Rosslare Europort Offshore Renewable Energy Hub

Environmental Impact Assessment Scoping Report

GAVIN AND DOHERTY GEOSOLUTIONS LTD
UNIT A2 NUTGROVE OFFICE PARK,
RATHFARNHAM, DUBLIN 14, D14 X627 IRELAND
Tel: +353 1 207 1000 | www.gdgeo.com

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Glossary:

The below glossary is appropriate for the below report.

AA	Appropriate Assessment
ADCP	Acoustic Doppler Current Profiler
AEZ	Architectural Exclusion Zone
AIS	Automatic Identification System
AONB	Area of Outstanding Natural Beauty
API	American Petroleum Institute
ASARP	As Slow As Reasonably Possible
BCI	Bat Conservation Ireland
BIM	Bord Iascaigh Mhara
BH	Borehole
BSBI	Botanical Society of Britain & Ireland
BWI	BirdWatch Ireland
CAP	Climate Action Plan
CEFAS	Centre for Environment Fisheries and Aquaculture Science
CFRAM	Catchment-based Flood Risk Assessment and Management
CO	Conservation Objective
CPOD	Cetacean Passive Acoustic Device
CPT	Cone Penetration Test
DAFM	Department of Agriculture, Food and the Marine
DAHG	Department of Culture, Heritage and the Gaeltacht
DCCAE	Department of Communications, Climate Action and Environment (now Department of Environment, Climate and Communications (DECC))
DECC	Department of Environment, Climate and Communications
DEHLG	Department of Environment, Heritage and Local Government (now DHLGH)
DHLGH	Department of Housing, Local Government and Heritage
DHPLG	Department of Housing, Planning and Local Government (now DHLGH)
EC	European Commission
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EMODnet	The European Marine Observation and Data Network
EPA	Environmental Protection Agency
EPS	European Protected Species
FSA	Formal Safety Assessment
EIASR	Effort Sharing Regulation
ETS	Emission Trading Scheme
EU	European Union
FCS	Favorable Conservation Status
FLO	Fisheries Liaison Officer
GDG	Gavin and Doherty Geosolutions Ltd.

GHG	Greenhouse Gas
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GPG	Green Point Group
GSI	Geological Survey of Ireland
GW	Gigawatt
HABs	Harmful Algal Blooms
Ha	Hectares
HIS	Historic Shipwreck Inventory
HWM	High water mark
IBTSWG	International Bottom Trawl Survey Working Group
ICES	International Council for the Exploration of the Sea
ICOMOS	International Council on Monuments and Sites
IEMA	Institute of Environmental Management and Assessment
IFI	Inland Fisheries Ireland
IGS	Irish Groundfish Survey
IMO	International Maritime Organization
INDC	Intended Nationally Determined Contributions
INFOMAR	Integrated Mapping for the Sustainable Development of Ireland's Marine Resource
IROPI	Imperative Reasons of Overriding Public Interest
ISO	International Organization for Standardization
ITM	Irish Transverse Mercator
JNCC	Joint Nature Conservation Committee
LCA	Landscape Character Assessment
LCOE	Levelised Cost of Energy
LiDAR	Light Detection and Ranging
LSE	Likely Significant Effects
M	Meter
MAC	Marine Area Consent
MAP	Maritime Area Planning Act 2021 (formerly MPDM)
MARA	Maritime Area Regulatory Authority
MARPOL	The International Convention for the Prevention of Pollution from Ships
MBES	Multibeam echosounder
MI	Marine Institute
MPA	Marine Protected Area
MU	Management Unit
MMO	Marine Mammal Observer
NAA	Noise Action Area
NAP	Noise Action Plan
NBDC	National Biodiversity Data Centre
NIAH	National Inventory of Architectural Heritage
NIGS	Northern Ireland Groundfish Survey
NIS	Natura Impact Statement

NM	Nautical Mile
NMB	Noise Mapping Body
NMPF	National Marine Planning Framework
NPWS	National Parks and Wildlife Service
NSER	Non-Statutory Environmental Report
NRA	Navigational Risk Assessment
NRMBR	National River Management Basin Report
NRW	Natural Resources Wales
NTFSO	National TransFrontier Shipments Office
NWCPO	National Waste Collection Permit Office
OPR	Office of the Planning Regulator
ORESS	Offshore Renewable Energy Support Scheme auctions
OWF	Offshore Wind Farm
PM_{10}	Particulate Matter
PTS	Permanent Threshold Shift
QI	Qualifying Interests
RNLI	Royal National Lifeboat Institution
RMP	Record of Monuments and Places
RoRo	Roll-on, Roll-off
RoPax	Roll-on, Roll-off passenger
RSA	Road Safety Authority
SAC	Special Areas of Conservation
SBP	Sub-bottom profiler
SCA	Seascape Character Area
SCI	Special Conservation Interest
SCS	Single-Channel Seismic
SISAA	Supporting Information for Screening for Appropriate Assessment
SNM	Strategic Noise Map
SMR	Sites and Monuments Record
SPA	Special Protection Areas
SPL	Sound Pressure Level
SSC	Suspended Sediment Concentration
SSS	Side Scan Sonar
SWCGS	Scottish West Coast Groundfish Survey
SWD	Shellfish Waters Directive
TII	Transport Infrastructure Ireland
TMU	Traffic Management Unit
TTS	Temporary Threshold Shift
UNFCCC	United Nations Framework Convention on Climate Change
UK	United Kingdom
UKHO	United Kingdom Hydrographic Organisation
UTM	Universal Transverse Mercator
UXO	Unexploded Ordnance

VC	Vibrocore
VERs	Valued Ecological Receptors
VMS	Vessel Electronic Monitoring System
VRP	Viewshed Reference Point
WEM	With Existing Measures
WAM	With Added Measures
WFD	Water Framework Directive
WGS	World Geodetic System
WHO	World Health Organisation
WTG	Wind Turbine Generator
ZoI	Zone of Influence
ZTV	Zone of Theoretical Visibility

Executive Summary

This report is the Environmental Impact Assessment (EIA) Scoping Report for the proposed Rosslare Europort Offshore Renewable Energy Hub development. The report has been completed following consideration of an EIA Screening Opinion on the proposed redevelopment which determined that the proposed redevelopment is subject to mandatory Environmental Impact Assessment and therefore will require an EIA Report to be submitted in support of the planning application which will be made at the appropriate time to An Bord Pleanála under the relevant provisions of the Maritime Area Planning Act 2021 once that act has been commenced in full.

The EIA scoping exercise described in this report has identified potentially significant environmental effects that require more detailed examination and analysis in an EIAR as well as those that can be 'scoped out' of an EIAR. This report will assist An Bord Pleanála to determine a scoping opinion regarding the proposed development.

Table 0-1 summarises the range of potential environmental topics that have been scoped in or out of the EIAR, based on the analysis in the following sections of the report, and the data required to complete the relevant EIAR section for each scoped in topic.

Table 0-1 Summary of environmental topic scoping exercise and data required to assess each scoped in topic

Topic	Topic Definition	Scoped In for EIAR	Data requirements
Consultation	Consultation assists in developing the EIA and ensures the EIA process will comply with the Aarhus Convention on Access to Information, Public Participation in Decision-Making, and Access to Justice in Environmental Matters. Consultation provides potential for specific concerns and issues relating to the proposed project to be discussed and accounted for in design and assessment from very early in the process and ensures involvement of the public and stakeholders in the process.	n/a	A full programme of engagement to be undertaken with all relevant statutory bodies, other users of the marine space including fisheries and leisure users, elected representatives, environmental groups, landowners, businesses, existing customers of the port, the offshore wind industry, residents and any other stakeholders identified.
Onshore Soils, Geology, Hydrogeology and Contamination	This topic considers the potential impact of the project on onshore soils and geology and contamination of these.	Yes	Desktop Study, Site Investigation

Topic	Topic Definition	Scoped In for EIAR	Data requirements
Marine Geology	This topic considers the potential impact on marine geological and geomorphological features and contamination of these.	Yes	Desktop Study, Site Investigation
Coastal Processes	This topic considers the potential impact of the project on coastal processes (i.e. shallow geology, hydrodynamic and wave regime, seabed sediments, sediment transport, and coastal geomorphology)	Yes	Desktop Study, Site Investigation
Flood Risk	This topic considers the potential impact of the project on flood risk and other flooding-related impacts	Yes	Desktop Study, Site Investigation, Consultation
Biodiversity: Terrestrial Ecology	This topic considers the potential impact of the project on the terrestrial habitats and species within the proposed development area and its immediate and surrounding environs	Yes	Desktop Study, Site Investigation, Consultation
Biodiversity: Benthic Ecology	This topic considers the potential impact of the project on key marine benthic ecology receptors in the vicinity of the proposed development area	Yes	Desktop Study, Site Investigation
Biodiversity: Fishing and Fish Ecology	This topic considers the potential impact of the project on the fishing industry and key marine fish and shellfish receptors in the vicinity of the proposed development area	Yes	Desktop Study, Consultation, Site Investigation
Biodiversity: Marine Mammals	This topic considers the potential impact of the project on key marine mammal receptors in the vicinity of the proposed development area	Yes	Desktop Study, Marine Mammal Risk Assessment, Site Investigation (visual and acoustic surveys)
Biodiversity: Ornithology	This topic considers the potential impact of the project on key terrestrial and marine ornithology receptors in the vicinity of the proposed development area	Yes	Desktop Study, Site Investigation, Impact Assessment
Cultural Heritage (Onshore Archaeology)	This topic considers cultural heritage impacts associated with the proposed development, inclusive of archaeological and architectural heritage, on cultural heritage assets onshore	Yes	Desktop Study, Site Investigation
Cultural Heritage (Marine Archaeology)	This topic considers cultural heritage impacts associated with the proposed development, inclusive of archaeological and architectural heritage, on marine cultural heritage assets	Yes	Site Investigation

Topic	Topic Definition	Scoped In for EIAR	Data requirements
Water Quality	This topic considers the potential impacts of the proposed development on water quality within the marine environment and the risk to water quality in the surrounding environment	Yes	Desktop Study, Site Investigation
Waste Management	This topic considers the potential impacts of the proposed development on waste management	Yes	Desktop Study
Transportation (onshore)	This topic considers the potential impacts of the proposed development on transportation infrastructure, including Rosslare port and roads in the vicinity of the proposed development	Yes	Desktop Study
Air Quality and Climate	This topic considers the potential air quality and climate impacts as a result of the proposed development	Yes	Desktop Study
Noise and Vibration	This topic considers the potential noise and vibration impacts (e.g. from construction and increased traffic) as a result of the proposed development	Yes	Desktop Study, Site Investigation
Navigation and Shipping	This topic considers the potential shipping and navigation impacts as a result of the proposed development	Yes	Consultation, Navigational Risk Assessment
Human Health, Population and Socio-economics	This topic considers the potential human health, population and socio-economics impacts (e.g. employment effects, impacts on and access to community facilities, economic investment in the local area, impacts on recreation and amenity and land use interactions) as a result of the proposed development	Yes	Desktop Study, Consultation
Material Assets	This topic considers the potential impacts on material assets (i.e. built services and infrastructure, roads and traffic and waste management) in the vicinity of the proposed development as a result of the proposed development	Yes	Desktop Study, Consultation
Landscape and Visual	This topic considers the potential landscape and visual impacts which may arise as a result of the proposed development	Yes	Desktop Study, Site Investigation and Impact Assessment
Major Disasters and Accidents	This topic considers the potential effects on the environment arising from the vulnerability of the proposed development to risks of major accidents and/or natural disasters which are relevant to the proposed development	No	n/a

Topic	Topic Definition	Scoped In for EIAR	Data requirements
Cumulative Impacts	This section considers the potential cumulative impacts of other existing and/or approved works in the vicinity of the proposed development with the proposed development on the receiving environment.	Yes	Desktop Study and Consultation

1 Background

1.1 Introduction

This report is the Environmental Impact Assessment (EIA) Scoping Report for the proposed Rosslare Europort Offshore Renewable Energy Hub development.

Scoping is a key stage of the EIA process, and this report has been compiled to describe what information should be contained in the Environmental Impact Assessment Report (EIAR), and what methodologies are proposed to gather and assess that information, for the proposed development. The potential for likely significant effects on the environment throughout the construction and operational phase of the proposed development is considered in this report.

This EIA Scoping Report will facilitate early engagement with prescribed bodies, consultees and others in relation to the proposed approach to the assessment of environmental impacts for the proposed development. Scoping is conducted at an early stage in the process to ensure that the environmental studies required are undertaken in a sufficiently timely manner to provide all the relevant information on the Rosslare Europort Offshore Renewable Energy Hub scheme.

The principal objectives of this report are to:

- Provide a description of the proposed development
- Identify likely significant impacts which may arise during the construction and operation of the proposed development
- Outline proposed assessment methodologies for completing the EIA
- Outline the likely content of the EIA and
- Form a basis of common reference for consultation about the scope and methodology of the EIA.

Scoping will continue throughout the preparation of the Rosslare Europort Offshore Renewable Energy Hub EIA. If information emerges after the initial scoping stages indicating that additional issues should be considered, then these will also be included. Please note the preliminary mitigation measures outlined in this report will be refined as the EIA is progressed. As such the project developers will consider these and any further measures identified before determining which measures should be adopted. The developers are therefore not bound to implementing the preliminary mitigation measures outlined in this report.

This report has been prepared by Gavin and Doherty Geosolutions (GDG) on behalf of Iarnród Éireann (Irish Rail). The report has been completed following consideration of an EIA Screening Opinion on the proposed redevelopment issued by GDG in May 2022 (Appendix 1). The EIAR Screening Opinion

determined that the proposed redevelopment is subject to mandatory Environmental Impact Assessment and therefore will require an EIA Report.

The parameters of the proposed development have been examined and it has been determined that the proposed development meets the relevant criteria under the provisions in the Marine Area Planning Act 2021. Therefore, the application for planning permission will be submitted to An Bord Pleanála under Section 291 of the Planning and Development Act 2000m as amended, once the relevant Parts of the Maritime Area Planning Act 2021 are commenced. This EIA Scoping Report (EIASR) will assist An Bord Pleanála to determine a scoping opinion. In line with the EIA Regulations, the following has been provided within this report:

- a description of the location of the works in Section 2, including a plan sufficient to identify the area in which the works are proposed to be sited;

- brief description of the nature and purpose of the works in Section 2 and their likely impact on the environment in Sections 5-25.

1.2 Scheme Overview

Iarnród Éireann engaged with the offshore renewable energy industry to assess the requirement for an Irish port to service this developing industry as well as to determine the required water depths and quay lengths necessary for the construction of offshore windfarms. This information, along with existing geotechnical knowledge of the site, has been encapsulated in a high-level pre-feasibility study (issued July 2020) to determine that Rosslare is suitable to be developed as an offshore wind staging port.

Its position on the juncture of the Irish and Celtic Seas in Ireland's South-East, places the proposed facility in an excellent position to service offshore wind development, both as a staging port for the construction of offshore windfarms and then throughout the operational life of the windfarms (30+ years) when it can provide operations and maintenance facilities for south Irish Sea and east Celtic Sea offshore wind farm developments helping Ireland to deliver on renewable electricity and decarbonisation targets as well as facilitating local and regional economic growth.

More detailed information about the proposed Rosslare Europort Offshore Renewable Energy Hub development is provided in Section 2.

1.3 Current Development Status

The development is undergoing preliminary design. An application for a licence to undertake site investigation activities has been submitted to the Foreshore Unit of the Department of Housing, Local Government and Heritage under Section 3 of the Foreshore Act 1933, as amended. That application includes full programme of geophysical, geotechnical, metocean and environmental surveys that will inform conditions within the proposed development area. The outcomes of the planned environmental, geophysical and geotechnical site investigation surveys will inform progression of the

design of the development in due course. Iarnród Éireann intends to submit a planning application to An Bord Pleanála as previously stated in December 2023.

1.4 Project Team

In November 2021, Gavin and Doherty Geosolutions (GDG) was appointed to develop a preliminary design, prepare and submit the Foreshore License Application, and prepare and coordinate delivery of the EIA Scoping Report.

This EIA Scoping Report has been written and compiled by GDG, with the assistance of competent external specialists where required for a subset of the Scoping Report topics, as outlined in Table 1-1.

Table 1-1: List of external consultants for scoping report

Report Topic	Specialist
Coastal Processes	Partrac Ltd
Ornithology	Cork Ecology Ltd
Marine Biodiversity (Marine Mammals)	Pelagica Ltd.
Terrestrial Biodiversity	Delichon Ecology Ltd.
Navigation, Shipping	Anatec Ltd
Air Quality and Climate	AWN Consulting
Cultural Heritage (Onshore Archaeology)	John Purcell Archaeology
Cultural Heritage (Offshore Archaeology)	ADCO Ltd
Landscape and Visual	Macroworks Ltd

1.5 EIA Scoping Report Structure

The structure for this EIA Scoping Report is:

- **Section 1**: Introduces and provides the background to the EIA Scoping Report
- **Section 2**: Provides a description of the proposed development
- **Section 3:** Provides an outline of the EIA process and the proposed methodology to be used

- **Section 4:** Provides an overview of the consultation process

- **Section 5 - 25:** Provides a description of the possible effects of the proposed development on the environment in order to inform the scoping for each of the relevant disciplines. These chapters identify the potential effects in the context of the environmental baseline. The chapters also outline the proposed assessment methodology that is expected to ensure a robust assessment of these effects

- **Section 26:** Outlines the methodology to be used in assessing possible cumulative impacts between the proposed development and other projects which may be taking place concurrently or consecutively

- **Section 27:** Provides a concluding statement for the EIA Scoping Report

2 Project Description

2.1 Location of the Proposed Development

Following extensive consideration of multiple possible locations and a 'do nothing' scenario (Section 2.3), Iarnród Éireann intends to develop the proposed port infrastructure within a marine area adjacent to and immediately to the north of the existing Rosslare Europort (Figure 2-1) which will be reclaimed to support the development of offshore wind farms on the Irish east and south-east coasts. The existing port facilities provide for passenger and freight ferries to and from the United Kingdom and the European Continent, with direct sailings to ports in the north of France, Bilboa in Spain and to two ports in Wales in the United Kingdom.

