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Environmental Impact Assessment Report (EIAR) Volume 1

Proposed Offshore Renewable Energy ('ORE') Capable Terminal on a 250m Wharf Extension & Ancillary Operational Support Infrastructure

Calafort Phort Láirge
Port of Waterford

On behalf of

Port of Waterford Company

Port of Waterford, Belview, Co. Kilkenny

MALONE O'REGAN ENVIRONMENTAL

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Environmental Impact Assessment Report (EIAR) Volume 1

Proposed ORE Capable Terminal on a 250m Wharf Extension & Ancillary Operational Support Infrastructure

Port of Waterford Company

Port of Waterford, Belview, Co. Kilkenny

Contents

FIGURES

1 INTRODUCTION

1.1 General

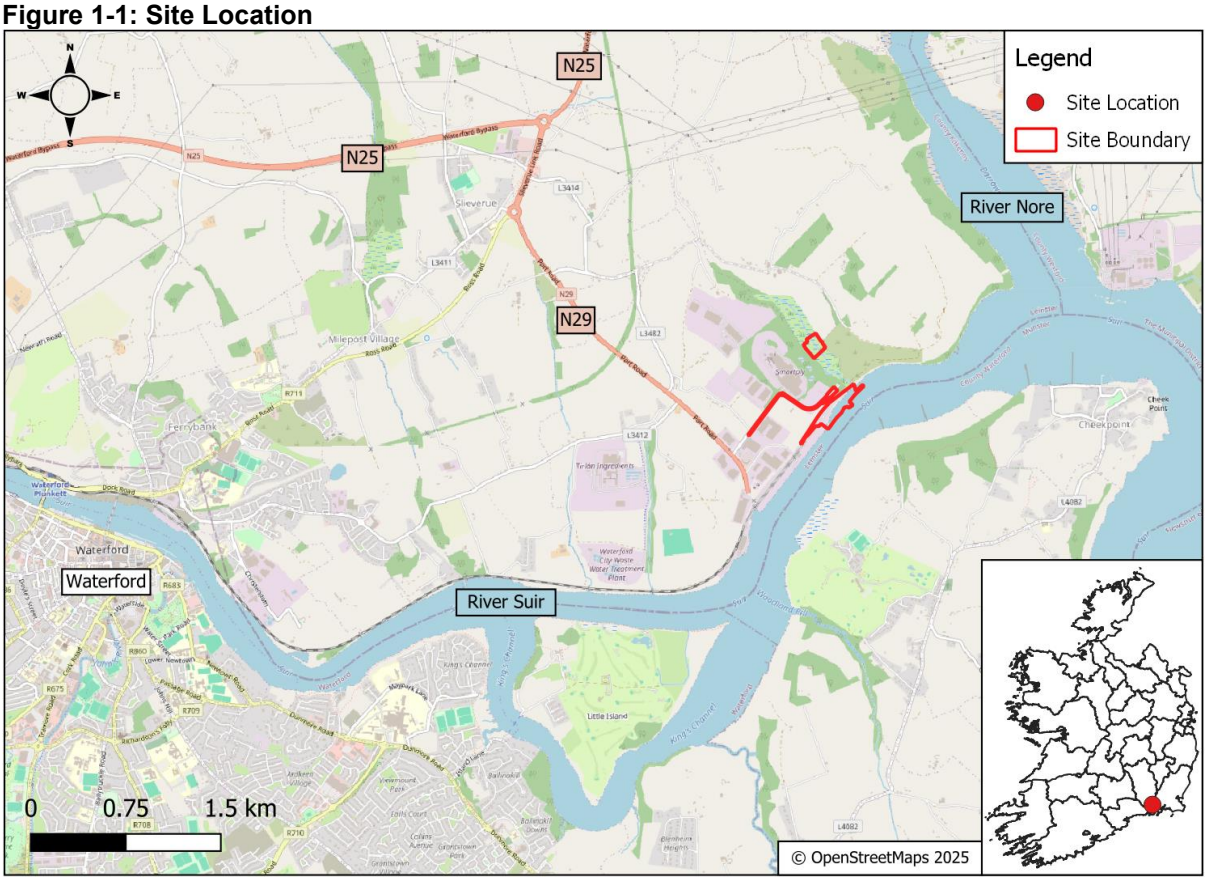
Malone O'Regan Environmental ('MOR Environmental') has been commissioned by Port of Waterford Company ('the Applicant') to prepare an Environmental Impact Assessment Report ('EIAR') in support of a planning application for port facilities comprising of a circa ('ca.') 250-metre ('m') wharf extension to support proposed Offshore Renewable Energy ('ORE') development and general port development, land reclamation, ancillary works and a biodiversity enhancement area ('the Proposed Development').

The Proposed Development will be located partly on land and partly in the near-shore area of the coastal planning authority (Kilkenny County Council) at the Port of Waterford, Belview, Co. Kilkenny ('the Site') (ITM OS Reference: 666422; 613637), as shown in Figure 1-1.

This Non-Technical Summary ('NTS') document ('Volume 1') provides a summary in non-technical language of the information contained within the main EIAR that is contained in Volume 2, while the supporting technical documents are presented in Appendices ('Volume 3').

It should be noted that the phrase "not significant" is a term which, in the context of this EIAR, means that the activity referred to may have effects, but these will not cause any unacceptable environmental effects or a nuisance to neighbours.

Figure 1-1: Site Location



1.2 Applicant

The Port of Waterford, a key shipping hub in the southeast of Ireland, was established in 1816 and became the Port of Waterford Company in 1999. It moved operations to Belview in the 1990s, offering facilities for various cargo types.

The Port of Waterford handles various cargoes with a current activity of 1.7 million tonnes per annum ('TPA') and a projected capacity of 4.0 million TPA by 2035. As the fourth largest state commercial port in Ireland, it is designated as a Port of National Significance (Tier 2) and has excellent transport links. The port is committed to sustainability, holding EcoMerit and ISO 14001 certifications, and is part of the European Sea Ports Organisation's EcoPort Network.

