. Conclusion

EIAR Vol. 1 Appendix 1 provides a summary table with all the effects and their residual effect ratings assessed in the EIAR. In the whole EIAR there was a total of 105 different potential construction effects that were identified and assessed in the EIAR (Vol. 2). After mitigation there were no significant adverse residual effects associate with the construction of the proposed development. The highest effect ratings were 2 moderate to slight visual effects and 1 moderate to slight traffic effect. There were 12 slight effects (6 of which were slight visual effects)..The rest of the effects were not significant or imperceptible

All the proposed best practice mitigation measures have been incorporated into the outline CEMP to address noise, dust, traffic, and health and safety effects. Soil and marine protection measures include sediment controls, secure chemical storage, spill prevention, and marine mammal monitoring. Infrastructure and waste systems will be managed to prevent service disruption and pollution. As a result, all residual (post-mitigation) effects are short-term, localised, and not significant, with no cumulative impacts.

In the whole EIAR there was a total of 74 operational effects that were identified and assessed in the EIAR (Vol. 2) (see EIAR Vol. 1 Appendix 1 for full effect rating tables). After mitigation none of these effects were significant. The highest effect ratings were 2 landscape and visual effects that were rated as moderate to slight. Visual effect from 7 viewpoints remained slight. The rest of the effects were not significant or imperceptible. (see Tables 18-1 and 18-3 below).

A number of best practice operational mitigation measures have been proposed in the EIAR (see Chapter 16 of EIAR Vol. 2) to minimise GHG emissions, biodiversity, water quality and pollution prevention, waste management, Irish signage, and noise effects. Soil and marine protection measures include maintenance of the installed drainage system and interceptors, secure chemical storage, and spill prevention. Infrastructure and waste systems will be managed to prevent service disruption and pollution. As a result, all residual (post-mitigation) effects are short-term, localised, and not significant, with no cumulative impacts.

Appendix 1

Tables of EIAR Effect Ratings for the Construction and Operational Phases