Figure 2-2-1: Location of Rosslare Europort in relation to Celtic and Irish Seas and overview of proposed development (Source: GDG, 2022)

2.2 Background to the Proposed Development

The key driver of this proposed development is to provide a main staging, installation and storage facility for offshore renewable energy project supply vessels for the east coast of Ireland and the Celtic Sea.

Support for offshore renewable energy was clearly set out in the Climate Action Plan (DECC, 2019) with ambitious targets of at least 3.5GW of offshore renewable wind in operation by 2030. The Programme for Government published in June 2020 included a target of 5GW of offshore wind in the Irish and Celtic Seas within the same timeframe which was then included in the updated Climate Action Plan published in 2021 (DECC, 2021). Most recently the Government increased this target again to 7GW by 2030 which together with efforts across six different sectors will result in a decrease of

51% in carbon emissions when compared to 2018 levels. Offshore wind remains the only renewable technology capable of being deployed at scale to meet these ambitious targets.

In addition, other high-level policy measures in the Programme for Government including the intention to ban the sale or importation of both new and second-hand diesel and petrol cars by 2030, together with expected increases in population and a gradual decommissioning of fossil fuel-based electricity generating facilities all point to a need for increased capacity to 2030. A pipeline of projects will be needed up to and beyond 2030 to meet this increased electricity demand. The increase by 2GW of the offshore wind target is very good news for the supporting industry including the Rosslare Offshore Wind Hub as an additional target of 2GW is likely another two to three offshore wind farms that will most likely be fixed bottom wind located in the Irish and east Celtic Seas perfectly placing Rosslare as the installation port.

Engagement with the offshore wind industry shows that a port capable of supporting offshore wind construction at Rosslare is strongly supported. There is currently no facility in the Republic of Ireland capable of being used for offshore wind construction. Developing an offshore wind facility at Rosslare capable of servicing offshore wind construction will ensure that this key stage in windfarm development is not lost to an alternative port such as Belfast, or a port in Wales or the south-west of England. This will have a knock-on effect in the development of and location of supporting industries in areas such as logistics, planning, environmental and engineering services and research.

The Wexford area has higher than average unemployment rates when compared to the national average. In 2016 (CSO, 2016) the rate in Wexford was 16.6% versus a national average of 12.9%. The proposed facility will contribute both directly and indirectly to substantial growth in employment opportunities both during construction activities (for the facility and windfarms which is expected to continue for a number of years) and during the operational life of windfarms once constructed (30+ years). The proposed facility will place the region at the forefront of offshore wind development in the Irish and Celtic Seas, a new industry for Ireland that has the potential to create thousands of new high value employment opportunities. These opportunities will occur directly within the port providing increased local employment during both construction and operation of the new port facility as well as opportunities with windfarm developers, operators and the supply chain during both the construction and operational stages of the windfarms.

The proposed development will create up to 350 direct WTE jobs during its construction period which is expected to last for c. 18 months. Following construction, the facility will provide between 40-60 WTE jobs directly employed by the port to support the installation phases of offshore wind development in both the Irish and Celtic Seas. Construction periods for offshore wind will be in the region of 24-30 months for the scale of windfarms being proposed in the Irish and Celtic Seas and engagement with developers indicates strong support for a facility at Rosslare.

A number of windfarms may be constructed out of this facility and in the region of 100 WTE positions per GW installed is expected within the port during the construction of the windfarms. The proposed facility will also provide operations and maintenance facilities for offshore wind farms supporting potential WTE jobs in the region of 100 WTE per 1GW windfarm during the operational life which is

expected to be c. 30 years. Education opportunities will also present as third level institutions work with the industry to ensure that the industry can be serviced from within the local area. This facility is a critical factor in ensuring that Ireland at all levels (local, regional and national) is placed to maximise the value of the offshore wind opportunity. Collaboration with educational institutes will ensure that the region is positioned to take full advantage of this opportunity and is being explored at an industry representative level with the aim of ensuring that facilities can be serviced from within the region.

The current outline design and location was determined at this stage to be the optimum location for the proposed facility after careful consideration of alternatives. The proposed facility is strategically located at the juncture of the Irish and Celtic Seas with the potential to facilitate offshore wind development under both the first and second phases of offshore wind in Ireland. The proposed facility is located within the eastern transport corridor and adjacent to an existing port of national significance that forms part of the Ten-T network. It is also located adjacent to an existing working port and outside of any area protected under the Birds or Habitats Directives.

2.3 Outline of alternatives considered

2.3.1 'Do Nothing' Approach

The first alternative considered is the do-nothing approach. None of the existing ports on the east or south coast of Ireland are capable of supporting the construction stage of offshore wind development. If Ireland fails to provide a port capable of supporting the construction stage of offshore wind alternatives in other countries will need to be considered by offshore wind developers. Other ports under consideration include Belfast in Northern Ireland and Mostyn in Wales, however Mostyn is highly tidal and may not be a serious option. Other options would be even further away on mainland Europe. If Belfast is used it would only have capacity for a limited number of wind farms and a second port would also be required.

Undertaking construction of offshore wind farms from an alternative port outside the state would have a number of impacts which are outlined below:

1. Employment opportunities during the construction stage of offshore wind development would be lost to other countries. This would have both a direct and indirect impact to employment opportunities at a local, regional and national level. Offshore wind farms create circa 100 jobs within the port per 1 GW of installed capacity during the construction phase in addition to the employment opportunities at the offshore construction site. These construction crews will be embarking and disembarking at the construction port and losing this development stage to a port in another country will result in the loss of an opportunity for increased trade locally that would be expected due to increased footfall.

2. Increased cost of construction due to increased distance of travel to and from the installation site. This will have a knock-on effect on the levelised cost of energy (LCOE) , a metric that will be used by offshore wind developers when bidding into the Offshore

Renewable Energy Support Scheme auctions (ORESS). Subsidies paid to developers under ORESS will be funded by the Public Service Levy (PSO) which ultimately is paid by the consumer. Therefore, increased costs of construction could be reasonably expected to result in increased costs to the consumer through an increased PSO levy.

3. Loss of development of local supply chain. Due to its scale offshore wind development is a driver for the creation of offshore wind industrial and research hubs and has had a positive socio-economic impact in coastal areas in other countries. Constructing offshore wind from a local port is critical to the development of local supply chain in areas including engineering design and advisory services, ecology, environmental, education, research and other consultancy services such as project management and site supervision. Offshore wind construction can foster upskilling providing an opportunity for people to transition from other waning industries, ensuring a just transition for people in the region as we move towards a decarbonised economy.

2.3.2 Alternative locations to east and south

Iarnród Éireann considered alternative locations and undertook a high-level desktop assessment of the coastline along the east and south coasts of Wexford. The current site was found to be a superior location when compared to the rest of the Wexford coast for some or all of the following at various locations:

- Located adjacent to an existing working port therefore the area is accustomed to industrial maritime activity
- The area lies outside of any SAC or SPAs
- The chosen area lies outside any area monitored for the production of seed mussel
- The position of the chosen area is ideally positioned at the juncture of the Irish and Celtic Seas and therefore equally capable of servicing offshore wind construction in both maritime areas.
- The area is serviced by a good road network with the submission of an application for planning permission for a new access road into the port (which has received funding through the Connecting Europe Facility (CEF) programme) expected to be made in the coming weeks
- The area will be serviced by the extension of the M11 motorway from Oylegate to Rosslare Harbour
- The location is close to the proposed new Wexford campus of the newly formed South-East Technological University which will be connected to Rosslare through public transport links allowing for collaboration between industry and educational initiatives

- The location is serviced by existing public transport links (bus and train services)
- Other locations along the Wexford coast which are rural in nature would require significant road upgrades increasing the environmental footprint of any development

Therefore, based on the above and given that the proposed development is adjacent to an existing port, alternative locations are not preferred for an offshore renewable energy hub, not least as development of an alternative green field site would likely have a greater environmental impact.

2.3.3 Alternative layouts or location within the port

The following alternative layouts and alignments of the port were considered and ultimately discounted for reclamation and construction, as outlined below.

2.3.3.1 Use of existing port infrastructure

Use of the existing port infrastructure to accommodate the new development was considered. This was discounted due to the existing development plans for this area set out in the Rosslare Europort Infrastructure Masterplan (Iarnród Éireann, 2020), the required scale of proposed offshore wind developments and the anticipated increased vessel traffic due to the significant number of projects that the development will support. The current port layout has a limited depth of navigational channels, limited laydown and manoeuvring space in existing quays, limited quay space, limited storage space and limited heavy-equipment availability and capability.

2.3.3.2 Further development of existing port infrastructure

Developing the existing storage area landside with the quayside located at or close to the existing land/water boundary and relocating certain activities outside the port was considered as this would reduce the area of reclamation of the maritime area. However, this was discounted as the current Roll-On Roll-Off activities in the port function much more efficiently by having existing landward parking and trailer storage available close to operable quays. Furthermore, current access arrangements in to and out of the port are restrictive.

Other reasons for discounting this alternative include that this layout:

- Would be constrained by existing rail line
- Would be constrained by proposed new access road
- Would be constrained by topography which is low cliffs

- Would require significant deepening by dredging of existing quays, which would present significant risks in terms of potential undermining considering the upper seabed material at the port comprises silty sand which will not stand at a steep gradient, exacerbating the risk
- Would lead to increase rock ripping and/or a requirement for rock blasting
- Would require far more capital dredging
- Would require ongoing maintenance dredging volumes which would be multiples of that which is expected under the proposed location and design
- Would use existing landward parking and trailer storage which is required for post-Brexit volumes of freight and passenger traffic at the port and related operations including customs services.

2.3.3.3 Consideration of first iteration of current layout and alternative layout to south-east of existing breakwater

With all other alternatives discounted as set out above, two layout options were then considered in detail; Option A, which involved reclaiming an area to the south-east of the existing breakwater, and Option B, which was the first iteration of the current layout (RPS, 2014).

Numerical modelling techniques were used to examine possible scenarios for land reclamation schemes at Rosslare Europort and Options A and B were assessed and compared using a series of relevant assessment criteria with a weighting factor applied to each criterion to reflect its importance in relation to meeting the overall aims of Rosslare Europort in terms of project requirements (Table 2-1, reproduced from RPS, 2014).

Option A included a reclaimed area and new berth attached to the existing port on the seaward side. It was found to have significant effects on tidal flows and may result in changes to sediment transport as far south as Carnsore Point. Subsequent navigation simulations using the hydrodynamic data generated as part of the study also demonstrated that this was not the preferred option in terms of manoeuvring and berthing. This proposed layout was deemed unsuitable due to the significant amount of reef habitat as well as increased impacts on sediment processes and current flows. In particular, the impact of this layout on coastal processes and associated greater environmental impacts is a defining issue which carries a much higher risk in successfully obtaining relevant statutory permissions for the proposed works.

Table 2-1 Evaluation Matrix for Development options A & B (reproduced from RPS, 2014). Note higher scores indicate higher suitability, not impact.

	Weighting Factor	Option A		Option B	
		Score	Weighted	Score	Weighted
Area of reclamation achievable	3	3	9	3	9
Impact on the existing environment	5	2	10	3	15
Impact on existing coastal processes	5	1	5	3	15
Cost and impact from new rail siding	2	3	6	1	2
Navigational feasibility	5	1	5	2	10
Impact on existing port operations	2	2	4	3	6
Civil engineering works & associated costs	3	3	9	2	6
		15	48	17	63

Specifically in terms of current flow, studies undertaken to examine the impact of reclaiming the area to the south-east of the port discovered that alterations in flow would be marked in extent, with a magnitude of ±0.15m/s which would represent a 30% change from the existing speed at these locations. The alignment of a new berth directly within the flow around the entrance to the Harbour would result in clear exposure to flow. This would not only have a significant and more widespread effect on the flow pattern around the headland, but it would also experience issues in relation to navigation and berthing.

The approach to the existing berth would also be affected on the flood tide if the area to the southeast of the port was reclaimed, with localised changes in current speeds predicted that would most likely be related to changes in flow direction.

Option B was therefore identified as the most suitable layout for the proposed development. This served as the starting point for the current iteration which has been refined through an early-stage concept design. The design is expected to be refined further as it progresses through the various design stages and as feedback is taken on board for stakeholders.

2.4 Proposed Development Overview

The proposed development at Rosslare will provide a new offshore wind facility to service the burgeoning Irish Sea offshore wind market. With a substantial amount of offshore wind activity

planned in the Irish Sea over the next decade, Rosslare is strategically positioned to provide port infrastructure facilities for these projects.

The construction of offshore wind requires ports that meet certain parameters in relation to storage area, quay wall length and draught capable of accommodating the scale of vessels used to build out modern windfarms with 12MW+ wind turbines. As an example, the GE Haliade X has a rating of 12MW, a height of up to 260m and blades of 107M in length (to give a rotor diameter of 220M). The individual components (tower, nacelle and blades) will likely both arrive and depart by sea and will be stored adjacent to the quayside minimising the amount of onshore logistics required to build out the windfarm. This requires a sufficiently long quay length for loading and unloading of components and sufficiently large storage space adjacent to the quayside to store the constituent parts.

A questionnaire was submitted to developers, manufacturers and contractors working within offshore wind construction over the course of January and early February 2022 which required input on the following parameters:

- Access Channel Width
- Access Channel Draft
- Quay Water Depth
- Quay Berth Length
- Quay Berth Width
- Quayside Bearing Capacity
- Jack-up Barge Leg Load
- Jack-up Barge Leg Base Area
- Laydown Area
- Laydown Bearing Capacity
- Welfare / Office Space
- Peak Number of Staff at Quayside.

The responses from the questionnaire and design team experience of the design and construction of similar facilities have been used to help inform the current design of the proposed development. Whilst the selection of design parameters has considered the responses gleaned from the questionnaire, the physical properties of the Rosslare site have also been taken into consideration in terms of what may be physically possible and suitable to maintain operationality for the foreseeable future. The needs of the existing users of the small boat harbour were also considered.

The total development area (Figure 2-2-2) lies largely within the maritime area and will provide for c. 20ha of storage and operational activities. The proposed project consists of the following:

- Reclamation of c. 20 ha including an existing small boat harbour for the development of a storage and assembly area

- Quay walls

- A replacement small harbour with separate access and car park
- Access from the proposed new Rosslare Europort Access Road to the north side of the new facility (where the replacement small board harbour will be located),
- Ancillary onshore works, and
- Rock armour revetments partially surrounding the reclaimed area and providing the boundary protection for the proposed small boat harbour.

Note dredged material will be re-used on-site to provide draft for vessels as well as providing material for reclamation as opposed to sending it to landfill or dumping it at sea.

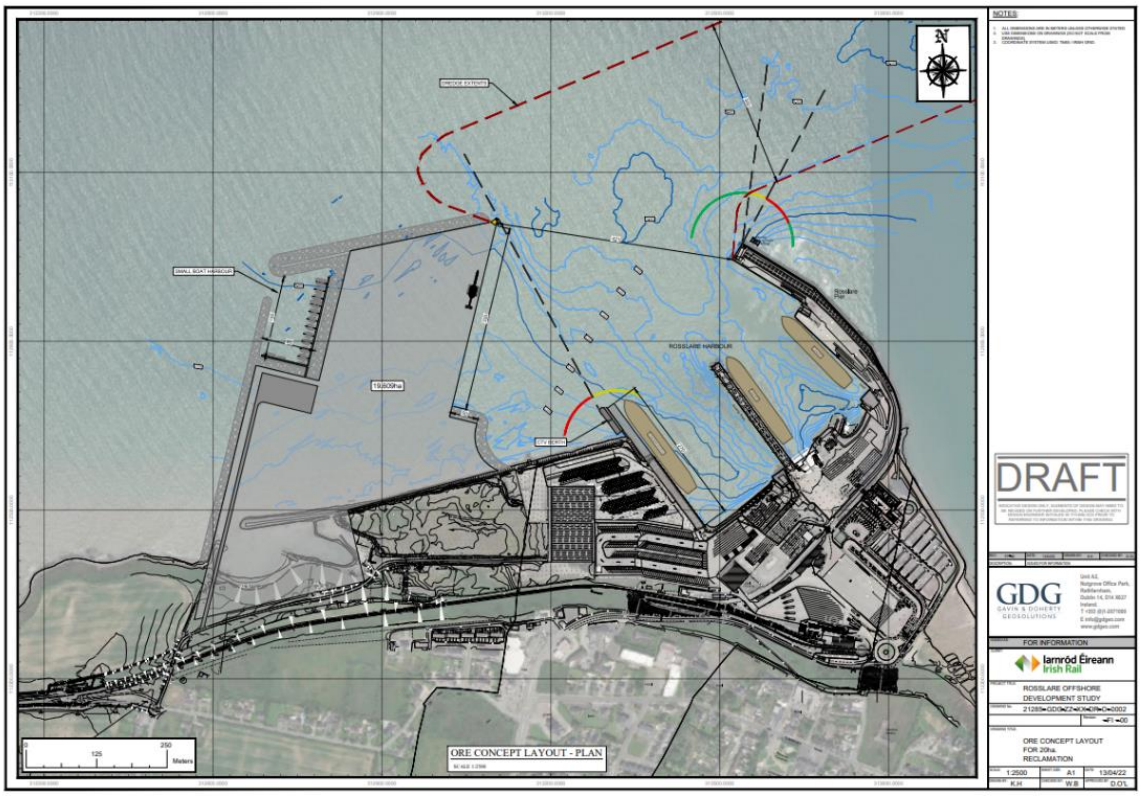


Figure 2-2-2: Preliminary Design Drawing of the proposed ORE Hub development

Once developed the entire area will fall within the Wexford County Council nearshore area under the Maritime Area Planning Act 2021 (once the relevant sections of the Act are commenced in 2023). It is planned to apply for planning permission under the Maritime Area Planning Act 2021 once the relevant sections of the Act have been commenced. The planning application will be made to An Bord Pleanála (ABP). Iarnród Éireann considers this appropriate as the nature of the proposed project meets the criteria under the Maritime Area Planning Act 2021, as amended (MAP) for a direct application to ABP. Technical parameters of the development meet the criteria specified under Schedule 7 of the

PDA, the criteria specified under the Eight Schedule of MAP and the proposed development lies wholly or partially in the maritime area, therefore under MAP an application may be made directly to ABP.