1.3 Overview of Site and Context for the Proposed Development

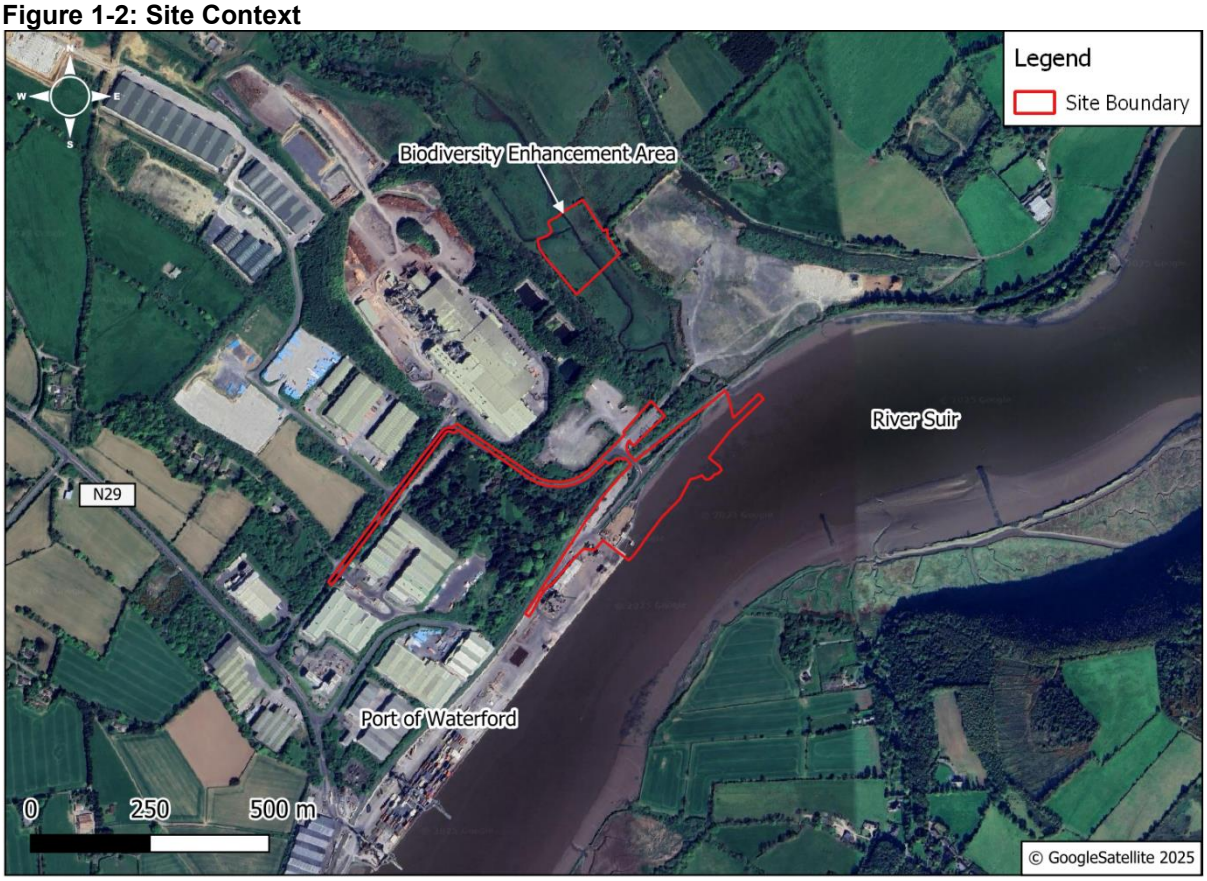
The Port of Waterford, also known as the Belview Port, currently comprises ca. 960m of quays on the northern bank of the River Suir and has open and closed storage areas and warehousing within the ca. 256ha area designated as the Belview Port Zone.

The Site spans 8 hectares ('ha'), partly on land and partly in the River Suir. The Site is accessed via the L7852 road off the N29.

The Site is bordered to the north and west by a primarily industrial landscape, and within the wider area are the sites of SmartPly Europe, Southeast Port Services Ltd., Target Fertilisers, the wider Belview Port and more. Across the Lower Suir Estuary is Faithlegg, Co. Waterford, an area of one-off residential housing, agricultural lands, forestry and marshlands.

The Site includes the downstream end of Belview Quay, a weighbridge, a substation and a permitted waste facility for ferrous metals, which will be decommissioned by 2027. The Site boundary also includes an area identified as a proposed biodiversity enhancement area located north of the proposed wharf extension; see Figure 1-2.

Figure 1-2: Site Context



The Lower Suir Estuary section of the Site is a Special Area of Conservation ('SAC'), flowing into the River Barrow and eventually the Waterford Estuary. The estuary is a semi-enclosed coastal waterbody with tidal influence extending up to 60km. The Port of Waterford's authority

covers a significant portion of the estuary and includes a maintenance dredging program to ensure safe navigation.

The Proposed Development will involve the development of one of the projects outlined in the Port of Waterford Masterplan 2020-2044. The Belview Quay extension project, initially planned as a 400m quay extension with two new berths and 6ha of land reclamation, was revised to support Ireland's offshore renewable energy targets. This change was driven by the 2019 Climate Action Plan and the 2020 Programme for Government, which aim to generate 5GW of offshore wind energy by 2030. Therefore, the current proposals include a ca. 250m extension to the existing wharves at Belview Port, creating facilities for offshore renewable energy operators and additional bulk areas for general port development.

1.4 Environmental Impact Assessment Report

This EIAR has been prepared in accordance with all relevant legislative and best practice guidelines in support of the planning application.

1.5 Consultation

As part of this EIAR, a non-statutory consultation document was issued to all relevant stakeholders, inviting their comments on the Proposed Development. All the responses received were considered throughout each stage of the design of the Proposed Development and the Environmental Impact Assessment process. In addition, as part of a comprehensive consultation process, meetings were held with the following stakeholders**:**

- An Coimisiún Pleanála (‘ACP’), formerly known as An Bord Pleanála;
- Maritime Area Regulatory Authority (‘MARA’);
- Department of Housing, Local Government & Heritage - National Parks and Wildlife Service (‘NPWS’);
- Inland Fisheries Ireland (‘IFI’); and,
- Bord Iascaigh Mhara (‘BIM’).

In addition to the consultation with statutory stakeholders, a public consultation event was held at the Port of Waterford Offices at Marine Point on 20th February 2023. Further consultation meetings were also held with the Cheekpoint and Faithlegg Development Group and with Elected Official Mr. Jody Power. The Port of Waterford held the ‘Chamber Business After Hours at Port of Waterford’ on 20th June 2024 and discussed the Port’s upcoming business developments, including the Proposed Development.

2 PLANNING CONTEXT & NEED FOR THE EXPANSION

There is an extensive planning history associated with the Port of Waterford, dating back to 1989 when the parent permission for the Port was granted.

2.1 Planning Policy Context

The expansion and diversification of the port-related activities at Belview Port is supported at all hierarchy levels of national planning, including the marine area, regional, local and sectoral (spatial and economic) planning.

Government Policy Statement on the Facilitation of Offshore Renewable Energy by Commercial Ports in Ireland (2021) indicated that a multiport approach will be required to address the needs of the ORE industry. ORE developments will typically require both large-scale port infrastructure for project deployment and smaller-scale port facilities to provide ongoing operation and maintenance (‘O&M’) services. A multiport approach will ensure

sufficient flexibility to deal with these uncertainties and that port capability can come on stream as required at a number of locations.