2.5 Activities to be undertaken within the Proposed Development

The proposed development will facilitate the following:

- Provision of a Crew Transfer Vessel (CTV) berth with freeboard suitable for CTV operations, likely to be a bespoke pontoon system
- A storage and assembly area for wind turbine components of circa 50 acres (equivalent to circa 20 hectares) developed on reclaimed land adjacent to the existing lands
- Rock armour revetments facing the reclamation area, designed to minimise impact to the existing wave climate and local hydrodynamic regime
- A dedicated double quay wall to service offshore wind projects tying into the reclaimed area, likely to be tubular steel pile and sheet piled construction with dredged backfill
- Dredging works (approach channel and quayside) to accommodate a suitable draught for offshore vessels anticipated at the proposed berth to include; delivery vessels, installation vessels, multi-purpose cargo vessels and support vessels
- Relocation of the existing small boat harbour and provision of enhanced provision for local boat-owners
- Construction of new management offices on the landside.

3 Environmental Impact Assessment

3.1 EIA Directives

Article 2(1) of the EIA Directive[1] states:

"Member States shall adopt all measures necessary to ensure that, before development consent is given, projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects on the environment. Those projects are defined in Article 4."

Article 4(1) addresses projects falling under Annex I of the directive and Article 4(2) addresses projects falling under Annex II.

Article 4(1) requires that "…projects listed in Annex I shall be made subject to an assessment…". EIA is therefore mandatory for the project types listed in Annex I.

Article 4(2) requires that Member States must determine for Annex II project types whether EIA is required, through:

a) a case-by-case assessment, or

b) thresholds or criteria set by the member State

Of particular relevance to this EIAR Screening Assessment is the project category related to port development listed under Annex I Part 8. Annex I Part 8(1)(b) of the EIA Directive requires an EIA for the following development:

Trading ports, piers for loading and unloading connected to land and outside ports (excluding ferry piers) which can take vessels of over 1,350 tonnes. The Proposed Project includes vessels over 1,350 tonnes. This weight limit is the maximum amount of weight that a ship can support (inclusive of passengers, fuel, goods, etc).

3.2 EIA Process

The EIA process is summarised below with an overview of the key stages of the process presented in Figure 3.1 and in Sections 3.3 to 3.5:

- **Screening**: Undertaken to identify if an EIA is required for a development
- **Scoping/consultation**: to be undertaken to compile relevant background data, surveys needed and identify issues and constraints.

1Environmental Impact Assessment (EIAR) Directive (Council Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 2014/52/EU)

- **Baseline surveys**: including walk-over visits, detailed specialist surveys and discussions with relevant statutory and other consultees to determine the nature and extent of the existing environment

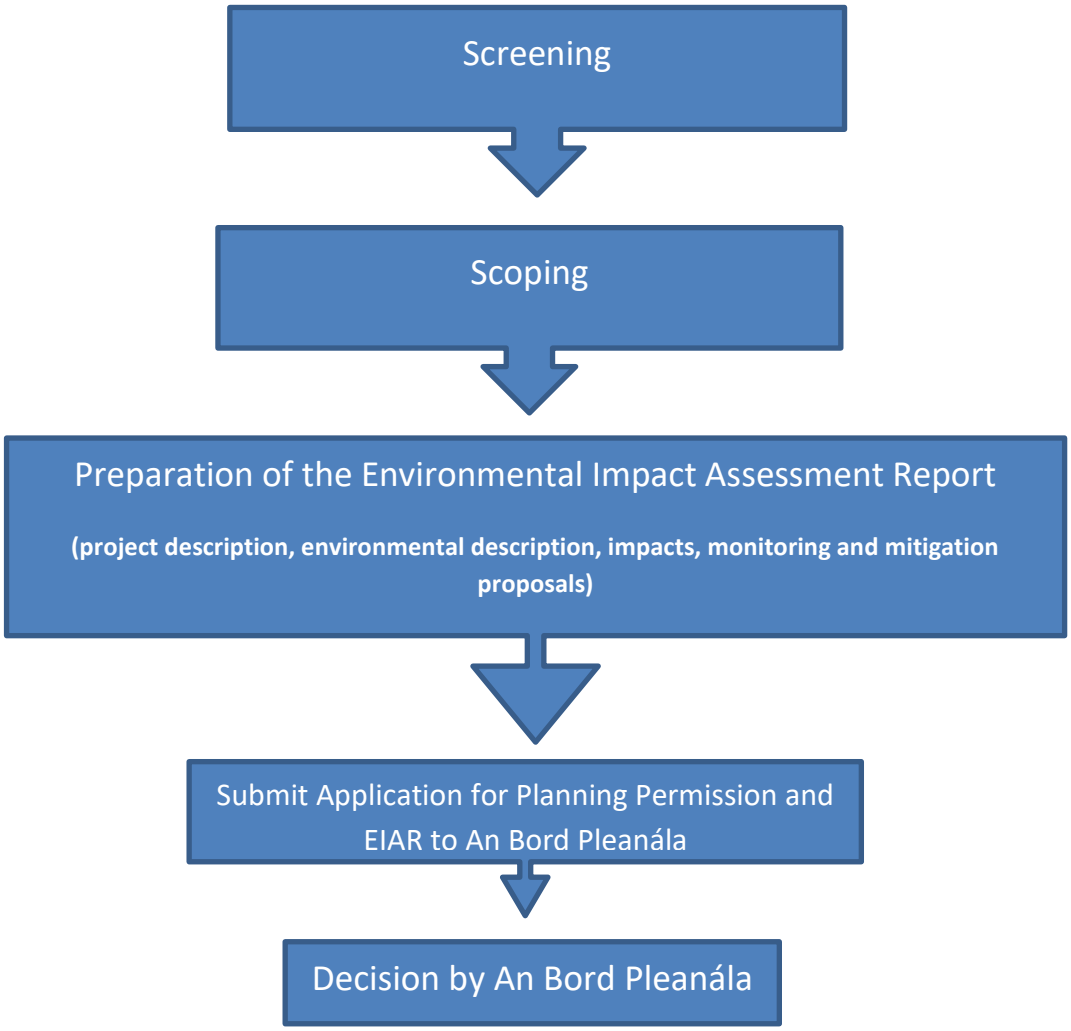
- **Identification of potential significant effects**: predicting the likely significant environmental effects of the redevelopment during construction and operation & identifying appropriate mitigation

- **Mitigation**: ongoing development and description of mitigation proposals, including project evaluation and review to mitigate environmental effects

- **Monitoring**: if necessary, monitoring requirements may be identified for construction and operational phases

- **Residual and cumulative effects**: consideration of residual effects remaining after proposed mitigations have taken place

- **Reporting**: preparation of the EIA Report, including Non-Technical Summary (NTS)



3.3 EIA Screening

In this step, a Screening exercise must be carried out in order to determine if the proposal is likely to have significant effects on the environment. In making the determination, the planning authority must have regard to Schedule 7 criteria, Schedule 7A information, results of other relevant EU assessments, the location of sensitive ecological sites, or heritage or conservation designations. Mitigation measures may be considered.

The Screening Determination must state the outcome and the main reasons and considerations for such outcome, with reference to the relevant criteria listed in Schedule 7 of the Regulations and Mitigation, if relevant.

Screening should be undertaken in line with the Practice Note issued by the Office of the Planning Regulator (OPR) in 2021 - OPR Practice Note PN02 Environmental Impact Assessment Screening (OPR, 2021)

3.4 EIA Scoping

The main purpose of the EIA scoping exercise is to identify potentially significant issues for detailed examination, what methods should be used to investigate this and assess this information, in order to determine those that can be 'scoped out' of future assessments. These likely significant effects of the proposed development are required to be identified under Article 3 (1) of the EIA Directive:

the light of each individual case, the direct and indirect significant effects of a project on the following factors:

a) population and human health; biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and

b) Directive 2009/147/EC

c) land, soil, water, air and climate

d) material assets, cultural heritage and the landscape

e) the interaction between the factors referred to in points (a) to (d).

The EIAR Scoping Report considers environmental topics having regards to:

- A brief assessment of the existing situation (baseline
- The identification of potential effects and key issues which may be associated with both the construction and operation of the proposed redevelopment
- An indication of any mitigation measures likely to be proposed and

- An indication of the approach to be adopted towards a detailed assessment of potential effects (where appropriate).

'Scoping out' is justified on the basis of any of the following:

- A topic is irrelevant, due to the nature of the works on the receiving environment
- The proposed option results in negligible impacts and is located in an area that is not environmentally sensitive to the anticipated effects
- Effects on a particular receptor are considered to be below the significance threshold; or
- Any design or mitigation measures proposed will avoid the particular environmental effect.

3.5 EIA Report Methodology

The assessment of environmental impacts described in an EIA Report should be conducted in accordance with the following Guidance from the Environmental Protection Agency (EPA):

- Guidelines on Information to be Contained in Environmental Impact Statements, EPA 2002
- Advice Notes on Current Practice in the Preparation of Environmental Impact Statements, EPA 2003
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, EPA 2022; and
- Draft Advice Notes for Preparing Environmental Impact Statements, EPA 2015.

In addition to the applicable EIA legislation and guidance, all EU Directives and national legislation relating to the specialist areas should also be considered as part of the process.

The methodology for EIA provides for a staged approach, which can be summarised as follows:

The EIA will provide the following:

- A description of the proposed development comprising information on the location, design, size and other relevant features including the physical characteristics of the whole scheme, required demolitions and the land-use requirements during both the construction and operational phases
- A description of the main characteristics of the operational phase of the scheme having particular regard to energy demand and energy used and the nature and quantity of materials and natural resources used

- A description of the relevant aspects of the current environmental baseline and an outline of the likely evolution of the environment without the implementation of the scheme
- A description of the likely significant effects of the scheme on the receiving environment
- An estimate by type and quantity of expected residues and emissions and quantities and type of wastes generated during both the construction and operational phases
- A description of the features of the scheme and/ or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment
- A description of the reasonable alternatives studied, which are relevant to the scheme and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the scheme on the environment
- A description of the expected significant adverse effects of the proposed development on the receiving environment deriving from the vulnerability of the scheme to risks of major risks and disasters and a description of mitigation measures proposed to mitigate these
- A description of monitoring measures, where appropriate
- A non-technical summary of the information referred to in points above and
- Any additional information specified in Annex IV of the EIA Directive 2014/52/EU (as transposed into Irish law) relevant to the specified characteristics of the project and to the environmental features likely to be affected.

3.6 Potential Impacts

The assessment of whether a project is likely to have a significant impact on the environment should be undertaken through a variety of methods:

- Professional judgement and experience based on published guidance material
- Assessment of both temporary and permanent effects
- Assessment of cumulative effects
- Assessment of duration, frequency and reversibility of effects
- Assessment with local, regional and national planning policy
- Consultation with statutory and non-statutory consultees

Significance criteria should be based on the type of potential consequences, the probability of the consequence occurring and the magnitude of the consequence.

Table 3-1 identifies the significance criteria that will be used to evaluate significance of effect for this proposed development, to ensure a consistent approach is used throughout the EIA process. Each environmental topic will identify significant effects relevant to each topic, with reference to the below criteria scale. Frequency of effects will be considered at the EIA stage, as outlined by the EPA (EPA, 2022b).

Table 3-1: EIA Significant Criteria

Significance Criteria	Definition
Major Adverse/Beneficial Effect	Substantial deterioration/improvement compared to the current scenario e.g. high impact on a regionally or nationally important resource.
Moderate Adverse/Beneficial Effect	Noticeable deterioration/improvement compared to the current scenario e.g. moderate to high impact on a locally important resource
Minor Adverse/Beneficial Effect	Slight deterioration/improvement compared to the current scenario e.g. low impact on a locally important resource
Neutral	No noticeable alterations to the current scenario

3.7 Mitigation Measures

An EIA should address potential environmental effects associated with a proposed development and propose mitigation where significant effects are identified. All measures proposed as mitigation for the proposed development will be reported within the relevant chapter of the EIAR and also compiled within a standalone Summary of Mitigation Measures and Residual Impacts Chapter.

The assessment will evaluate the construction and operational phases of the proposed development and the likelihood, extent, magnitude, duration, and significance of potential impacts will be described. The potential for cumulative impacts to arise will also be considered.

For all environmental components, the significance of residual impacts (i.e. those impacts predicted once mitigation is taken into consideration) will be assessed and presented. A Construction Environmental Management Plan (CEMP) will be prepared and included in an appendix to the EIAR which will be updated and finalised by the Contractor prior to construction commencing. The CEMP will comprise all of the construction mitigation measures, which are set out in the EIAR, and will be updated with any additional measures which may be required by the conditions attached to An Bord Pleanála's decision. The CEMP will allow for minimum disturbance.

The plan will follow guidance in the 'Environmental Good Practice on Site Guide, 4th Edition' handbook (CIRIA, 2015). The plan will also follow the TII Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan. The CEMP will be a working document that is to be implemented fully and finalised by the Contractor and prior to commencing works on site (and continuously kept up to date for all of construction). The finalisation of the CEMP will not affect the robustness and adequacy of the information contained in the EIA. The CEMP may need to be altered during the lifecycle of the construction period to account for monitoring results, legislative changes, outcomes of third-party consultations etc. Additional appendices may be added to accommodate monitoring results, permits etc.

3.8 Monitoring

In addition to the proposed mitigation measures, monitoring programmes will be developed to assess the actual impacts and the effectiveness of the mitigation measures as required. Monitoring allows for the comparison of pre- and post- scheme conditions and will allow any unforeseen impacts to be identified and mitigated, where required.

3.9 Appropriate Assessment Process

European Sites (collectively known as the Natura 2000 network), i.e. Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) are classified under the Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (Birds Directive) and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive). The procedures that must be followed when considering developments affecting a Natura 2000 site are specified in Articles 6(3) and 6(4) of Habitats Directive.

The Appropriate Assessment process will be conducted at the same time as the EIA, but both processes will be clearly demarcated. The AA will be documented in a Screening Statement and Natura Impact Statement (NIS), if required, for the proposed development and these documents will be submitted as part of the planning application with the EIAR.

3.10 Relevant Legislation, Policies and Guidelines for EIA Scoping

The following list represents legislation, policies and guidelines/guidance relevant to EIA Scoping:

- DHLGH's 2018 Guidelines for Planning Authorities and An Bord Pleanála on conducting Environmental Impact Assessment
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017)
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora
- Directive 2014/52/EU (amended from Directive 2011/92/EU): Environmental Impact Assessment of Projects, Guidance on Screening
- European Community (Vessel Traffic Monitoring and Information System) Regulations 2010
- Maritime Area Planning Act 2021 (MAP)
- Planning and Development Act 2000 (as amended) (PDA)
- Schedule 5, Parts 1 and 2, Planning and Development Regulations 2001 – 2021 (as amended)
- Foreshore Act 1933, as amended
- National Marine Planning Framework (NMPF)
- Office of the Planning Regulator (OPR) Practice Note PN02, on Environmental Impact Assessment Screening for development proposals (Office of the Planning Regulator, 2021)
- Guidelines on Information to be contained in Environmental Impact Assessment Reports, EPA 2022
- Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 as amended by Directive 2014/52/EU of the European Parliament and of the Council of 16 April

2014 on the assessment of the effects of certain public and private projects on the environment

- S.I. No. 477/2011 – European Communities (Birds and Natural Habitats) Regulations 2011
- Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions, EC 1999
- Environmental Impact Assessment of Projects Guidance on Scoping, EC 2017
- Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment, EC 2013
- Environmental Impact Assessment of Projects Guidance on the preparation of the Environmental Impact Assessment Report, EC 2017
- Guidelines on the Information to be contained in Environmental Impact Statements, EPA 2002
- Draft Advice Notes for Preparing Environmental Impact Statements, EPA 2015

Key policy documents that inform the examination of all environmental areas include:

- National Marine Planning Framework (published July 2021)
- National Planning Framework: Project Ireland 2040
- National Development Plan 2018 – 2027
- Draft National Development Plan 2021-2030
- Regional Spatial and Economic Strategy for the Southern Region Assembly 2020 – 2031
- Wexford County Development Plan 2022 – 2028 (draft)
- Relevant Local Area Plans
- Climate Action Plan 2021
- Strategic Infrastructure Development Plans

4 Consultation

Consultation assists in developing the EIAR and will serve the following objectives:

- The process will establish a robust environmental baseline for the proposed development and its surroundings
- The public consultation and engagement process will comply with the Aarhus Convention on Access to Information, Public Participation in Decision-Making, and Access to Justice in Environmental Matters
- Consultation provides potential for specific concerns and issues relating to the scheme to be discussed and accounted for in design and assessment from very early in the process and ensures involvement of the public and stakeholders in the process

Consultation is in integral component under the Maritime Area Consent (MAC) process under MAP which Iarnród Éireann intends to apply for following the establishment of the Maritime Area Regulatory Authority in Q1 2023.

A full programme of engagement will be undertaken as the proposed development progresses with all relevant statutory bodies, other users of the marine space including fisheries and leisure users, elected representatives, environmental groups, landowners, businesses, existing customers of the port, the offshore wind industry, residents and any other stakeholders identified. Consultation materials and channels may include:

- Website – the primary source of information about the proposed development
- Regular updates through the release of news bulletins which may be issued more regularly once the proposal gains momentum either by email, via the website or through social media
- Virtual Consultation Room – an online space developed to mirror the set-up of a traditional public drop-in event
- Booklet – a source of information for the proposal with detailed information
- Response Form – to collate responses during the public consultation process
- Local in person consultation events
- Open door day or evening events
- Town hall type meetings
- One to one meetings with key stakeholder groups and statutory bodies
- Consultation with MARA or ABP under pre-application processes

4.1 Consultation with Industry

Iarnród Éireann undertook consultation with the offshore wind industry in relation to the requirement for a port to service offshore wind construction on Ireland's east or south coast as well as to establish the parameters such as quay length and draught typically required to ensure that a port can accommodate offshore wind construction vessels. This engagement supports the need for the port in this location and the proposed development timeline is in line with industry requirements for constructing the first phase of offshore wind farms in Ireland. There will be ongoing engagement with industry throughout the design and planning processes to ensure that expectations are aligned and that the proposed development remains commercially viable.

4.2 Introduction to the Proposed Development

Rosslare Europort, the existing operator within the port together with Iarnród Éireann hosted an Information Day on 22 April 2022 for a wide range of national, regional and local authorities (statutory bodies, government departments, national and local elected representatives, community groups, environmental groups, fishing organisations, ports, harbours and marina organisations, tourism and business and enterprise). Approximately 150 individuals or organisations were invited, and the event was well attended. Interested parties were invited to learn about the development and attendees information was compiled to inform further stakeholder engagement and consultation.

4.3 Stakeholder Engagement

Iarnród Éireann has developed a Stakeholder Management Plan and Engagement Strategy and widespread stakeholder engagement with the public, statutory bodies and other stakeholder groups will be commenced by early Q4 2022. It is intended to hold a public consultation on the concept design in early Q4 2023 to get the public's views on the proposed development and to enable the public to contribute to the detailed design of the facility. The outcome of the consultation will be incorporated into the EIA report.

5 Onshore Soils, Geology, Hydrogeology and Contamination

5.1 Introduction

This section sets out the proposed methodology for assessing the potential impact of the project on onshore soils, geology, and contamination.

5.2 Policy and Guidelines

The assessment of effects of the proposed development on onshore soils, geology and contamination will consider the EIA policies and guidance documents set out above (Chapter 3). Specific to this topic, the following guidance documents will also be considered:

- National Road's Authority (2008); Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes

5.3 Baseline Environment

The geological history of the Irish Sea dates to pre-Cambrian times, however, for present purposes it can most usefully be traced from the Devonian, Carboniferous, and Permian periods in the late Palaeozoic. The details of the formation of the Irish Sea basin through geological times is discussed in detail in Ziegler (1982) and Belderson (1964). The Irish Sea basin is thought to contain rocks from several geological systems, ranging from Precambrian schists and gneisses to Cretaceous chalk and Palaeogene basalts. These rock formations exist, or sub-crop, beneath a locally thick cover of Quaternary (<2.6 million years old) sediments.

The properties of Quaternary sediment are highly variable laterally, and with depth, due to repeated fluctuations of ice sheet margins during the last glacial period. Local to the proposed development, the geology of the bedrock is composed mainly of a thick sequence of amphibolites of igneous origin with both plutonic and volcanic components. Mineral assemblages are entirely metamorphic and comprise hornblende and plagioclase with minor garnet, quartz, epidote, biotite, and titanite (Irish Geological Survey, 2018).

The solid geology of the site is defined as being a thick sequence of Precambrian Amphibolite with minor schist inclusions referred to as the Green Point Group (GPG). Amphibolite is a metamorphic rock with a protolith of igneous or sedimentary origin. The GPG amphibolite is suggested to have an igneous, potentially basaltic protolith, thus we can categorise it as an ortho-amphibolite. Foliation has been recorded within the GPG.

Glacial till derived of Cambrian sandstones and shales make up the bulk of the Quaternary deposits found within the boundaries of the site. Glacial till is comprised of unsorted sediment derived from glacial drift from the last ice age.

The site is surrounded by a poor aquifer which is generally unproductive except for localised zones. Groundwater recharge rates are modest with a moderate groundwater vulnerability.

5.4 Potential Impacts

This section is intended to identify the potential impacts of which the geology associated with the development site could have on aspects such human activity, local flora and fauna, groundwater, landscape, material assets and cultural heritage.

- **Groundwater and Aquifer Contamination:** The excavation and removal of soil and rock has the potential to impact the local groundwater and aquifers. Contaminants can be leeched through the soil into the groundwater or deposited directly through excavation. This can have a detrimental effect on local and potentially regional groundwater designated for human consumption, i.e., drinking water.
- **Flora and Fauna:** Removal of topsoil could have a detrimental impact on the local flora and fauna, destroying living habitats.
- **Land Use:** There is potential for the sterilising and damaging of commercially viable deposits, such as zinc or lead, or the defacing of valuable geological outcrop.
- **Costal Erosion:** The location of the development site is in a region where the costal erosion has a complex nature to it. Removal of large sections of rock could have a profound impact on the existing erosion patterns.
- **Land subsidence:** Excavation and construction could cause unforeseen land subsidence events. Many areas where there are significant carbonate or salt deposits are subject to the development of cavities and vugs which in-turn can lead to subsurface collapse. This can also occur when there is a significant change in the pressure regime within the rock due to removal of extensive overburden.
- **Radon:** Radon is a radioactive gas that is produced by the decay of U^{238} present in a wide range of (mainly igneous) rocks. This gas can accumulate to concentrations that are harmful and pose significant risk to health

5.5 EIA Report Assessment Methodology

This section will detail the methodology that will be utilised to assess the potential risks associated with the geology and soils found on site.

An extensive desktop study will initially be undertaken to compile all available data relating to the geology and pedology of the site. Once complete, a comprehensive site investigation will occur where a geologist will visit the site and record all necessary site-specific data. This data will consist of recording foliation data, structural analysis of the formation, detailed stratigraphic overview, collection of samples for testing and recording of data associated with the quaternary deposits present on site. The main issues to be resolved during the site investigation will include

- Confirming site geology as defined by the Geological Survey of Ireland (GSI) maps.
- Investigation into in the extent of foliation within the GPG amphibolite to identify potential zones of structural weakness across the formation along with potential conduits for contamination.

- Mapping of brittle deformation within the GPG in the form of fractures and faults. These features can act as lines of weakness within the rock and can also act as contamination pathways.
- Identifying thickness of glacial till across the site and ascertain the potential for subsurface contamination and to establish a detailed description of the sediment composition associated with the till.

Collected samples will be tested to ascertain whether pre-existing contamination is present on site and to identify the origin of the contamination. These samples will indicate whether potential leaching has taken place within the soil and will determine if any affected soil could be classified as hazardous and thus require treatment.

Specific receptors will be identified and assessed for potential contamination. The magnitude associated with the individual receptor is determined from a baseline condition and will consider the predicted change over a duration of time. The criteria for rating impact significance are detailed below in Table 5-1 (NRA, 2008).

Table 5-1 Criteria for rating impact significance to geological features

Magnitude of Impact	Criteria	Typical Examples
Large Adverse	Results in loss of attribute	Sever contamination of drinking water Irreversible loss of high proportion of local high fertile soils Removal of entirety of geological heritage feature Collapse or failure within the rock leading to loss of life High levels of Radon detected
Moderate Adverse	Results in impact on integrity of attribute or loss of part of attribute	Moderate contamination of drinking water Irreversible loss of moderate proportion of local high fertile soils Removal of part of geological heritage feature Collapse or failure within the rock leading to injury Moderate levels of Radon detected
Small Adverse	Results in minor impact on integrity of attribute or loss of small part of attribute	Minor contamination of drinking water Irreversible loss of small proportion of local high fertile soils Removal of small part of geological heritage feature Subsidence within the rock Low levels of Radon detected
Negligible	Results in an impact on attribute but of insufficient magnitude to affect wither use or integrity	No measurable changes in attributes

Minor Beneficial	Results in minor improvement of attribute quality	Minor enhancement of geological heritage features Minor improvement for local flora and fauna
Moderate Beneficial	Results in moderate improvement of attribute quality	Moderate enhancement of geological heritage features Moderate improvement for local flora and fauna
Major Beneficial	Results in major improvement of attribute quality	Major enhancement of geological heritage features Major improvement for local flora and fauna

The significance of any potential impact is based on a number of variables such as the sensitivity of the feature and the magnitude of the effect. It is also based upon the likelihood of an event occurring and the confidence in the accuracy of the assessment.

5.6 Preliminary Mitigation Measures

Mitigation measures will be proposed once the significance of the potential effects have been established.

5.7 Summary of Onshore Geology Scoping Exercise

The scoping exercise has concluded that the potential construction stage effects for Soils, Geology and Contamination should be scoped into EIA.

6 Marine Geology

6.1 Introduction

This section sets out the proposed methodology for assessing the potential impact of the project on marine geology.

6.2 Policy and Guidance

The assessment of effects of the proposed development on marine geology will consider the EIA policies and guidance documents set out above (Chapter 3).

6.3 Baseline Environment

The site and surrounding marine area is underlain by the Greenore Point Group, the Grahormack Formation and the Milltown Formation. The Greenore Point Group consists of foliated amphibolite with minor schists from the Precambrian, the Grahormack Formation consists of conglomerates and sandstones from the Ordovician, and the Milltown Formation consists of mudstones and thin siltstones from the Ordovician. The seabed substrate is identified as coarse substrate or rocks/boulders within the harbour extending east and southeast with sand to the northwest along the coast and northeast and mud/muddy sand to the north. The site and surrounding area are underlain by Quaternary Sediments consisting of till derived from Cambrian sandstones and shales that are likely to be present within the harbour.

Bedrock at and below the seabed where the reclamation and other proposed works will be carried out is interpretable from available Sub Bottom Profiler (SBP) data as Precambrian Gneiss, based on EMODnet classification. Approximately 1 km offshore, and parallel to the coastline, the bedrock is metamorphic Cambrian rock that is less well identified.

The site and surrounding marine area is underlain by a poor aquifer associated with the bedrock which is generally unproductive except for local zones.

As shown in Figure 6-1 to Figure 6-4, four INFOMAR [2] survey campaigns have taken place across the site acquiring Pinger and Chirp seismic Sub-Bottom Profiler (SBP) datasets in addition to Multibeam Echosounder data (MBES). Unlike the MBES data, the existing Pinger and Chirp Sub Bottom Profilers (SBP) only cover approximately 50% of the area (survey lines CV09_03 and KRY11_02 in Figure 6-3). Although the CV09_03 line is interpretable (Figure 6-4), it has a wide 75 m spacing within the existing Rosslare Harbour area. The KRY11_02 data seems to show the seabed only, with no interpretable deeper reflections in the raw data.

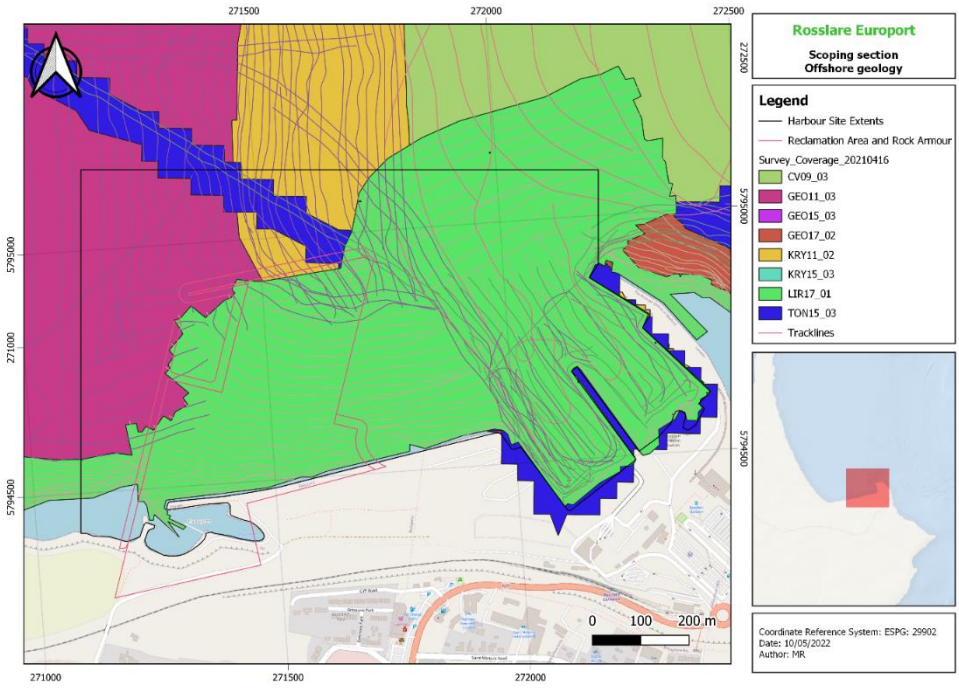


Figure 6-1 The existing MBES survey coverage across the proposed site location and surrounding area that includes Spatial distribution of track-lines from INFOMAR.

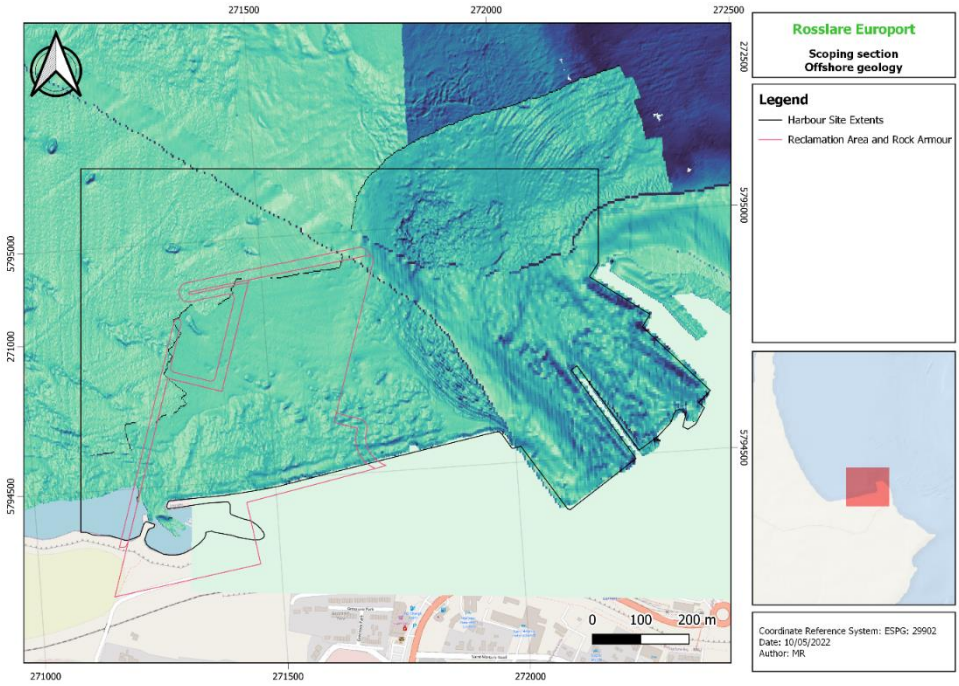


Figure 6-2: Hillshaded bathymetry at the proposed site location and surrounding area.

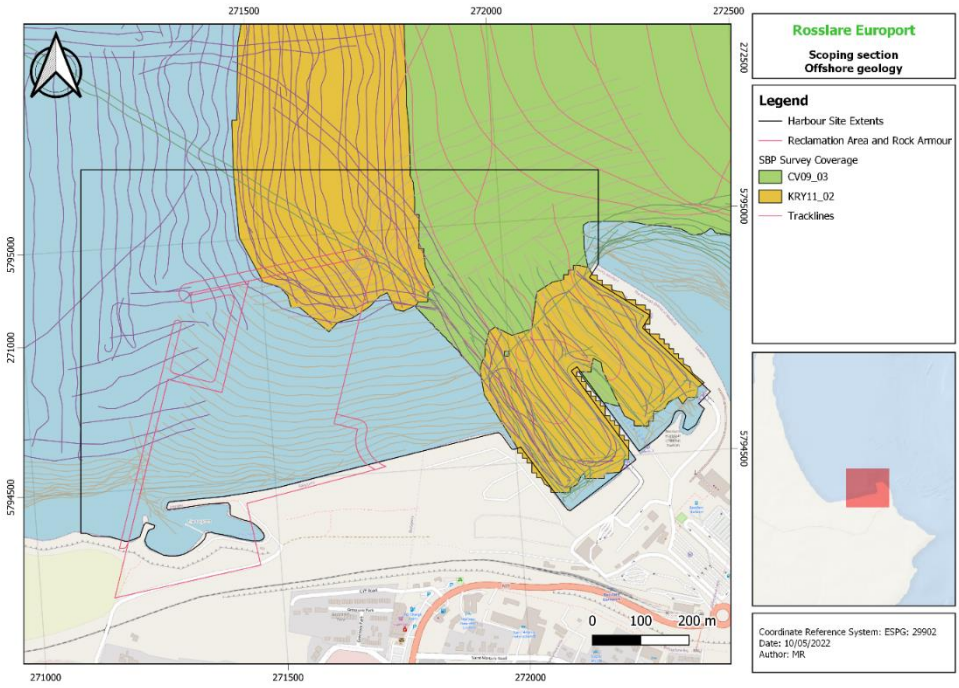


Figure 6-3: The existing sub-bottom profile (SBP) survey coverage across the proposed site location and surrounding area that includes Spatial distribution of track-lines from INFOMAR.