Since 2022, there has been an additional focus and urgency at a national level to advance ORE strategic infrastructure. The National Marine Planning Framework ('NMPF') 2021 deals with a marine area of 495,000 square kilometres. This area is broken down into Designated Areas, which will be subject to statutory Designated Maritime Area Plans ('DMAP's').

The preparation of the statutory South Coast DMAP as a sub-national plan concentrating on ORE identified an overwhelming case for the ORE infrastructure to be situated off the South Coast of Ireland.

The Port of Waterford at Belview is ideally located to sustainably serve the development and operational maintenance of ORE infrastructure in the Irish and Celtic Sea sectors and has the capacity to serve an essential role in this strategic, nationally important offshore development area.

In the Southern Regional Assembly Regional Spatial & Economic Strategy ('SRA-RSES'), the Port is located within the Waterford City Metropolitan Area Strategic Plan ('MASP') area and is identified as a Tier 2 Port, a strategic employment zone (No. 4), an international gateway and a regional economic asset, with strategic linkages to the nationally important Eastern Corridor economic zone (EU TEN-T network) with a view to strengthening freight and logistics facilities, including rail freight. It is a policy objective of MASP to support the development of necessary port infrastructure.

The envisaged expansion of the port for all purposes as set out in the Port of Waterford Masterplan 2020 – 2044 is given recognition in the Kildare City & County Development Plan ('KCCDP') 2021-2027. The KCCDP recognises the Port as a significant economic facilitator with an important role to play in the economic development of the southeast and further afield. To fulfil its role, the Port needs to be positioned to deliver the infrastructure and capacity required of it in a timely manner.

The KCCDP will be revised to incorporate the Ferrybank-Belview Framework Plan ('FBFP') into Volume 3 by way of Variation (No. 6) of the statutory plan. The draft FBFP is on public display until 19th September 2025.

The majority of land within the site is zoned '*PFI: Development of port facilities and industry'* in the FBFP. The Proposed Development is considered to be port-related use of land, which is compatible with the zoning objective for the area.

The proposed Biodiversity Enhancement Area is located on land zoned 'Water Compatible Development'.

The Proposed Development will also contribute greatly to climate aims and objectives set out at all levels, including the Climate Action Plan 24.

2.2 Need for the Proposed Development

The Proposed Development will accommodate two distinct ORE Operator Facilities to serve the needs of future ORE projects in the Celtic Sea off the southern coast of Ireland. Globally, there is a strong recognition of the need to mitigate climate change, highlighted by the Paris Agreement 2015, which aims to limit global temperature rise to below 2°C above pre-industrial levels. The IPCC's Fifth Assessment Report states that to achieve this, global GHG emissions must be reduced by 40-70% by 2050 and near zero by 2100. The EU's 2030 target is a 40% reduction in GHG emissions compared to 1990 levels. Renewable energy is crucial for reducing GHG emissions. In Ireland, wind energy accounted for 33.7% of electricity consumption in 2023. The Proposed Development at Belview Port aims to support Ireland's ORE sector, aligning with the goal of delivering 3.5GW of offshore wind by 2030. A Carbon Trust report identified Belview Port as one of the few Irish ports capable of supporting large

offshore wind turbines, with potential for further development. The project will enhance berthing and lay-down areas for vessels involved in offshore wind farm construction and maintenance.

The Draft South Coast Designated Maritime Area Plan for Offshore Renewable Energy ('SC-DMAP') outlined proposed locations for offshore wind projects, and in October 2024, the Irish Government approved terms and conditions for the second Offshore Renewable Energy Support Scheme ('ORESS 2') for the Tonn Na offshore wind auction site, located off the coast of Waterford. The DMAP-SC references the Policy Statement on the *Facilitation of Offshore Renewable Energy by Commercial Ports in Ireland,* published in 2021, which outlined that ORE developments will require large-scale port infrastructure for project deployment and small-scale port facilities to provide ongoing operation and maintenance ('O&M') services.

Furthermore, the *Offshore Renewable Energy Future Framework Policy* published in May 2024 states that *'Port facilities are required during various project stages including installation, operations and maintenance (O&M), and decommissioning. Distinct infrastructures are required depending on the technology, particularly in the case of fixed bottom compared to floating wind. Extensive resources are required to build, store, repair, and tow out machinery to project sites. This will include physical space and buildings to carry out activities both in onshore facilities and in offshore wet storage, access to a variety of vessels, and proximity to other components of the supply chain.'*

Therefore, the Proposed Development will be necessary in order to realise the offshore wind objectives set out and support ORE infrastructure and development.

In addition, the POW masterplan envisaged ongoing growth and expansion of operations. The Proposed Development will also facilitate this projected growth by providing additional berthing space for ships to dock and other port-related activities.