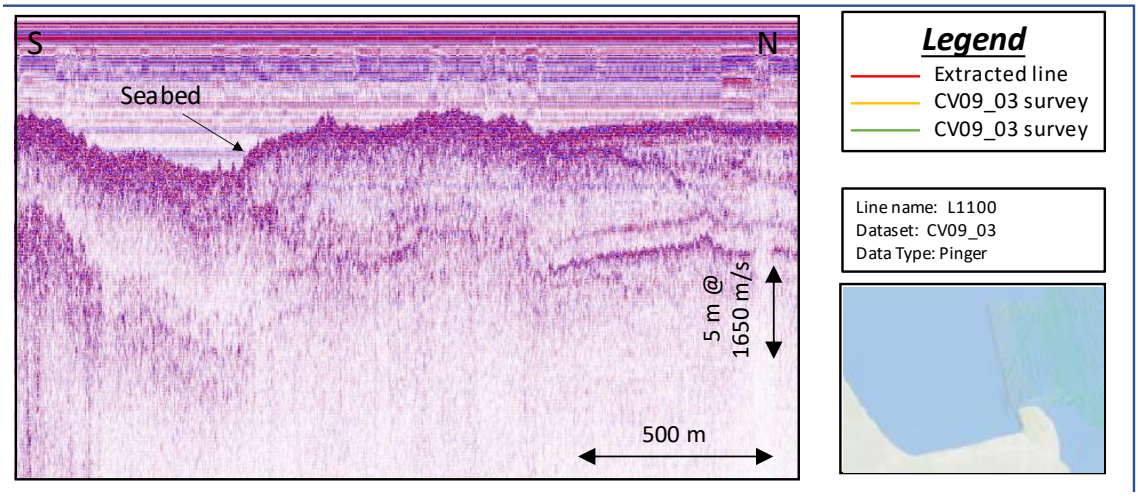


Figure 6-4: Example of the Pinger SBP raw data from a section of the CV09_03 lines.

6.4 Potential Impacts

Potential impacts to marine geology from the proposed development are:

- Release of contaminants due to drilling or piling
- Localised effects on the structural integrity of sub-surface geological features
- Impacts on any features of geological or geomorphological interest and importance.

- Potential for the sterilising and damaging of commercially viable deposits, such as zinc or lead, or the defacing of valuable geological outcrop.

6.5 EIA Report Assessment Methodology

Key considerations to address to determine impacts to marine geology from the proposed project are:

- Confirm whether site geology is as identified in Geological Survey Ireland maps
- Confirm whether the currently available data is sufficient to develop a preliminary ground model and can this data increase our knowledge of ground conditions
- Establish contaminant status of sediments to ascertain if they are suitable for dumping at sea, re-use within the site for reclamation or as backfill within the new harbour wall
- Excavated sediment material which is not suitable for re-use on site or for dumping at sea may be disposed off-site to a licensed landfill. Waste classification of any unsuitable material will be established using the appropriate guidance

To aid the environmental assessment process, a preliminary risk assessment (desk study) will be prepared to examine the potential for sources of contamination and pollutant linkages to be present. As part of the desk study the INFOMAR magnetometer data available for CV04_01_02, CV09_05 and CV12_02 should be interpreted to see if any infrastructure or ferromagnetic debris/potential Unexploded Ordnance can be detected, though INFOMAR magnetometer data are not generally usable for this purpose. These surveys were conducted between 2011 to 2017, where the seabed conditions potentially have changed since these surveys were completed (due to sediment mobility, infrastructure development, wreck events, dredging, etc.). Consequently, due to the low-resolution outdated MBES (Figure 6-1), no available magnetometer data, and lack of high-resolution MBES information, the available information is insufficient for the following tasks:

- Up-to-date seabed obstruction mapping (pipelines, cables, debris, etc.).
- Fine-scale archaeological/cultural resource identification (e.g. unknown wrecks).
- Fine-scale seabed sediment mapping.
- Habitat and benthic Community mapping (e.g. reefs).
- Unexploded Ordnance (UXO) mapping.

The availability of additional, non-INFOMAR geotechnical ground truthing data will be investigated. An intrusive marine-based ground investigation will be undertaken to confirm the actual ground conditions in the vicinity of the proposed development site and to collect samples of sediment material for contaminant testing. The preliminary assessment will be carried out within the current European legislative framework.

Samples of sediment will be tested in an accredited laboratory to ascertain their suitability for dumping at sea or reuse within the proposed development. The proposed excavated sediment material will also undergo waste classification in accordance with the EA/SEPA WM3 waste classification guidance document to ascertain if the material is hazardous or non-hazardous waste.

The following recommended works are proposed to provide increased confidence in the ground model within the vicinity:

- Seismic survey: Based on the assessment of the INFOMAR data quality and the bathymetric elevations, a Single-Channel Seismic (SCS) Pinger/Chirp/Parametric survey are recommended in order provide higher quality data to the depth of interest
- Repeat bathymetric survey: This can feed into a sediment mobility study to confirm the presence of mobile seabed features at the site. Also, the INFOMAR MBES data is not of a very high resolution: any repeat bathymetry MBES data acquired would be of a much higher resolution, potentially allowing smaller seabed features/hazards to be identified
- A full coverage Side-Scan Sonar (SSS) survey would be required for mapping of current seabed features and hazards. At this stage, the coverage could be restricted to proposed intrusive testing locations, although a full-coverage survey would provide a more robust dataset. We should note that if there exist an archaeological component in the vicinity, it will require two passes (200%+) to fully cover the NADIR and identify the target
- A magnetmeter should also be deployed to allow for any ferrous debris or infrastructure to be identified (this would not constitute a UXO survey)
- A complete ground-truthing campaign (geotechnical site investigations) is required to fully identify the composition of seabed sediments across the site.

Effects of contaminated land on receptors will be assessed considering sensitivity of the receptor and magnitude of the effect as set out in Table 6-1. The magnitude of a potential effect is dependent of sensitivity of the feature. The magnitude considers the scale of the predicted change to the baseline condition considering its duration (i.e., the magnitude may be moderated by the effects being temporary rather that permanent, short term rather than long term) and whether the effect is direct or indirect. Definitions for impact magnitude are described in Table 6-1.

Table 6-1. Criteria to determine the magnitude of effect

Magnitude	Criteria	Typical example
Major adverse	Total loss or major alteration to key features of the baseline conditions such that post development character / composition of baseline condition will be fundamentally changed.	Pollution of potable source of water abstraction. Loss of, or extensive change, to and aquifer, groundwater supported designated wetlands. Loss of, or extensive change to nationally important geological features.
Moderate adverse	Loss or alternation to one or more key features of the baseline conditions such that post development character / composition of baseline condition will be fundamentally changed.	Partial loss or change to and aquifer. Partial loss of the integrity of groundwater supported designated wetlands.

		Permanent loss of, regionally important geological features, or substantial changes to nationally important geological features.
Minor adverse	Results in some measurable change in attribute quality or vulnerability compared to baseline conditions. Changes arising from the alteration will be detectable but not material; the underlying character / composition of baseline condition will be similar to the pre-development situation.	Measurable impact or aquifer but of limited size or proportion, which does not lead to a reduction in the aquifer status. Minor effects on the groundwater supported wetlands. Loss of, or extensive change to locally important geological features.
Neutral	Very little change from baseline conditions. Changes is barely distinguishable approximately to a “no change” situation.	No measurable impact upon groundwater. No measurable impact on geological features.
Beneficial	Benefit to, or addition of, key characteristics, features or elements compared to baseline conditions.	Treatment or removal of contaminated soils from site. Improvement to geological features.

The significance of a specific potential effect is derived from both the sensitivity of the feature and the magnitude of the effect. Effects can be beneficial, adverse, or neutral and their significance can be very large, large, moderate, slight, neutral, or an intermediary designation as cases dictate based on professional judgment. The significance of an impact should also be qualified based on likelihood of an effect occurring (using a scale of certain, likely, or unlikely) and the confidence in the accuracy of the assessment. Professional judgment can be used to vary the category where specific circumstances dictate, for example due to the vulnerability or condition of the receptor.

6.6 Preliminary Mitigation Measures

Mitigation measures will be proposed if necessary once significance of effects has been established.

6.7 Summary of Marine Geology Scoping Exercise

The scoping exercise has concluded that the potential effects for Marine Geology should be scoped into EIA.

7 Coastal Processes

7.1 Introduction

This section sets out the proposed methodology for assessing the potential impact of the project on Coastal Processes (i.e. shallow geology (unconsolidated and hard rock), hydrodynamic and wave regime, seabed sediments, sediment transport, and coastal geomorphology (bathymetry and shoreline processes)).

7.2 Policy and Guidance

This assessment considers the current legislation, policy, and guidance relevant to the physical environment. The assessment of impacts of the proposed development is undertaken in accordance with the European Environmental Impact Assessment Directive implemented in Ireland by the Irish Maritime Area Planning (MAP) Act. The MAP act provides for new consenting processes and ensures Irish Legislation complies with European environmental assessment obligations. The following legislation was also considered:

- The Water Framework Directive ('WFD') (2000/60/EC) European Union water legislation with the overarching objective of all water bodies in Europe attaining good or high ecological status or potential by 2027. It was given legal effect in Ireland by the European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003). It applies to rivers, lakes, groundwater, transitional and coastal waters. The Directive requires that management plans be prepared on a river basin basis and specifies a structured method for developing these plans.

The following industry guidance was considered as part of this assessment:

- Marine Physical Processes Guidance to inform Environmental Impact Assessment (EIA) – Natural Resources Wales (2021)
- Shaping Quality Development (Institute of Environmental Management and Assessment – 'IEMA', 2015)
- Delivering Quality Development (IEMA, 2016)
- Guidelines for Ecological Impact Assessment in Britain and Ireland. Marine and Coastal (Institute of Ecology and Environmental Management – 'IEEM', 2010)
- Guidelines for Ecological Impact Assessment in Britain and Ireland. Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2018)
- Guidelines for Environmental Impact Assessment (IEMA, 2004)
- Coastal Process Modelling for Offshore Wind Farm Environmental Impact Assessment: Best Practice Guide (COWRIE, 2009)
- The State of Environmental Impact Assessment in the UK (IEMA, 2011).
- Delivering Proportionate EIA: A Collaborative Strategy for Enhancing UK Environmental Impact Assessment Practice (IEMA, 2017)

- Coastal and marine environmental site guide (John et al., 2003)
- The Marine Monitoring Handbook (Davies et al., 2001)
- Adapting to Climate Change: Advice for Flood and Coastal Erosion Risk Management Authorities (Environment Agency ('EA'), 2011)
- Good practice guidelines for ports and harbours operating within or near UK European marine sites (Associated British Ports ('ABP') Research & Consultancy, 1999).

7.3 Baseline Environment

This section presents the baseline for coastal processes (hydrodynamics and sediment transport) and geomorphology for the Port of Rosslare and the surrounding coastline and marine environment. In assessing the baseline environment, a wide variety of sources have been consulted and interrogated; including regional scale geophysical, hydrodynamic and metocean data, and laboratory analysis of locally collected historic seabed sediment samples (Table 7-1). These sources have been considered in the context of available relevant scientific literature.

Table 7-1: Coastal Processes specific available data

Aspect			Data/Reference Filename	Issue Date	Provided by
Bathymetry			INFOMAR Data Portal	Various with the most recent being 2017	INFOMAR
			GEBCO Gridded Bathymetry Data	2021	GEBCO
Metocean	**Modelled**	**Currents**	Atlantic – European Northwest Shelf	4th May 2019 – Present	Copernicus Monitoring
			(POLCOMS-WAM)	1st January 1960 – 31st December 2004	BODC
		Waves	(POLCOMS-WAM)	1st January 1960 – 31st December 2004	BODC
			Atlantic Ocean Wave Analysis and Forecast	4th May 2019 – Present	Copernicus Monitoring
	Measured	**Currents**	EUROPEAN OCEAN SEA SURFACE HEIGHTS	1st April 2019 – Present	Copernicus Monitoring
			BODC current series	Series Ref. 1170740 10th July 2009 – 11th July 2009	BODC
		Waves	The Irish Weather Buoy Network	M5 Buoy 18th October 2004 – Present	The Irish Weather Buoy Network
			Commissioners of Irish Lights Buoy	Splaugh buoy 1st January 2013 – Present	Commissioners of Irish Lights Buoy
		Tides	Irish National Tide Gauge Network \ OPW	Rosslare port 2005 – Present	Irish National Tide Gauge Network
Wind	**Measured**		Commissioners of Irish Lights Buoy	Splaugh buoy 1st January 2013 – Present	Commissioners of Irish Lights Buoy
			The Irish Weather Buoy Network	M5 buoy 18th October 2004 – Present	Irish Weather Buoy Network
			Wind Atlas	1st January 2006 – 31st December 2006	Sustainable Energy Authority of Ireland
			Hydraulic Maritime Research Centre in Cork.	1st January 1997 – 31st December 2001	Hydraulic Maritime Research Centre in Cork.

Aspect		Data/Reference Filename	Issue Date	Provided by
		Ireland's Marine Renewable Energy Atlas	1st January 2006 – 31st December 2006	Ireland's Marine Renewable Energy Atlas
	Modelled	ERA5	2021	ECMWF
Geology/Sedimentology	**Geology**	EMODnet Seabed Substrate \ Sub-Bottom profiler	Updated 2021	EMODnet
		EMODnet Seabed geology	Updated 2021	EMODnet
		Geology of the seabed and shallow subsurface: The Irish Sea	2015 (Journal article)	Mellett *et al.*
	Sedimentology	Irish sea seabed sediment map	2021	BGS
		Port area sediment Sampling campaign	2014	Iarnród Éireann
		INFOMAR sediment sampling	-	INFOMAR
		Irish sea seabed hard substrate	2021	BGS
		DTI Strategic Environmental Assessment Area 6, Irish Sea, seabed and surficial geology and processes	2005 (Journal Article)	Holmes and Tappin
Wrecks/ Infrastructure	**Wrecks**	INFOMAR Shipwreck Viewer	Updated 2021	INFOMAR
	Infrastructure	Global offshore renewable map	Updated 2021	4C offshore

7.3.1 Bathymetry

Water depths at the regional scale that have been derived from a coarse resolution Digital Elevation Model (DEM) and historic bathymetry data acquired proximal to Rosslare Harbour are presented in Figure 7-1 and Figure 7-2. Interrogation of the regional data show that two coast-parallel, north-south trending linear sandbanks (known as the Long \ Holden's bank and the Lucifer bank) persist offshore from the existing port. The historic bathymetry data acquired proximal to the harbour shows that water depths inside the harbour entrance are deeper than the adjacent seabed, with depths up to -12 mCD observed.

Three distinct channels that run across the harbour parallel to the berths indicate that the port is regularly dredged to maintain navigable depths. The adjacent seabed is relatively shallow with maximum depths of up to -5 mCD observed. Though the seabed proximal to the ports entrance is largely devoid of bedforms (e.g. ripples, megaripples, and sandwaves), where water depths start to deepen (and away from areas which are routinely dredged) megaripples with heights up to 0.4 m were observed in the historic dataset.

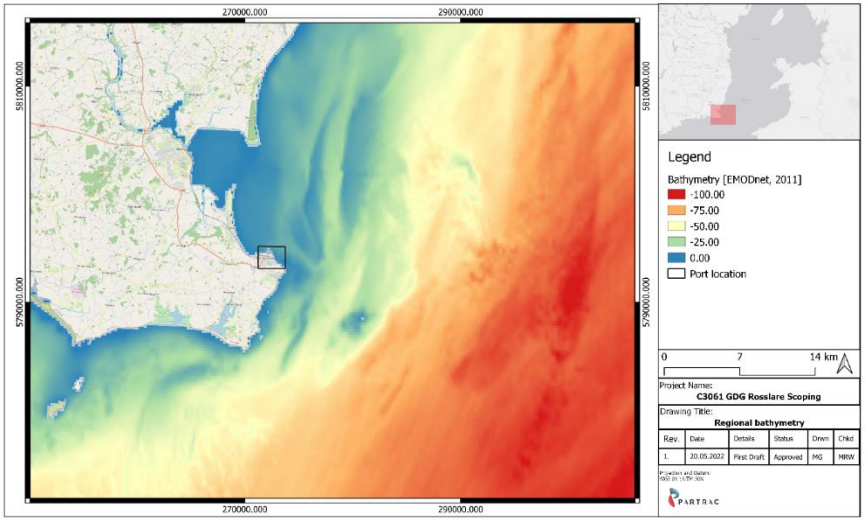


Figure 7-1: The bathymetry at the regional scale (left panel). Source: EMODnet, 2011.