3 DESCRIPTION OF THE PROPOSED EXPANSION

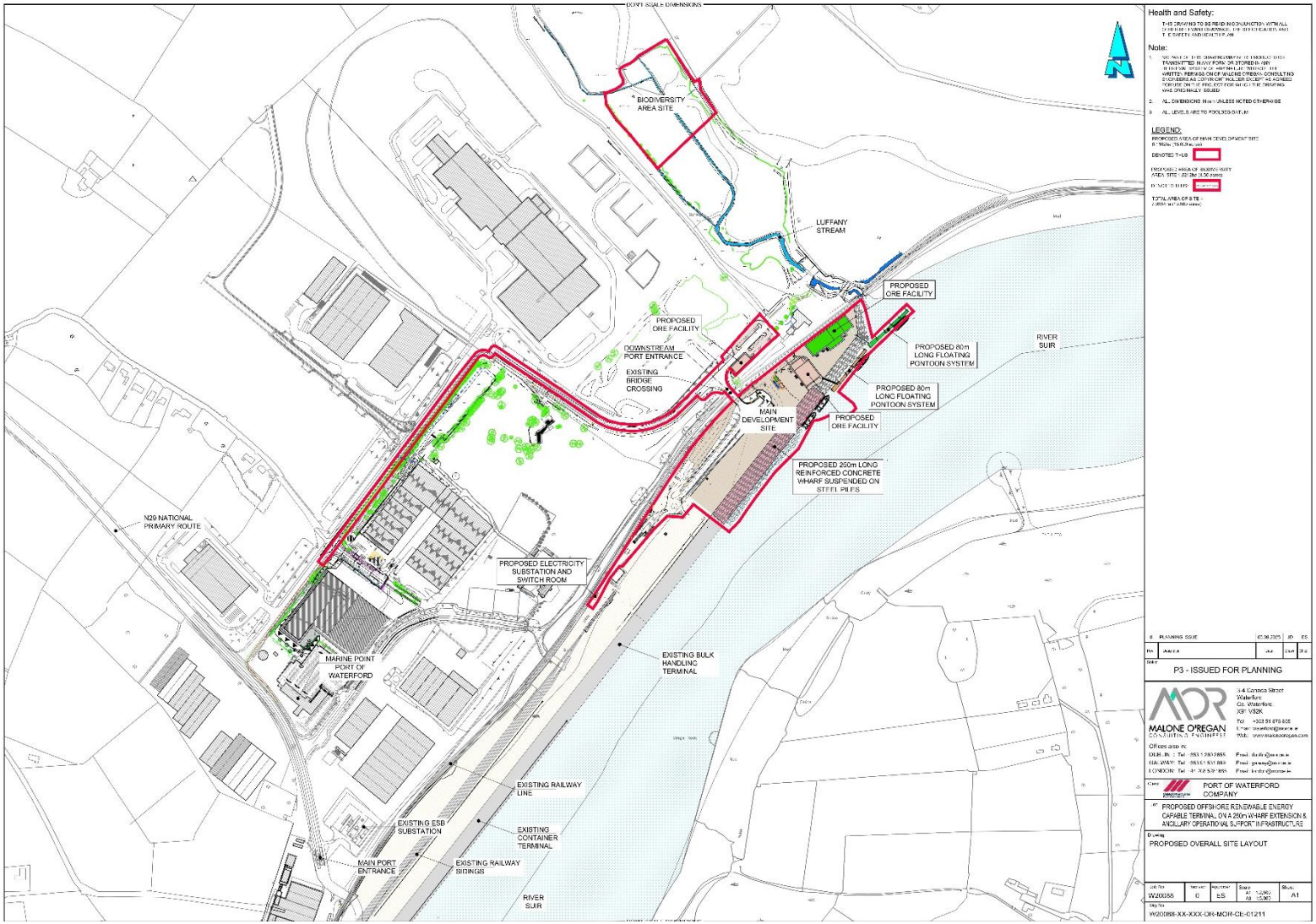
3.1 Description of the Proposed Development

The Proposed Development will include a ca. 250m extension to the existing wharves at the container / bulk handling terminal at Belview Port, located at the downstream end of the Belview Port. The wharf extension will support two ORE Operator Facilities and will also provide additional space for port-related activities.

The total area of land will be ca. 8ha, which will include ca. 1.3ha of reclaimed land. The Proposed Development will also include a ca. 1.8ha biodiversity enhancement area.

A detailed description of the Proposed Development is presented in Chapter 3 of Volume II of the EIAR.

Figure 3-1: Site Layout Drawing



3.2 Demolition and Construction Phase Details

Works are planned to commence in Q3 2026, with an anticipated timeline of 18-24 months. General working hours during the demolition and construction phases will be:

- Monday – Friday: 07:00 – 18:00; and,
- Saturday: 07:00 – 14:00

Pile installation works will be limited to 08:00 – 18:00 Monday to Friday, and 8:00 – 14:00 on Saturdays.

As per any construction works programme, there may be the occasional requirement when specific works will be required outside these hours. Any works that take place outside the agreed hours will be notified to the Planning Authority in advance.

3.3 Construction Programme

The construction works will be undertaken in six phases of work. Summary details for the different phases are outlined below. The construction phases will be:

- Site Set-up;
- Demolition Works;
- Capital Dredging & Land Reclamation Works;
- Construction of Wharf;
- Building Construction; and,
- Works Completion.

The construction programme for the works will involve the various construction activities occurring simultaneously in different areas of the Site as the works progress.

3.4 Operational Phase

The Proposed Development will operate 24/7 and will accommodate two distinct ORE Operator Facilities to serve the needs of future ORE projects in the Celtic Sea off the southern coast of Ireland. The ORE operator facilities have been designed to operate independently of one another. The ORE operator facilities at Belview Port will include warehouses, workshops, yard areas, fixed crane installations, fuel tanks, administrative offices and ancillary developments. There will also be berthing pontoons for Crew Transfer Vessels (‘CTVs’) and space for Service Operations Vessels (‘SOVs’) along the berth.

The quay extension will also provide for an expansion of the existing bulk handling operations undertaken at the Port, as there will be an additional berthing space. These operations will be comparable to existing bulk handling operations.

4 ALTERNATIVES CONSIDERED

4.1 Alternative Locations

The evaluation of alternatives was a key component of this EIAR.

The Proposed Development can only be located at a port location, given the requirement for quayside facilities and berthing for vessels. Along the Irish coastline, there are over 45 ports and harbours. Of these ports and harbours, according to the National Ports Policy:

- Three are considered to be Ports of National Significance (Tier 1), Dublin Port Company, Shannon Foynes Port Company and Port of Cork Company;

- Two ports are considered to be Ports of National Significance (Tier 2), the Port of Waterford Company and Rosslare Europort; and,
- Fourteen Ports are of Regional Significance (Tier 3), these ports are smaller ports that handle lower volumes of marine traffic.

The evaluation of sites for the Proposed Development focused on the Port of Waterford / Belview Port area. The Belview Port Zone spans 265ha, but the development needs to be along the Lower Suir Estuary for quayside facilities. The existing 960m Belview Quay is fully utilised, necessitating an extension.

In addition, the Port of Waterford is ideally located to provide critical operations and maintenance support to ORE developments in the SC-DMAP proposed locations, especially the Tonn Nua, for two ORE Operators.

4.2 Alternative Design

The Port of Waterford Masterplan 2020-2044 initially included a 400m Belview Quay extension with two new berths and 6ha of land reclamation. However, this was amended to support ORE facilities due to increased demand. The 400m design was also considered unsuitable due to navigational challenges and environmental concerns. A 200m wharf extension was also ruled out as it would limit space for both ORE operators and port activities. The optimal solution was determined to be a 250m open wharf design, allowing for species movement and continuity with the existing wharf.

4.3 Alternative Uses Including the 'Do Nothing' Alternative

Under a 'Do-Nothing' scenario, the Site would remain in its current condition, the existing downstream end of the Belview Port and a section of the River Suir.

However, this is considered to be in the short-term, given the national and regional planning policies that are encouraging the development of Irish Ports for the support and development of the ORE industry. In addition, as outlined in the Port of Waterford Masterplan 2020 – 2044, this area has been scoped for the location of the wharf extension.

Therefore, under this 'Do-Nothing' scenario, there would be some environmental benefits due to the fact that energy and natural resource use, land reclamation, emissions to air or water, and traffic impacts would not occur. However, the impact of this approach would not be in line with policies requiring the development of Irish Ports and would limit the facilities available to support ORE developments.

Furthermore, this scenario would limit the future growth of the Port of Waterford, which is a significant economic facilitator in the economic development of the southeast of Ireland. In addition, the employment benefits would not be realised as referred to in Chapter 2.

It can be concluded that the 'Do-Nothing' scenario would prevent the delivery of strategic planning objectives for the local area and is considered inappropriate and an unsustainable alternative that would result in the inefficient use of a strategically located and well-serviced existing port.

5 POPULATION AND HUMAN HEALTH

The Proposed Development will have a neutral-to-slight, positive, long-term effect with regard to indirect local and regional employment. The Construction Phase will have a short-term positive effect in the local area with ca. 100 temporary construction jobs created during 18 – 24-month construction programme. There will also be a short-term positive effect on existing businesses operating in the area through the potential for local enterprises to provide materials and services during construction.

Once operational, the Proposed Development will directly provide up to 100 full-time jobs. The Proposed Development will also support indirect jobs in the local area, both through the ORE supply chain and the increase in port-related activities – estimates indicate that up to four indirect jobs will be created for every port-based job. The residual effects will be a positive, long-term impact on the local economy and employment as well as on the wider economy.

All effects such as noise, vibration, air quality, visual and waste management that have the potential to directly affect human health were assessed throughout the EIAR, with a conclusion of 'no significant' effects. Summaries of these assessments are presented throughout this NTS. Overall, it was determined that there would be no significant effects on human health or population arising from any phase of the Proposed Development.

6 BIODIVERSITY

In order to establish the baseline conditions at the Site, extensive specialist surveys have been undertaken. MOR Environmental Ecologists have surveyed the Site and wider area since February 2021. The surveys undertaken at the Site include:

- Detailed habitat and invasive species surveys in 2021, 2024 and 2025;
- Bat surveys and assessments in the summers of 2023 and 2024;
- Otter surveys on a predominantly monthly basis since February 2021 to March 2025, including bankside surveys of accessible areas, boat surveys and camera trap surveys;
- Wetland bird surveying from a designated vantage point location during the 2021, 2022, 2023 and 2024 summer wetland seasons and 2021/2022, 2022/2023, 2023/2024 and 2024/2025 winter wetland seasons; and,
- Marine mammal sightings have been recorded during all surveys since February 2021.

In addition, MOR Environmental Ecologists undertook detailed surveys of the proposed Biodiversity Enhancement Area in 2021, 2023 and 2024. Furthermore, specialist benthic assessments were undertaken by AQUAFACT International Services Ltd. ('Aquafact'), and a MOR Environmental Ecologist worked with Dr. Martin O'Farrell to undertake a review of fisheries information and data to inform the assessment.

The surveys determined that the Site was comprised primarily of buildings and artificial surfaces within the existing Belview Port and the Lower River Suir tidal river / estuary / muddy sand shores. Other habitats noted onsite included grassy verges, scrub, mixed broadleaved woodland, recolonising bare ground and sea walls. In addition, the Biodiversity Enhancement Area was predominantly comprised of a mosaic of agricultural grassland and wet grassland that was utilised for grazing cattle and was heavily poached at the time of the surveys, with areas of pooled stagnant water noted throughout the disturbed ground.

Overall, it was determined that the existing Belview Port was of limited ecological value for any species. However, the Lower Suir Estuary and habitats within a wider area were considered to provide suitable foraging and commuting habitat for otter, wetland birds and fish. Marine mammals were noted commuting through this section of the Lower Suir Estuary in low numbers. The on-site habitats were not considered to provide optimal foraging or resting habitat for these species. In addition, the Site does not provide any suitable roosting habitat for bats and was considered to provide limited foraging and commuting habitat for this species.

As previously noted, the Site is located partially on land within the existing Belview Port and partially within the River Suir, which forms part of the Lower River Suir SAC. Currently, ca. 1ha of the downstream end of the Belview Port overlaps with the boundary of the Lower River

Suir SAC; however, this section of the port is comprised primarily of heavily modified built land. Additionally, the Site is hydrologically connected to the River Barrow and Nore SAC via the Lower Suir Estuary. There are no Natural Heritage Area ('NHA') sites on-site or within 5km of the Site. There are no proposed Natural Heritage Areas ('pNHA') sites located on-site or within the immediate vicinity of the Site; however, there are three pNHAs within 5km of the Site, the closest of which is the Barrow River Estuary, which is 1km northeast of the Site.

As part of the Proposed Development, an area of the Lower Suir Estuary (1.3ha) will be reclaimed, which will result in a loss of the SAC habitat. In order to offset the loss of SAC, the proposed Biodiversity Enhancement Area, ca. 1.8ha in size, will be developed to create optimal habitat for local wildlife, including otter and bird species. Furthermore, the works on-site will be undertaken in line with best practice guidance and legislation, and numerous mitigation measures will be implemented in order to ensure no impacts occur to any species.

During the surveys, it was noted that the habitats within the wider area were subject to noise emissions from the existing port-related activities. During the Operational Phase, it was concluded that the Proposed Development will result in similar activity and noise levels as the ongoing port-related activities and therefore, it was concluded that any species utilising the habitats within the vicinity of the Site will not be impacted, as these species are habituated to the port-related activities.

In addition to the EIAR, a Stage 2: Appropriate Assessment - Natura Impact Statement ('NIS') was prepared by qualified MOR Environmental Ecologists, which concluded that the Proposed Development, either alone or in combination with other plans or projects, will not adversely affect the integrity of any European designated sites following the implementation of appropriate mitigation measures.

Following an examination, analysis and evaluation of the relevant information, including the nature of the predicted impacts from the Proposed Development and all associated works, it has been objectively concluded that with the implementation of the proposed mitigation measures, the Proposed Development will not, either alone or in combination with other plans or projects, adversely affect the integrity or conservation status of any of the qualifying interests of any European Designated sites, any potential ecological receptor or local biodiversity in light of best scientific knowledge. No reasonable scientific doubt exists in relation to this conclusion. In summary, there will be no significant effects on biodiversity from the Proposed Development.

7 SOILS AND GEOLOGY

The Proposed Development will require the reclamation of an area of ca. 1.3ha. This will require the importation of ca. 160,000 tonnes of rock. The rock will be carefully selected and tested to ensure it meets the required specifications for engineering fill, including size, compaction properties and chemical stability. These imported materials will be sourced from local commercial quarries as much as practicable. Dredged material consisting of soft sediment with an estimated volume of ca. 7,000m^3 will also be used for reclamation works once determined to be suitable. The infill material will be systematically placed in the designated area using heavy machinery, with care taken to minimise disturbance to the riverbed and surrounding marine environment. General construction works will include the excavation of ca. 2,000m^3 of materials for the construction of substructures, including building and the installation of underground services. Excavated materials will be predominantly comprised of soils and subsoils. Every effort will be made to reuse these materials on-site, but any surplus materials that cannot be reused on-site will be removed off-site in strict accordance with all requirements of the Waste Management legislation.