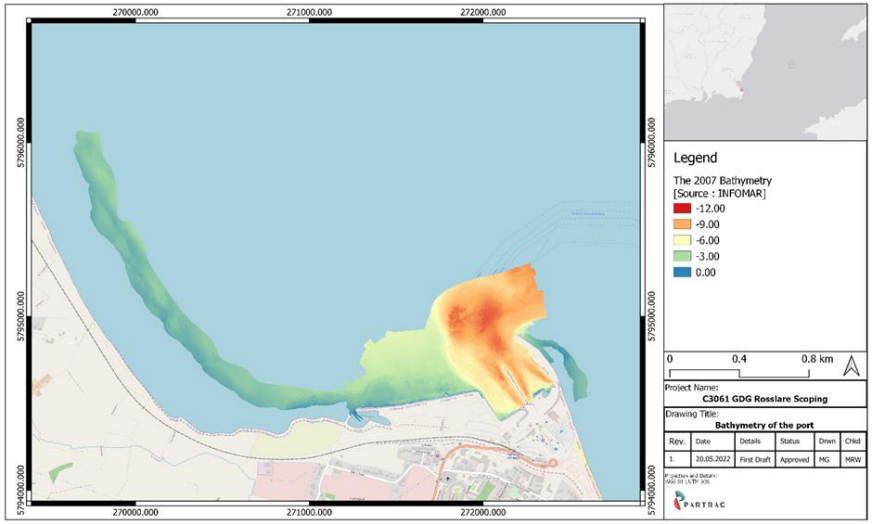


Figure 7-2: Historic bathymetry data acquired local to the Rosslare port development. Source: INFOMAR, 2007.

7.3.2 Hydrodynamic and Wave Regimes

The hydrodynamic regime is defined herein as the behaviour of bulk water movements driven by the action of tides and non-tidal influences (e.g. meteorological conditions; winds, atmospheric events and storm surges). Within the Irish Sea basin, the oceanic tidal wave propagates from the Atlantic Ocean through both the North Channel and the St. George's Channel. The tidal cycle is semi-diurnal in the Irish Sea and is dominated by the M2 and S2 tidal constituents (Pingree and Griffiths, 1978), with a common period of 12.4 hours. The south-eastern continental seaboard of Ireland is atypical in that it is an area of comparatively fast flows characterised by a small tidal range as the result of the amphidromic point[2] located near to Courtown to the north of the proposed development.

The tidal range progressively increases with distance from the amphidromic point, varying from a micro-tidal range in the south of the region towards the proposed development and a meso-tidal range to the north of the region; across the Irish Sea ranges of tidal elevation vary from <1 m to ~9 m (Flather, 1987). The tidal regime at the Rosslare port is defined as micro tidal, with a vertical range varying between 1.5 to 2 m, and with observed tidal current velocity magnitudes of between 1 to 2 m s^{-1} (Eurosion., n.d). Local differences in flow velocity at the coastline and around port infrastructure are anticipated due to local bathymetric variability (Figure 7-1 and Figure 7-2).

The tidal regime includes, on occasion, also affected by surges[3]. Positive surges of up to 1.25 m are observed on the Irish coast and across the St. George's Channel (Howarth, 2005). Despite the increase in water level from positive surges, surge currents in the Irish Sea are typically weak and are predicted to increase flow velocity away from the coast by up to 0.4 ms^{-1} (Flather, 1987). The complicated non-linear interactions between surge and tide may potentially yield a significant impact on the local sediment transport regime via an increase in local flow velocities and, during negative surges, an increased transmission of wave energy to shallow areas of seabed near to, and along the coastline.

Waves result from the transfer of wind energy to create sea states and the propagation of such energy across the water surface by wave motion. The amount of wind energy transfer and wind-wave development is a function of the available fetch (distance) across which the wind blows; wind speed; wind duration; and the original sea state.

The greater the fetch distance, the greater the potential there is for the wind to interact with the water surface and generate waves. Swell waves are a series of mechanical (sometimes referred to as surface gravity) waves generated by distant weather systems that propagate thousands of miles across oceans and seas. Wind waves are generated by local winds and thus are characterised by lower wave periods. Since wind generated waves originate from meteorological forcing, the wave regime is highly episodic and exhibits strong seasonal variability. The Irish Sea is a semi-enclosed body of water, so swell propagation is limited and locally generated, wind waves dominate. The magnitude of locally generated wind and swell waves depends on the duration and fetch of the wind.

2 An amphidromic point marks a location where the tidal range is effectively nil but increases with distance from this point in a rotary manner due to the Coriolis effect.

3 Surges are generated by storms, both locally through the action of wind stress on the sea surface and on the scale of the depression, through the action of atmospheric pressure (high pressure depresses the sea surface and low pressure raises it).

Wave energy propagation into the Irish Sea from Atlantic storms is generally curtailed by headlands such as Carnsore Point, which acts to shelter the western side of the Irish Sea and the area of the proposed development. Due to the broadly limited fetch, the largest waves (with the greatest coincident wave period) originate from the southern quadrant which is coincident with the longest fetch. Waves from the north-northwest or north are generally smaller due to shorter fetches. Locally, the port is exposed to waves from the North-Northeast, around to the South-Southeast directions. The largest waves (with a mean significant wave height of between 1.5 – 2 m) approach the site from the Southeast as long period swells are diffracted into the Irish sea from the Atlantic (Eurosion, n.d.).

7.3.3 Surficial Sedimentology, Morphology and Sediment Transport

Seabed sediment data are available from several projects, including HabMap (Robinson *et al*., 2008), and the Southwest Irish Sea Survey [SWISS] (Wilson *et al*., 2001). The surficial sediments of the Irish Sea have also been mapped by the British Geological Survey [BGS] (Figure 7-3), and a seabed mobility index developed by Coughlan *et al*. (2021).

Across the Irish Sea, the most common sediment type is sandy gravel (Figure 7-3). Pantin and Evans (1984) found that these sediments form a gravelly lag deposit which blankets the entire area except in places of exposed (underlying) relict Quaternary sediment, areas of gravel or bare rock. These coarse deposits exist due to continuous reworking of the seabed sediments by tidal flows which acts to winnow away finer sediments. On top of these gravel areas, particularly on the shallower platforms, irregular patches of nominally mobile gravelly sands, sandy gravels and sands are found. These are commonly < 0.3 m in thickness except in areas where they have coalesced into more extensive deposits and formed into bedforms.

The surficial sedimentology proximal to the proposed development are described as ranging from sandy muddy gravels through to muddy sands (Figure 7-3). In addition, proximal to the Proposed Development location, information regarding the surficial sedimentology is available from a sediment sampling campaign completed in 2014 by Iarnród Éireann as part of a foreshore licence application for a proposed beach nourishment of the Rosslare coastal frontage. During this campaign, 6 sediment samples were collected from within the port and Particle Size Analyses (PSA) performed. The location of these sediment samples is shown in Figure 7-4, and Table 7-2 presents the results from the PSA (RPS, 2014). PSA results indicate that sediment in the local region is largely comprised of Fine to Medium sand with Gravel also present in some samples. Sample S08A, collected near Berth No.3, was the only sample that returned an appreciable Mud fraction (20%).

Along the coastline, immediately to the south of Rosslare port, shallow cliffs of glacially derived material are present sitting on top of a rock platform, towards the north of the port sandy beaches persist (Eurosion, n.d.) backed by the glacial cliffs. Net longshore transport is directed northwards. Historically, significant coastal erosion has been observed with the Rosslare spit (located to the North of the port) experiencing severe erosion (Eurosion, n.d.).

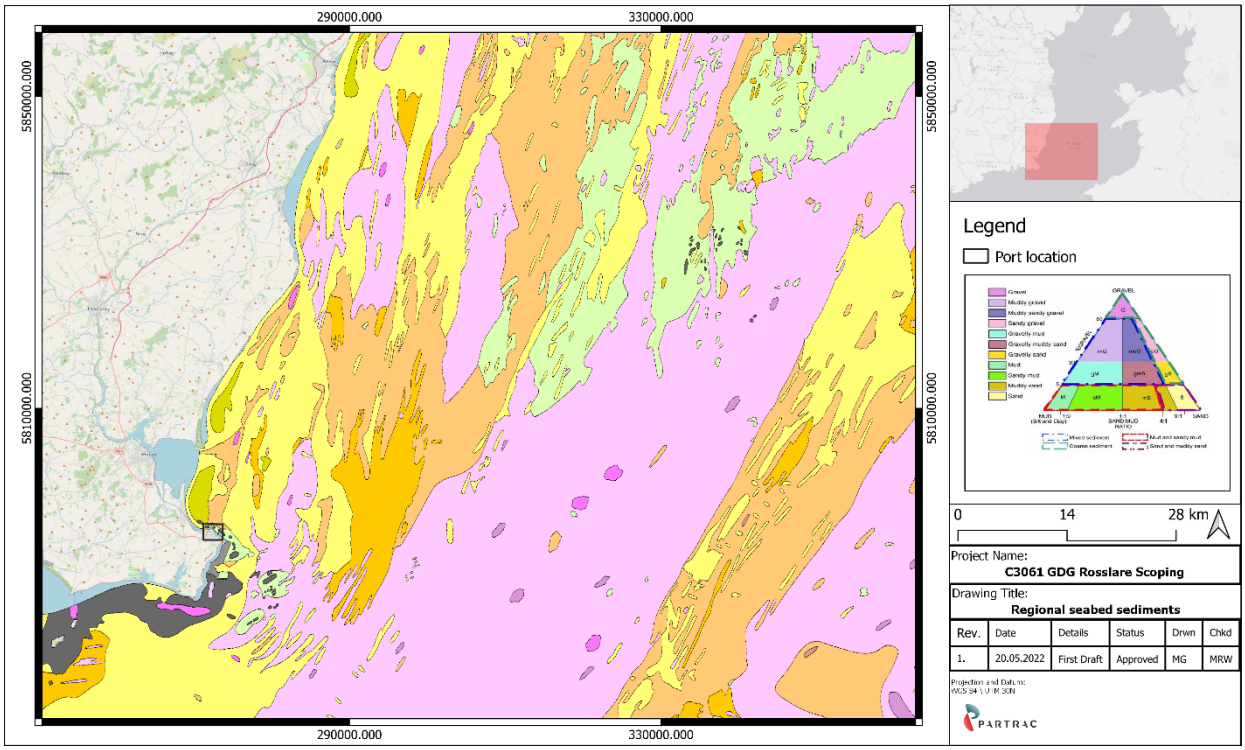


Figure 7-3: Surficial sediment distribution in the Irish Sea at the regional scale. Source: British Geological Survey (2019): digital map SBS250. Note for sediment classification, the standard Folk triangle was used, based on the percentage of gravel and the sand:mud ratio.

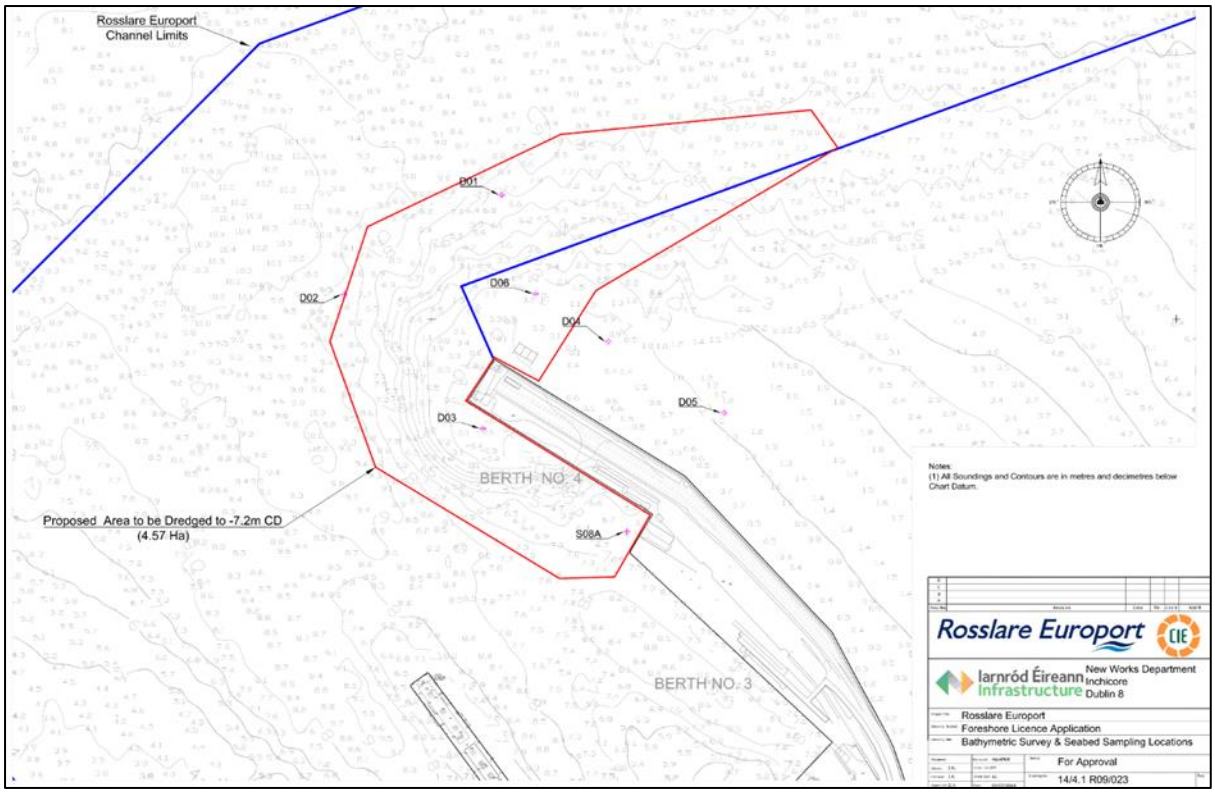


Figure 7-4: Surficial sediment sampling locations. The particle size analyses performed for each sample is detailed below (RPS, 2014).

Table 7-2: Rosslare Sediments: Physical characteristics (RPS, 2014).

ID	Visual Inspection	% Gravel	% Sand	% Mud
D01	Muddy medium and fine sand, with some shell fragments and gravel, light grey/brown. No odour	19.5	80.2	0.2
D02	Medium to coarse sand, with some shell gravel and stone, light brown. No odour	26.5	73.4	0
D03	Medium to fine sand, beige-brown. No odour	0.2	99.4	0.4
D04	Medium to fine sand, light brown. No odour	0.4	99.6	0.1
D05	Medium sand, some fine shell/gravel, light brown. No odour	2.5	79.5	0.1
S08A	Muddy fine sand, some weed, terebellid polychaete, greyish brown. No odour	0	78.5	20.5

Due to the hydraulic characteristics of the local sediments, shallow local water depths (Figure 7-1 and Figure 7-2) and local tidal current velocity magnitudes it is postulated that tidally induced sediment transport on occasion mobilises, and transports, bedded sediments as bedload, or suspended load, depending on the size of the particles mobilised. Tides exert a time varying bed stress on sediments associated with daily tidal and lunar spring neap variability. Within the Irish Sea, tidal flows interact, and on occasion mobilise, unconsolidated seabed sediments which are then transported as long as the threshold for transportation is maintained (i.e. $\tau_0 > \tau_{0crit}$), and it ceases when the threshold for transportation is lost (i.e. $\tau_0 < \tau_{0crit}$).

Where a flat seabed persists, comprised of (potentially) mobile sediments, and impacted by flows which exceed the threshold of motion, the seabed may deform generating various types of bedforms, ranging in size from small ripples up to major sandbanks (depending on the composition of the seabed and supply of mobile sediment). In the Irish Sea many bedforms are observed (Mellet et al., 2015), and generally, areas of the seabed not comprised of gravel lag deposits, can be considered highly dynamic in terms of sediment transport. It is important to understand the sediment transport regime at the regional scale to characterise the sediment transport regime (i.e. net transport pathways, rates and magnitude of sediment supply) proximal to the proposed development site.

The regional sediment transport regime is broadly controlled by the area of divergence in the sediment transport pathway at the so-called St George's Channel Bedload Parting Zone[4] which extends eastwards across the Irish Sea between approximately south of Dublin on the eastern Irish Coast and Anglesey in North Wales. Predominant regional sediment transport pathways and the approximate location of these BPZ's are reported by several authors (e.g. Holmes and Tappin (2005), Kenyon and Cooper (2005); Van Landeghem et al. (2012, 2009) and are presented in the form of a conceptual model in Figure 7-5. These analyses indicate a residual north to south sediment transport pathway proximal to the proposed development.

4 Typically, Bedload Parting Zone's are regions of the seabed, discernible through both their sediment, and hydrodynamic, features but which are often quite heterogeneous in character. Due to the enhanced shear stress, through time, localised scouring occurs, and opposing sediment transport directions are observed either side of the scour feature which is a function of both seabed topography and tidal asymmetry (i.e. a flood and ebb dominance exists either side of the feature).

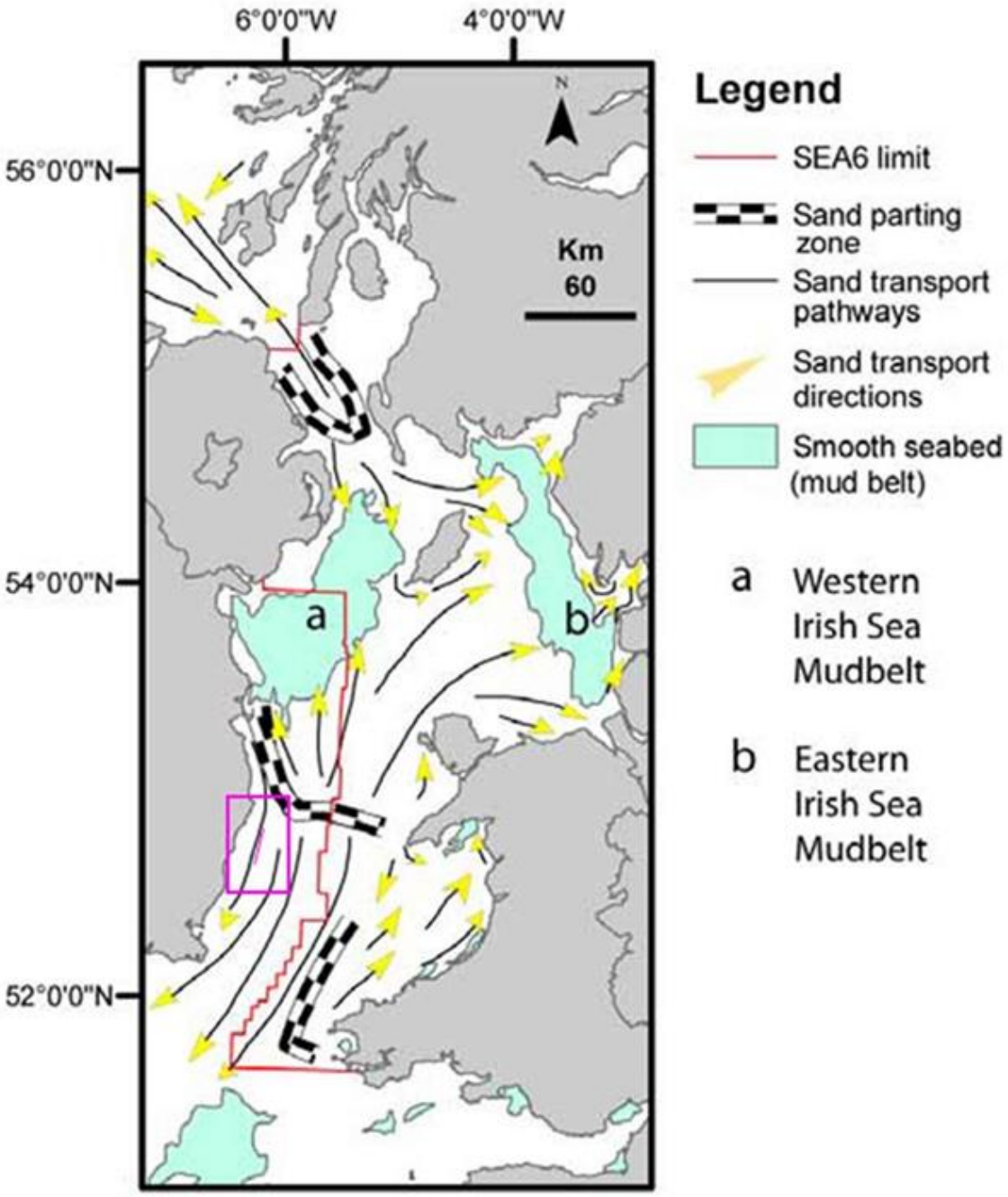


Figure 7-5: Regional sediment transport directions and bedload parting zones. Image reproduced from Mellet et al. (2015).

7.4 Potential Impacts

The proposed development involves:

- Dredging works to allow for a suitable draft for larger offshore vessels
- Reclamation works (seaward of the present coastline) to accommodate approximately 50 acres of a storage and assembly area for wind turbine components

- Construction of rock armour revetments to protect the reclaimed land from the local wave climate, and of a new quay wall dedicated to serve offshore wind projects.

These activities have the potential to impact upon the prevailing waves, hydrodynamic, and sedimentary regime, which in turn can affect local geomorphological processes and the important features of the littoral and sublittoral coastal zone. Potential impacts/effects of the proposed development on the Physical Environment during both construction and operational phases include:

- <u>During construction:</u>
    - Temporary disturbance of the seabed and increases in suspended sediment concentrations (and associated siltation) during dredging activities. Scouring of the rock revetment during construction may also enhance local suspended sediment concentrations and have a localised impact upon the sediment regime.
    - As rock armour revetments are constructed:
        - The local wave regime may be altered with different patterns of wave refraction / reflection observed.
        - The local tidal current velocities and directions may be altered with gyres and shadowing zones created. This would impact upon the local hydrodynamic regime as well as the local sediment regime and coastal processes.
        - Sediment transport pathways and / or deposition patterns may be altered.

- <u>During operation</u>
    - Permanent loss of seabed and morphology will occur under the footprint of the reclamation
    - Localised alteration of hydrodynamic and wave conditions across the site will be observed
    - Localised scour and changes to the sediment regime may lead to changes in seabed and/or coastal morphology and
    - Permanent changes may occur to the local sediment transport regime affecting seabed and coastal processes (i.e. longshore transport) with potential permanent changes to the morphology of the seabed within and proximal to the port entrance.
    - These potential impacts will be further considered in the EIAR. Potential secondary effects on other environmental receptors (e.g. on benthic habitats and designated sites) will be integrated as appropriate to receptor-specific assessments.

7.5 EIA Report Assessment Methodology

It should be noted that the characterisation of the physical environment is best achieved through interrogation of a combination of site specific metocean measurement and modelled data, and land and vessel based geophysical and geotechnical survey/mapping of the coastline, nearshore seabed and sub-seabed geology. It is considered that the analysis of the data acquired to date, alongside site specific data that will be acquired, should provide an excellent data record from which to characterise the baseline physical environment, and thus enable accurate identification and assessment of any potential effects/impacts associated with the proposed development.

The assessment will encompass the following:

- Characterisation of the baseline conditions at the proposed development through comprehensive desk study and data collection activities
- Identification of the potential effects of the proposed development upon the physical environment (with embedded mitigation) during the construction, operation and decommissioning phases
- Identification of additional mitigation (if/where necessary) and
- Subsequent description of the residual and cumulative effects, their magnitude and significance.
- The proposed assessment methodology follows the guidance detailed by CEFAS (2004) which states that it is necessary to assess the magnitude, and significance of change, caused directly to the following:
- Sediments (e.g. composition, particle size)
- Hydrodynamics (e.g. waves, tidal flows)
- Sedimentary environment (e.g. sediment re-suspension, transport pathways, patterns and rates and sediment deposition)
- Sedimentary structures (e.g. channels, banks, large scale bedforms) and
- Suspended sediment concentrations ('SSC').

Consideration of the above issues will be made with respect to the near-field and far-field (these spatial scales are still to be defined). At this preliminary stage, it is often impractical to provide full details of the timing and nature of construction activities and the full specification of equipment to be used which is dependent on procurement of engineering options. Thus, the assessment of potential impacts on the physical environment will be based on a realistic worst-case scenario.

7.6 Preliminary Mitigation Measures

At this stage no additional mitigation measures are proposed. Any embedded mitigation in the form of iterative design will be identified as the design is developed and assessment progressed.

7.7 Summary of Coastal Processes Scoping Exercise

The scoping exercise has concluded that the potential effects on Coastal Processes should be scoped into EIA.

8 Flood Risk

8.1 Introduction

This section considers flood risk and potential flooding-related impacts regarding the construction and operation phases of the proposed development.

8.2 Policy and Guidance

The assessment of effects of the proposed development on onshore geology will consider the EIAR policies and guidance documents set out above. Specific to this topic, the following guidance documents will also be considered:

- Water Framework Directive (WFD) 2000–- Legal framework for the protection, improvement and sustainable use of surface waters, transitional waters and coastal waters and groundwater across Europe

- EU Floods Directive [2007/60/EC]–- This Directive provides a framework for the assessment and management of flood risks, aiming to reduce the adverse consequences associated with flooding for human health, the environment, cultural heritage and economic activity

    - European Communities (Assessment and Management of Flood Risks) Regulations 2010
    - European Union (Environmental Impact Assessment) (Flood Risk) Regulations 2012 (S.I. No. 470/2012)

- Environmental Protection Agency (EPA) 'Revised Guidelines on the Information to be contained in Environmental Impact Statements', (2022b)
  Environmental Protection Agency (EPA) 'Advice Notes on Current Practice (in the Preparation of EIS)', Draft (2015)

- The Planning System and Flood Risk Management: Guidelines for Planning Authorities (DEHLG & OPW, 2009)

- Department of Public Expenditure and Reform South-Eastern CFRAM Study –UoM12 -Slaney River Basin SEA & NIS Review

- Appropriate Assessment Determination following Regulation 42(11) of the European Communities (Birds and Natural Habitats)

- Regulations 2011-2015 Flood Risk Management Plan for the SLANEY River Basin (UoM12)

8.3 Baseline Environment

The official national flood information portal identifies a risk of coastal, fluvial and pluvial flooding within the proposed new offshore wind hub facilities in Rosslare Europort, as shown in Figure 8-1.

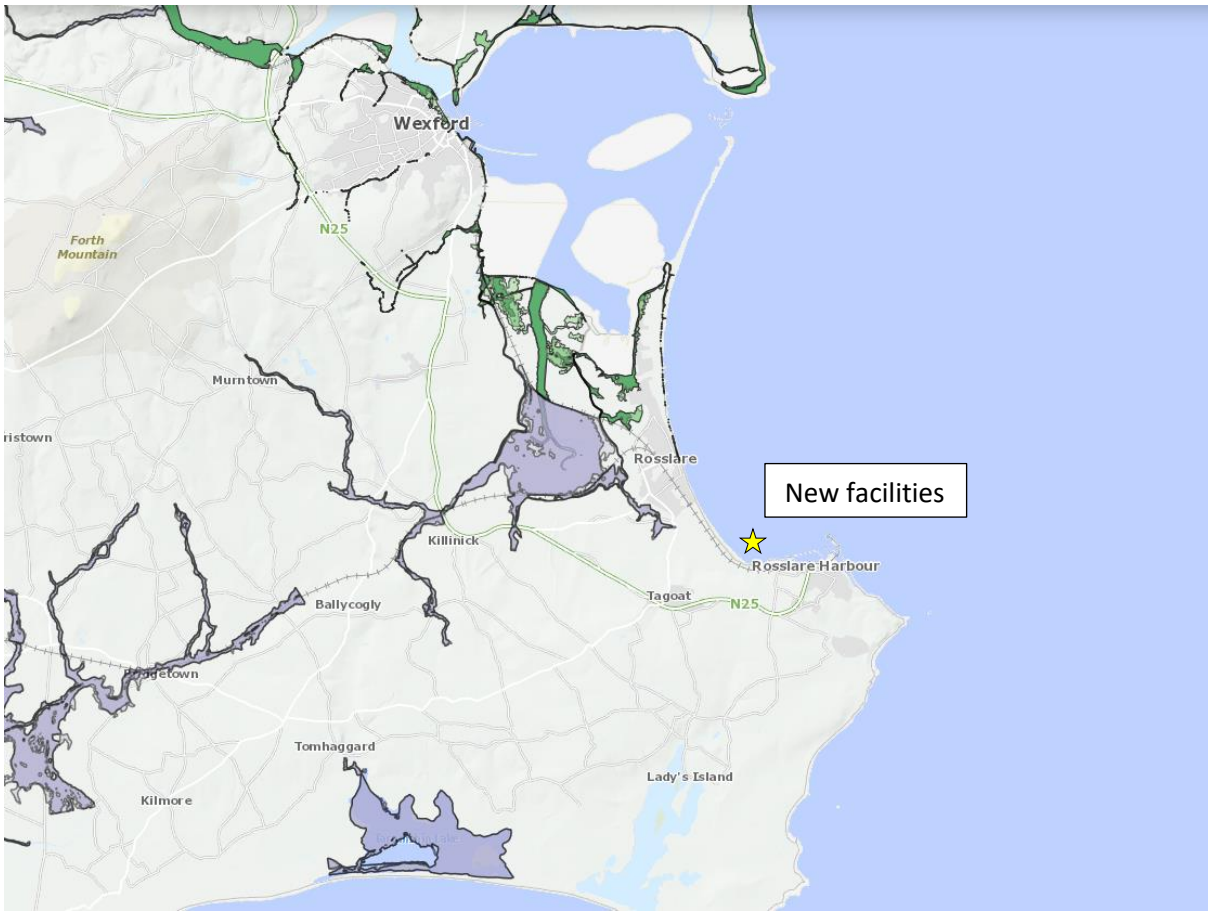


Figure 8-1: Probability of Flood Rosslare Harbour. Purple: National Indicative Fluvial Flood Probability. Green: CFRAM Coastal Flood Extents Probability. The yellow star is the development location. Source: OPW, 2022.

Green	Coastal/tidal flooding. This layer shows the modelled extent of land that might be flooded by the sea in a severe flood event.
Purple	Fluvial flooding. This data shows the modelled extent of land that might be flooded by rivers during a theoretical or 'design' flood event with an estimated probability of occurrence, rather than information for actual floods that have occurred in the past.

The proposed development is therefore **not located in an area identified as being at risk of flooding**.

8.4 Potential Impacts

New development can cause changes in relief, soil sealing and land-use changes that can impact the occurrence of flooding in a particular region. The development is not located in an immediate flood risk zone, so represents a small risk of impacting flooding.

As part of the impact assessment, the analysis and consultation with all relevant sources will confirm whether the impacts concerning Flood Risk will be significant or not.

8.5 EIA Report Assessment Methodology

The baseline conditions at the proposed development site will be carefully reviewed and analysed to identify all potential impacts related to the flooding. Required information related to flood risk will be obtained through a desk study review of the sources of data of existing hydrology, catchment characteristics, local drainage and water quality, and a walkover survey to inspect surface water and groundwater features (where visible, i.e. springs) along with the proposed development.

The desk study review will consider:

- OSI mapping to establish former channel courses and any diversion/culvert works in streams and rivers;
- Fluvial and tidal flood risk data and flood modelling information, including proposals under the Catchment-based Flood Risk Assessment and Management (CFRAM) for a flood relief scheme along the Slaney and Wexford harbour;
- The National Flood Hazard Mapping system provides details of historic flooding incidents throughout the country;
- Wexford Flood Relief Scheme;
- GSI groundwater information;
- Latest EPA Maps & Envision water quality monitoring data for watercourses in the area (these data can be accessed at https://gis.epa.ie/EPAMaps/ andhttps://www.catchments.ie/);
- EPA consented to abstractions, discharges and licences;
- EPA water quality results and WFD surface water status;
- National River Basin Management Plan (RBMP) 2018-2021;
- Flood points & Historical Floods – Office of Public Works (OPW) floods website www.floodmaps.ie;
- Drainage design from the project

A walkover survey will be conducted to inspect surface water and groundwater features (where visible, i.e. springs) along with the proposed development.

Consultations with the relevant bodies (such as the EPA, Office of Public Works (OPW), Wexford County Council) will be undertaken as part of the baseline study along with Wexford County Council, the local authority for the area.

Based on the baseline analysis and consultations with the OPW, the need to prepare a Flood Risk Assessment (FRA) will be defined since the project is not located in a high-risk area. If it is clear that such a risk is expected to increase, then the submission of a Flood Risk Assessment (FRA) in line with the OPW guidelines on flood risk assessment to planning authorities will be required.

The results of the wave and sediments transport models from the coastal processes chapter will further inform the assessment of the impact of the proposed development on flood risk.

Consideration of flood risk with climate change scenarios will be included.

8.6 Preliminary Mitigation Measures

If potential impacts on coastal or river hydrological systems are identified, options for reducing the impact of or eliminating impacts through appropriate mitigation measures will be evaluated against flooding risk.

A stated goal of the Water Framework Directive (WFD) is to reduce the impact of floods, though precautionary flood protection measures are not specifically prescribed. However, the mitigation measures often include changes to the project design or recommendations for changes in expected methodologies, such as drainage type or method.

Monitoring programs can also be employed to confirm compliance with any environmental requirements and minimise the impact of future work.

Upon incorporating any mitigation measures, potential impacts will be re-examined, and a description of the impact and significance of the residual effects, with mitigation in place, will be provided.

8.7 Summary of Flood Risk Scoping Exercise

An initial review of the OPWs national flood information portal did not identify a significant risk of coastal and fluvial/pluvial flooding within the new offshore wind hub adjacent to Rosslare Europort. However, further and more detailed analysis considering the available information for the entire river basin and coastal processes should be undertaken to confirm the existence of relevant potential flood impacts caused by the development. Thus, Flood Risk should be scoped into EIA.

9 Biodiversity: Terrestrial Ecology

9.1 Introduction

This section considers the terrestrial habitats and species within the proposed development area and its immediate and surrounding environs. Baseline details and an impact assessment of the following features and ecological receptors are provided, as they occur within the proposed development area:

- Sites of European Importance; i.e. Special Areas of Conservation and Special Protection Areas designated and protected under the EU Habitats Directive (Council Directive 92/43/EEC) and Special Protection Areas designated under the EU Birds Directive (Directive 2009/147/EC) within the zone of influence of the proposed development
- Sites of National Importance; i.e. Natural Heritage Areas (NHA), proposed Natural Heritage Areas (pNHAs), Nature Reserves and Refuges for Flora and Fauna
- Habitats listed and protected under Annex I of the EU Habitats Directive
- Birds listed and protected under Annex I of the EU Birds Directive
- Flora protected under the Flora Protection Order (2015)
- Species protected under the Irish Wildlife Act (1976) as amended
- Habitats within the proposed development footprint and environs as appropriate.