During the Operational Phase, the employment of good environmental management practices by the ORE operators and the Port of Waterford will serve to minimise the risk of pollution from

these storage and refuelling operations. The implementation of the mitigation measures will ensure that any effect arising from either the Construction or Operational Phases of the Proposed Development on soils and geology will be not likely and not significant.

8 WATER

The Site is partially located within the Lower Suir Estuary and therefore is characterised by water present across the majority of the southern and southeastern area.

8.1 Groundwater

According to the Geological Survey Ireland ('GSI'), there is no sand and gravel aquifer present beneath the Site, but the bedrock aquifer underlying the Site is classified as a (Rf) Regionally Important Aquifer – Fissured bedrock. No public water source protection areas are located within or in the immediate vicinity of the Site. Dewatering of groundwater will not be required during the Construction Phase, and there will be no groundwater abstraction required during the Operational Phase. Therefore, there will be no significant effects to groundwater as a result of the Proposed Development.

8.2 Flooding

A Site-specific Flood Risk Assessment was completed for the Proposed Development. This assessment concluded that the potential flood risk to the Proposed Development will be negligible. The Proposed Development will not result in any adverse effects to the existing hydrological regime of the area or increase flood risk elsewhere. The Proposed Development was therefore considered to be appropriate from a flood risk perspective. In summary, the Proposed Development has been designed so that it will present no increased flood risk.

8.3 Surface Water

The reclamation works will produce sediment plumes both directly from the reclamation materials themselves, but also from the disturbance of estuarine bed sediments in the reclamation area. Site investigation results on the sediments in this area confirmed that the materials to be dredged have no significant contaminants and, as such, will have no effects on the chemical quality of the receiving surface waters.

Potential risks for surface water quality will also be presented by other construction activities, such as the pouring of concrete and piling. High levels of sediment already occur naturally in the estuary, as a natural consequence of the estuary being fed by three major rivers and countless streams, from a combined catchment area of over 9,000km^2. Also, all construction activities will be undertaken in accordance with best practice guidelines and the mitigation measures stipulated in the EIAR. Overall, the effects on surface water arising from these reclamation and construction activities will have slight to moderate adverse temporary effect on surface water quality in the estuary.

During the Operational Phase of the Proposed Development, there is the potential for an impact on surface water bodies due to the risk of accidents or spillages from any accidental spill / leakage from either the ORE operations or shipping vessels berthed at the quay. Two fuel tank reserves, storing up to 90,000L of marine gas oil, will be required to serve the future ORE Operators. The design of the Proposed Development will include controls that will mitigate such risks, which will include fully bunded tanks, forecourt oil interceptors in high-risk areas, by-pass oil interceptors at other locations, settlement tanks and monitoring chambers. During the Operational Phase of the Proposed Development, the ORE Operator Facilities will implement environmental management procedures, similar to those of the Port of Waterford in place under their ISO14001 Environmental Management System. Therefore, the effects on surface water quality were predicted to be not significant from the Operational Phase of the Proposed Development.

9 AIR QUALITY

During the construction stage of the Proposed Development, as per any construction project, there will be the potential for construction dust emissions to arise. In terms of construction dust, the risk of impact on sensitive receptors following the implementation of mitigation measures was determined to be low. In light of this risk reduction, the residual effect remaining will be not likely, short-term and not significant.

Construction traffic and traffic arising from the operational phase of the Proposed Development could potentially impact on air quality. However, due to the daily HGV and personal car trips being below the relevant thresholds set by Transport Infrastructure Ireland, any effect on air quality from onshore traffic was screened out.

For the Operational Phase, emissions arising from the movement of Freight Ships, ORE-related vessels, Port-owned machinery and port-side equipment owned by licensed stevedores were assessed for nitrogen oxides ('NO_x') as a key pollutant. The assessment conclusion was that no significant effects on air quality or human health will arise from diesel and marine diesel usage.

Overall, no significant effects on air, in terms of ambient air quality and dust nuisance, were determined arising from the construction and operational phases of the Proposed Development, alone or cumulatively. Slight positive indirect effects were identified, attributable to the Proposed Development's facilitation of ORE infrastructure. NO_x, SO_2 and PM_{10} emissions will not significantly increase in concentrations and therefore, no likely significant effect on human health or ecological receptors is predicted.

By enabling increased deployment of wind energy, the project is expected to contribute to a reduction in reliance on fossil fuel-based electricity generation, thereby decreasing associated national emissions to air.

10 CLIMATE

Climate impacts were quantified through an analysis of greenhouse gas ('GHG') emissions, benchmarked against national and sectoral GHG mitigation targets as defined under relevant regulatory frameworks.

The GHG emissions arising from embedded carbon in construction materials, from the transport of materials to and from the Site, construction employee travel and from the plant and equipment used in the Construction Phase were calculated for the purpose of the Climate assessment. For the Operational Phase, emissions arising from the movement of Freight Ships, ORE-related vessels, Port-owned machinery and port-side equipment owned by licensed stevedores were calculated. In addition, Operational Phase electricity usage, HGV and employee travel emissions were quantified. GHG emissions associated with the Proposed Development were assessed against the National and Sectoral Emissions Ceilings.

Once operational, the primary GHG emissions directly arising from the Proposed Development will be transport-related. Although these emissions will not be significant, a number of mitigation measures will be in place to further reduce GHG emissions related to the Proposed Development.

Considering the Construction and Operational Phases of the Proposed Development, the assessment of GHG emissions concluded that the Proposed Development will have a 'not likely' and 'not significant' effect on the National Second Carbon Budget and relevant Sectoral Emissions Ceilings.

It is expected that emissions associated with the Construction and Operational Phases will be more than offset by the indirect positive contribution that the Proposed Development will make

in supporting the national decarbonisation efforts, particularly through its support for ORE infrastructure and the reduction of land-based transport emissions. Taking into account the calculated emissions and the substantial indirect benefits the Proposed Development will have, it is considered that the Proposed Development will have an overall significant positive effect in the context of the National Carbon Budgets and relevant Sectoral Emissions Ceilings.

The potential risks of climate change to the Proposed Development were assessed by completing a climate change risk assessment. By utilising available policy and guidance, the vulnerability of assets associated with the Proposed Development to potential climate hazards was determined. Due to the location of the Proposed Development within an existing developed industrial area, there will be no significant effects on microclimate in terms of wind tunnelling and shading.

The Climate Vulnerability Assessment for the Proposed Development identified potential climate change-related hazards and risks to the Proposed Development. Key receptors include onsite assets, inputs (electricity and water), outputs (operating capacity) and transport links. Assessed hazards include temperature changes, wildfires, flooding, landslides, sea level rise and severe wind. A site-specific flood risk assessment was conducted for the Site to inform the design, concluding that the effects of coastal flooding and sea level rise on the Proposed Development was predicted to be negligible. Based on the results of the Climate Vulnerability Assessment, the potential effects of climate change on the Proposed Development will be ‘not likely’ and ‘not significant’.

11 TERRESTRIAL NOISE AND VIBRATION

A comprehensive terrestrial noise and vibration impact assessment was conducted in accordance with best practice guidance and both statutory and non-statutory noise impact assessment criteria for the Construction Phase and Operational Phase of the Proposed Development.

A detailed baseline noise survey was completed at four representative locations to determine the ambient noise environment in the vicinity of the Site. This baseline noise monitoring was used as a basis for determining the likely noise effects associated with the Proposed Development.

Different scenarios were modelled to determine the effect of construction noise. Prior to the commencement of construction, the Contractor will submit a Construction Environmental Management Plan (‘CEMP’) to the Council, detailing all of the noise control measures outlined with the EIAR and as may be modified through the planning process, and these will be implemented during construction. The implementation of these mitigation measures will ensure that construction noise effects will be reduced to the lowest possible levels at the sensitive receptors and in compliance with typical construction noise limits.

The effects of construction noise on identified birds and otters in the vicinity of the Site were also assessed. Waterbirds, otters and other non-domestic animals will temporarily distance themselves from human-made noise sources and effected localities. The effects during construction will be temporary during louder activities and localised to the study area.

During the Construction Phase, vibration can arise from piling activities; neither of the closest receptors assessed for vibration was predicted to be affected, as they are outside the zone of influence for significant effects from piling activities.

During the Operational Phase, there will be no significant plant / equipment noise effects from the Proposed Development at sensitive receptors. It was predicted that the operational noise from the marine traffic will not result in a change in behaviour / effects as per the Institute of Environmental Management and Assessment (‘IEMA’) / Institute of Acoustics (‘IOA’) guidelines, as the noise from the marine movements will be similar to the existing noise levels

and characteristics currently occurring in the ambient environment, based on the channel dimensions restricting the number of craft capable of been escorted in and out of the Port of Waterford. However, the Proposed Development will lead to an increase in the frequency of noise events associated with marine traffic. Standard noise nuisance limits will therefore continue to be complied with at sensitive receptors.

Due to the nature of the Proposed Development, there will be no likely significant vibration arising during the Operational Phase. Therefore, the Proposed Development will not affect vibration already experienced at any sensitive receptor.

There will be no significant noise effects associated with traffic flow changes as a result of the Construction or Operational Phases of the Proposed Development.

The assessment determined that there would be no likely significant effect on noise or vibration arising from the Proposed Development at either the Construction or Operational Phases. The Port will continue with the required monitoring during channel maintenance activities and will investigate any noise complaints.

Based on the measured baseline environment, the anticipated effects during the Construction Phase and Operational Phase regarding environmental noise and vibration, along with the types of sensitive receptors, their proximity to sources, and the proposed mitigation measures, no significant effects will arise.

12 UNDERWATER NOISE AND VIBRATION

A comprehensive underwater noise and vibration impact assessment was conducted in accordance with best practice guidance, both statutory and non-statutory noise impact assessment criteria for the Construction Phase and Operational Phase of the Proposed Development.

Monitoring data that had been collected over a one-year duration from a hydrophone (device for measuring sound waves in water) that had been specifically located at Cheekpoint, ca. 2km from the Proposed Development, was analysed for the purpose of this assessment. Noise levels from different types of sources utilising the Port were identified during the monitoring period.

Following a detailed review of the Construction Phase, the predicted peak level for the worst-case scenario identified proposed piling works as the primary underwater sound source contribution. In order to complete a robust assessment, two piling scenarios were assessed; one based on the pile diameter specified for the Proposed Development, and the other representing a worst-case scenario.

The predicted impact from piling based on the pile diameter specified for the Proposed Development is below the thresholds for the different subaquatic species. Human receptors in the water, typically divers, have a lower threshold than aquatic species such as fish, otters and dolphins, for the sound pressure in the water, and it will take 150-200m for the potential discomfort for humans if underwater, to be comfortable during piling works at the Site. Even for the worst-case piling scenario, the predicted noise effects were below the threshold for the different subaquatic species within 160m from the piling works and 700m for human receptors, such as divers.

During the Operational Phase, the effect will be confined to vessel traffic at the port. Underwater noise levels will remain as they are currently, i.e. increased sound pressure levels locally for a short period within the river channel as a vessel navigates the channel and for short periods while the vessel berths in the port.

The assessment determined that there would be no likely significant effects on existing ambient underwater noise or vibration arising from the Proposed Development at either the Construction or Operational Phases.

The Port has left the hydrophone installed. Ongoing monitoring of underwater sound pressure in the river will continue for up to three years after the Construction Phase is finalised. Monitoring will provide information on background (absence of shipping) and ambient (shipping noise included), and will be used to validate baseline conditions post-development.

13 LANDSCAPE AND VISUAL

The Landscape Character Value and Sensitivity were assessed for the Site and the surrounding area. It was considered that both the Site and the study area have a landscape sensitivity of medium.

The landscape Impact magnitude was assessed for both the Construction and Operational phases. During the Construction Phase, there will be permanent physical effects to the land cover of the Site which will be not reversible, including land reclamation.

Overall, the magnitude of the landscape impact at the Operational Phase will be ‘medium’ given the scale and intensity of the industrial facility in this landscape setting.

A Visual Impact Assessment that involved assessing eleven viewpoints was undertaken. Photomontages were prepared to fully illustrate the Proposed Development. For the vast majority of the viewpoints, the Proposed Development will not be clearly visible due to intervening screening by terrain or vegetation.

The main mitigation measure for the Proposed Development will be its cohesive siting with surrounding land uses of similar form and character. The area benefits from natural screening provided by landforms, vegetation, and built elements. The existing port is in a narrow and enclosed section of the river corridor. The steep-sided hills to the east, west, and north of the Site will serve to screen much of the study area from view. However, in the instance of Minaun Hill to the southeast, the higher elevation areas will also result in clear views of the Proposed Development and the surrounding area; see Figure 13-1 below.

However, as an extension of an existing port facility, the Proposed Development will be much less likely to give rise to significant landscape and visual impacts than a new or separate facility. The Proposed Development cannot be readily screened from view, nor is this considered necessary in the context of an existing working port complex.

Overall, it was considered that the landscape and visual impact of the Proposed Development will not result in any significant residual impacts. Both landscape and visual impacts were considered to be of 'Moderate' significance at most, even in the immediate vicinity of the Site. These moderate-level impacts would be deemed acceptable for the receiving landscape.

Figure 13-1: Extract from Photomontage Viewpoint 6 – Illustration of the Proposed Development

14 TERRESTRIAL CULTURAL HERITAGE

The assessment was based on onsite inspection, cartographic and documentary research. There are no recorded archaeological sites listed in the Record of Monuments and Places for the areas directly affected by the Proposed Development or in the immediate vicinity. Two buildings listed in the Record of Protected Structures lie in the vicinity of the Site. A mill (RPS D136) and The Glass House (RPS C483).

No other terrestrial archaeological sites or landscape anomalies that might be interpreted as archaeological sites were identified in the course of the study.

The effect of the Proposed Development on the sub-surface terrestrial environment will be imperceptible. There will be no physical effect on the ruined corn mill (RPS D136), which borders the Site but is enclosed by a permanent security fence. There will be no effect on the mill stream or dock, which are already bridged by the existing access road. Additionally, there will be no effect on the ruins of Glass House (RPS C483), which lies outside the Site boundary

There will be no effects on the archaeological resource of the Site during the Operational Phase.

15 UNDERWATER CULTURAL HERITAGE

An in-depth assessment of the potential effect of the Proposed Development on underwater and foreshore cultural heritage was carried out.

A short stone quay wall on the foreshore was examined in 2002, uncovering more stonework beneath it. The stone quay, which lay parallel to the river, had uneven drystone construction. The north-eastern end was covered with artificial infill, and the top was repaired with cement. It was re-examined in 2022 and recorded in detail in 2024 for the current project. The Proposed Development will extend berths and rock armour that will cover the historic stone quay and extend into the river channel. Construction work will follow guidance from the Department of Housing, Local Government and Heritage (‘DHLGH’), including archaeological monitoring and the use of a terram membrane to protect the quay. All ground and riverbed works will be monitored under a DHLGH licence.

No significant underwater archaeological effects are predicted during the Operational Phase following the implementation of appropriate mitigation measures.

16 MATERIAL ASSETS – TRAFFIC AND TRANSPORT

All construction traffic will travel via the N29 / L7582 Industrial Access Road priority junction in order to gain access to the construction site.

The busiest period of the construction works will occur during the filling works, when it is expected to import 160,000 tonnes of fill material over a 5-month period. During the filling phase of the construction works, it is estimated that there will be approximately 87 HGVs per day arriving at the site over a period of 5 months. The findings of the detailed assessment confirmed that even during the peak Construction Phase, the existing N29 / L3412 / L7482 crossroads junction will continue to operate within capacity with no queues and minimal delays during the AM and PM peak hour.

Once operational, it was predicted that on a peak day for the Proposed Development, which will involve both ORE facilities operational and also the unloading of a large bulk carrier, it will result in an additional 89 trips in the AM peak hour to and from the Port. The detailed traffic modelling that was completed for all of the surrounding junctions confirmed that they will continue to operate within capacity with no queues and minimal delays during the AM and PM peak hours.

The National Transport Authority, along with Waterford City and County Council and Kilkenny County Council, have launched a new bus network plan for Waterford. A new bus route from Belview Port to Waterford City has been included. The bus will operate during weekday peak times.

A conservative approach was taken when assessing the worst-case scenarios' potential traffic and transport effects; however, overall, it was assessed that the Proposed Development will not have a significant long-term effect on the existing road network.

17 MATERIAL ASSETS – MATERIAL RESOURCES, ENERGY AND WASTE

A desk-based assessment was undertaken to evaluate the Proposed Development's impact on material resources, energy demand, and waste generation. During the construction phase, engineering fill materials such as quarry rock will be required, sourced locally where practicable. National production figures indicate that the demand will not significantly affect the national supply. Operationally, material resources will include marine gas oil for support vessels, maintenance equipment for ORE installations and standard office and welfare supplies. The increase in fuel and equipment demand is expected to have an imperceptible impact on national resources.

Energy requirements during construction will be temporary and not significant. The Port's existing 750kV substation will be replaced, and the Proposed Development will increase the Port's total annual energy demand by 26%, reaching approximately 1.81 million kWh. However, this still represents only 0.15% of the national energy demand for the transport and storage sector. Photovoltaic panels will contribute up to 273,000 kWh annually, reducing reliance on grid electricity.

Waste generated during construction will include typical construction and demolition ('C&D') waste. Reusable materials will be retained on-site, and all other waste will be managed by licensed contractors in compliance with legislation. The Operational Phase will generate office waste, hazardous waste (e.g. WEEE, oils), ORE maintenance waste and ship-generated waste. All waste will be segregated and managed in accordance with best practice and legal requirements. The volume of waste generated is not expected to place a significant burden on national waste infrastructure.

The Proposed Development has a 45-year design life, with potential for extension depending on ORE project lifespans. If decommissioned, the Site will revert to general port use, with waste policies updated accordingly.

Overall, the effects on material resources, energy, and waste arising from the Construction and Operational Phase of the Proposed Development on national material resources and infrastructure are considered not significant.

18 MATERIAL ASSETS – WATER AND WASTEWATER

Water for the Proposed Development will be supplied via the existing East Waterford Water Supply Scheme, with a temporary connection during construction. No significant impact on water infrastructure is anticipated.

Wastewater during construction will be managed via temporary facilities. Operational wastewater will discharge to the public sewer and be treated at the Waterford City Wastewater Treatment Plant, which has sufficient capacity. Overall, no significant effects on water supply or wastewater infrastructure are predicted.

19 INTERACTION OF ENVIRONMENTAL IMPACTS

In accordance with EIAR best practice procedures, the relevant interactions between various aspects of the receiving environment have been addressed in the specific chapters of the main EIAR. These interactions are then listed in Chapter 19 of the EIAR. For example, waste produced as a result of the demolition and construction work is a factor in a number of different environmental effects, such as water pollution.

20 SCHEDULE OF ENVIRONMENTAL COMMITMENTS

As part of the EIAR, all of the mitigation measures arising from each of the individual assessments for both the Construction and Operational Phases were summarised in an overall Schedule of Environmental Commitments that is presented at the end of Volume 2 of the EIAR. Port of Waterford Company is fully committed to implementing all these commitments. The implementation of these measures will ensure that the Proposed Development will not result in any significant adverse impacts on the receiving environment.

21 FURTHER INFORMATION

The EIAR will be available for inspection at:

- The Offices of An Coimisiún Pleanála 64 Marlborough Street, Dublin 1; and,
- The Offices of the relevant Coastal Planning Authority, Kilkenny County Council, County Hall, John Street, Kilkenny

Or

www.250berth.portofwaterford.com