9.2 Policy and Guidance

The assessment of effects of the proposed development on terrestrial ecology will consider the EIA policies and guidance documents set out above. Specific to this topic, the following guidance documents will also be considered:

- EPA (2002) Guidelines on the information to be contained in Environmental Impact Statements, Environmental Protection Agency
- EPA (2003), Advice Notes on current practice in the preparation of Environmental Impact Statements, Environmental Protection Agency
- NRA (2009) Guidelines for the Assessment of Ecological Impacts of National Road Schemes Rev. 2, National Roads Authority
- NRA (2008) Ecological Surveying Techniques for Protected Flora and Fauna During the Planning of National Road Schemes, National Roads Authority

- NRA (2008c) Guidelines on the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads, National Roads Authority

- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester

- EPA (2022b) Guidelines on the information to be contained in Environmental Impact Assessment Reports, Environmental Protection Agency

The biodiversity assessment will also adhere to the following policy, plan and strategy review, including the below:

- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive)

- Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (Birds Directive)

- Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 as amended by Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 on the assessment of the effects of certain public and private projects on the environment

- European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) (as amended)

- Wildlife Acts 1976 as amended;

- Flora (Protection) Order, 2015 (S.I. No. 356 of 2015);

- Inland Fisheries Acts 1959 to 2017;

- National Biodiversity Plan 2017-2021, Department of Culture, Heritage and the Gaeltacht (DCHG) 2017;

- Draft Wexford County Development Plan 2022-2028;

- Wexford Biodiversity Action Plan 2013-2018

9.3 Baseline Environment

The assessment will be informed through two stages, firstly through a desktop study and secondly by field survey work in order to identify, describe and map areas of known or potential ecological value.

9.3.1 Desktop Study

The desktop study will involve the review of relevant published biodiversity data, collation of existing information on the ecological environment and consultation with relevant statutory bodies. The information sources to be accessed as part of the desktop study include:

- Environmental Protection Agency (EPA) EnVision Mapping: gis.epa.ie/EPAMaps
- EPA Catchments Website – for the Second Cycle River Basin Management Planning www.catchments.ie
- Geological Survey of Ireland online mapping www.gsi.ie
- Information on the conservation status of birds in Ireland (Colhoun & Cummins, 2013)
- NPWS online maps and data, site synopsis and conservation objectives www.npws.ie
- National Biodiversity Data Centre (NBDC) online maps and data www.biodiversityireland.ie;
- OSI Map Viewer www.osi.ie
- Draft Wexford County Development Plan 2022-2028
- Records of rare and protected species for the 10km grid squares O12, O13, O14 and O22, held by the NPWS and NBDC
- Habitat and species GIS datasets provided by the NPWS
- Bat records from Bat Conservation Ireland's (BCI) database
- Any other relevant ecological reports and literature (published scientific literature and 'grey' literature).

9.3.2 Consultation

The following organisations, amongst others as necessary, with relevance to biodiversity will be consulted:

- National Parks and Wildlife Service (NPWS)
- Inland Fisheries Ireland (IFI)
- Bat Conservation Ireland (BCI)
- BirdWatch Ireland (BWI)

- Botanical Society of Britain & Ireland (BSBI) and
- Other members of the public with local knowledge/ records (e.g. relating to breeding bird locations, badger setts, bat roosts etc.).

9.3.3 Field Surveys

Year-round field-based surveys are required for terrestrial ecology receptors (habitats, volant and non-volant mammals, terrestrial invertebrates, amphibians and reptiles) within the proposed development area, its environs and associated Zone of Influence as appropriate. An indicative outline of the various surveys to be completed are presented below.

9.3.3.1 Habitat & Botanical Surveys

All surveys will be informed by a desktop survey and analysis of the proposed development site and its environs. This will include the collation of all available existing baseline desktop botanical and habitat information for the site and its associated Zone of Influence.

Habitat and botanical surveys to be completed in the appropriate survey season; i.e. April to September 2022. Survey methods will follow the Heritage Council's Best Practice Guidance (Smith et al., 2011).

In the field, habitats will be identified, classified and mapped in accordance with 'A Guide to Habitats in Ireland' (Fossitt, 2000) and where appropriate Habitats Directive Annex I types (European Commission,2013). Characteristic plant species will be noted and any rare or protected species that are found within the proposed development site and environs will be recorded. In addition, the botanical survey will seek to identify any rare, protected or locally restricted plant species within the proposed development site and its immediate environs.

The principal aim of the field survey will be to identify and map habitats and their component plant species within the proposed development lands and its associated Zone of Influence.

The annotation of vegetation occurring within the survey site will be completed using the DAFOR scale. This scale refers to plant species in terms of dominance, abundance, frequency, occasional and rare (DAFOR). Plant nomenclature for vascular plants should follow 'New Flora of the British Isles' 4th Edition (Stace, 2019), while mosses and liverworts nomenclature should follow 'Bryophyte nomenclature follows Blockeel et al. (2021).

The habitat and botanical surveys will identify the presence and extent (if any) of Invasive Alien Plant Species with the study area and the surrounding environs. Invasive Alien Plant species should be identified, georeferenced and mapped and incorporated into the habitat and botanical surveys as required.

The findings of the desk and field-based studies to be presented in a report. Habitats maps will be prepared, and habitat evaluations presented for each habitat identified within the site and within the

project Zone of Influence. Evaluations to be provided in accordance with NRA Guidelines for Ecological Impact Assessment of National Road Projects (NRA, 2009) . The report will consider the evaluation of the site and its environs and for avifauna, particularly SCI species associated with SPAs within the project Zone of Influence.

9.3.3.2 Mammal Surveys – Bats

A bat survey for the proposed development site will be completed. The potential for the site and its environs to support bats will be first informed by a desktop review of all relevant information. The desktop review will also inform the scope of bat surveys to be completed.

Field based surveys will include for one year of four-season bat surveys to be carried out in accordance with best practice e.g. Collins J. (Ed.) (2016). Surveys to commence in late spring / early summer 2022.

Field based surveys will include for the identification of roosting structures, flight lines, feeding areas on and in the vicinity of the site in line with best practice with a view to informing site layout and design. The findings of the assessment will inform the overall importance of the site to bats and recommendations for further survey, if required.

The survey findings will inform appropriate recommendations with regards to the site layout design relating to the results of the bat survey to be provided.

The findings of the desk and field-based surveys will be presented on GIS mapping. All bat survey data will be mapped as appropriate in GIS. Both maps and GIS shapefiles shall be made available to the applicant to inform the site constraints and site layout.

The location of key bat constraints such as the locations of bat roosts (or suitable roosting structures), key foraging areas, etc. once recorded will be mapped in GIS and appropriate mitigation measures (e.g. buffers) and recommendations will be provided to the Client to inform the site layout.

Please note that all surveys should assess the connectivity between the site and European Sites for which bat species are species of Qualifying Interest. The findings of the desk and field-based studies to be presented in a report.

9.3.3.3 Non-Volant Mammals

Surveys for all legally protected non-volant mammal species will be undertaken within the proposed development site and environs as necessary.

9.3.3.4 Otters

Otter surveys will be completed in accordance with NRA Guidelines for Treatment of Otters During Construction of National Road Schemes (NRA, 2008) and the Otter Survey of Ireland 2004/2005' (Bailey & Rochford, 2006). Surveys for otter holts and general signs for otter (spraints, scat, prints, slides, trails, couches, holts etc), will be conducted in winter 2022 when vegetation has died back sufficiently to allow complete identification of all mammal features.

9.3.3.5 Badgers

A badger survey of the proposed development site will be completed in accordance with the 'NRA Guidelines for the Treatment of Badgers Prior to Construction of National Road Schemes' (NRA, 2005). Badger surveys are significantly constrained by vegetative cover and season and are best conducted from November to April (NRA, 2005). To that end, badger surveys should be completed in winter 2022/2023. In accordance with NRA guidance, all areas will be systematically searched for setts and associated features (latrines, snuffle holes, guard hairs etc.) and all hedgerows and boundaries should be checked comprehensively.

9.3.3.6 Other Mammals

The following field signs of all mammals will also be recorded during non-volant mammal surveys within the study area:

- Well-used pathways
- Prints/tracks
- Scat/spraints/droppings
- Signs of feeding (foraged pinecones, badger snuffle holes) and
- Places of shelter and features or areas likely to be of particular value as foraging resources (NRA 2004)

Photographs and detailed notes will also be recorded for each feature and mapped accordingly. The findings of the desk and field-based studies to be presented in a report, supported by accompanying mapping, as appropriate.

9.3.3.7 Terrestrial Invertebrates, amphibians, and reptiles

The suitability of the site to support other protected taxa will also be considered to include protected, scarce, and localised invertebrates. Surveys of the proposed development site for amphibians (common frog and smooth newt), reptiles and suitable habitats for these species should also be included as part of the field surveys. The findings of the desk and field-based studies for to be presented in a report, supported by accompanying mapping, as appropriate.

9.4 Potential Impacts

This section highlights those elements of the project that could give rise to potential impacts on ecological receptors within the receiving environment. In determining those parts of the project that are most relevant to the project description above and the sensitivity of the receiving environment as presented below have been considered. Potential effects associated with the proposed development to ecological receptors within the project Zone of Influence are described in Table 9-1.

Table 9-1: Impact-Source – Pathway and Zone of Influence for Terrestrial Ecology of the proposed project

Source of Potential Effect	Description of Pathway	Potential Zone of Influence of the Effect
Construction Phase		
Noise, vibration and associated disturbance; Lighting; Human presence; and Movements of vehicles associated with construction activities.	Terrestrial– contact (direct contact with construction personnel or machinery during site works), air (through its ability to transmit noise effects), visibility (on site presence of construction personnel)	The Zone of Influence varies by the affected habitat and reliant species. This can be assessed within 500m of the proposed development footprint for wintering birds (see Madsen, 1985; Smit & Visser,1993; and Rees et al., 2005). However, distance can be significantly lower (e.g. 150 m for otter underground sites (NRA, 2006), or higher for other species.
Earthworks / stripping of overburden (e.g. Digging); Spread of Invasive Plant species Stockpiling of construction materials (sand, aggregates etc.); and Use of contaminants (e.g. hydrocarbons, wet cement, lubricants).	Hydrological pathways; i.e. drainage channels, streams and rivers which provide connectivity with nearby sections of the Slaney River Valley SAC. Surface water runoff; and Accidental spills.	The Zone of Influence of the potential effects associated with this source is related with the nature of the potential contaminant (e.g. silt, hydrocarbons). The worst-case Zone of Influence is considered to be the whole length of the aquatic pathway (i.e. from the proposed development site to the nearby foreshore areas and down-shore areas of the nearest designated sites of nature conservation; i.e. Long Bank SAC, Slaney River Valley SAC, Wexford Harbour and Slobs SPA and The Raven SPA).
Operational Phase		
Movement of People, soils, and vehicles associated within maintenance works; Maintenance of development infrastructure; and Lighting.	Terrestrial –- contact (direct contact with operational personnel or machinery during site works), air (through its ability to transmit noise effects), visibility (on site presence of construction personnel)	The Zone of Influence varies by the affected habitat and reliant species. This can be assessed within 500m of the proposed development footprint for wintering birds (see Madsen, 1985; Smit & Visser,1993; and Rees et al., 2005). However, distance can be significantly lower (e.g. 150 m for otter underground sites (NRA, 2006), or higher for other species.
Use of contaminants (e.g. hydrocarbons, lubricants).	Hydrological pathways; i.e. drainage channels, streams and rivers which provide connectivity	The Zone of Influence of the potential effects associated with this source is related with the nature of the potential

Source of Potential Effect	Description of Pathway	Potential Zone of Influence of the Effect
	with downstream sections of the Slaney River Valley SAC.	contaminant (e.g. silt, hydrocarbons). The worst-case Zone of Influence is considered to be the whole length of the aquatic pathway (i.e. from the proposed development site to the nearby foreshore areas and down-shore areas of the nearest designated sites of nature conservation; i.e. Long Bank SAC and The Raven SPA).

9.5 EIA Report Assessment Methodology

The assessment of potential impacts from the proposed development on the biodiversity and overall ecology, within the development's ZoI will follow criteria published in National Roads Authority (NRA)/ Transport Infrastructure Ireland's (TII) Environmental Impact Assessment of National Road Schemes

- A Practical Guide (2008). The assessment will also be informed by best practice guidance outlined in the following publications
- Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes, NRA / TII 2006
- Guidelines for the Treatment of Otters prior to the Construction of National Road Schemes, NRA / TII 2006
- Guidelines for the Treatment of Bats during the Construction of National Road Schemes, NRA / TII 2006
- Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes, NRA / TII 2006
- Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub prior to, during and post Construction of National Road Schemes, NRA / TII 2006
- Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment (EU 2013)

- Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1, CIEEM 2018
- Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition) (Collins (ed.), Bat Conservation Trust 2016
- The Bat Workers' Manual, 3rd Edition (Mitchell-Jones and McLeish), Joint Nature Conservation Committee 2004
- Bat Mitigation Guidelines for Ireland. Irish Wildlife Manuals, No. 25. (Kelleher and Marnell 2006)
- Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes (2008). NRA / TII 2008
- Guidelines on the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads, NRA / TII 2010
- The Management of Invasive Alien Plant Species on National Roads – Standard (GE-ENV-01104), TII 2020
- The Management of Invasive Alien Plant Species on National Roads – Technical Guidance (GE-ENV01105), TII 2020
- Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters, IFI 2016, and
- Planning for Watercourses in the Urban Environment. A Guide to the Protection of Watercourses through the use of Buffer Zones, Sustainable Drainage Systems, Instream Rehabilitation, Climate / Flood Risk and Recreational Planning, IFI 2020

9.6 Preliminary Mitigation Measures

Where necessary, mitigation measures will be outlined to avoid, negate, or minimise adverse construction and operational phase impacts on identified ecological features or designated sites. Mitigation by avoidance should be sought as the primary mitigation measure. Following the collection

of all required field survey data, detailed mitigation measures will be designed during the consultation process. Examples of potential mitigation measures are listed below:

- Timing of construction works to avoid sensitive ecological features; e.g. breeding avifauna and / or over-wintering avifauna
- Provision of Construction Compound
- Employment of Ecological Clerk of Works as required
- Training and Toolbox Talks as required
- Buffer zone and set back areas from sensitive ecological receptors
- Surface and groundwater mitigation measures to avoid and negate the risk of overland flow from the development footprint to receiving watercourses and foreshore areas
- Appropriate storage of construction materials including hydrocarbons, cement, soil and aggregates
- Biosecurity measures
- Appropriate lighting during the project construction and operational phases and
- Dust and Noise control during the project construction phase.

Please note that these are examples only and may not be relevant to the proposed development. Detailed and targeted mitigation measures will be further developed following the site walkover surveys and should be presented in the EIAR chapter.

9.7 Summary of Terrestrial Ecology Scoping Exercise

The scoping exercise has concluded that potential environmental effects on terrestrial ecology should be scoped into the EIA.

10 Biodiversity: Benthic Ecology

10.1 Introduction

This section describes the key benthic ecology receptors in the vicinity of the proposed development area that have the potential to be impacted by the development works.

The characterisation of the benthic ecology presented below is based on existing information available on the benthic environment of the area.

10.2 Policy and Guidance

The Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna) adopted in 1992, transposed into Irish Law in 1997 and subsequently amended and consolidated, aims to promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements. It provides a framework for legal protection to ensure the conservation of a wide range of rare, threatened, or endemic animal and plant species throughout the European Union. Together with The Birds Directive (Conservation of Wild Birds Directive (79/409/EEC), the Habitats Directive forms a coherent network of protected areas (Special Areas of Conservation and Special Protection Areas), called Natura 2000, which are safeguarded against potentially damaging developments.

The assessment of effects for benthic ecology will consider the EIAR policies and guidance documents set out above (Chapter 3). Specific to this topic, the following guidance documents will also be considered:

- Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, and Coastal, 2nd edition (CIEEM, 2016) and

- Guidelines for Ecological Impact Assessment in Britain and Ireland. Marine and Coastal published by the Chartered Institute of Ecology and Environmental Management (IEEM, 2010).

10.3 Baseline Environment

The proposed development benthic area includes intertidal and shallow (<10 m water depth) subtidal habitats (EMODnet Bathymetry, 2022).

Aerial photography (Google, 2022) indicates the intertidal zone of the area consists of a stone revetment which protects both the existing harbour car park and the tidally restricted small boat harbour. There are rock and coarse and mud habitats present within the harbour (see Marine Geology and Coastal Processes sections). EU SeaMap (2021) predicts that the seabed seaward of the revetment and harbour is composed of moderate energy infralittoral sand. This is predicted to change to high energy infralittoral muddy sand approximately 500 m from the shore.

A description of these habitats and their associated biological communities are presented in Table 10-1.

Table 10-1: EUNIS 2022 Level 3 habitats likely to be present in and nearby Rosslare Europort (adapted from EEA, 2022)

Habitat Code	Name	Description
MA12	Atlantic littoral rock	Atlantic littoral rock includes habitats of bedrock, boulders and cobbles which occur in the intertidal zone (the area of the shore between high and low tides) and the splash zone. The upper limit is marked by the top of the lichen zone and the lower limit by the top of the laminarian kelp zone. There are many physical variables affecting rocky shore communities - wave exposure, salinity, temperature and the diurnal emersion and immersion of the shore. Exposed shores tend to support faunal-dominated communities of barnacles and mussels and some robust seaweeds. Sheltered shores are most notable for their dense cover of fucoid seaweeds, with distinctive zones occurring down the shore. In between these extremes of wave exposure, on moderately exposed shores, mosaics of seaweeds and barnacles are more typical.
MA32	Atlantic littoral coarse sediment	Atlantic littoral coarse sediments include shores of mobile pebbles, cobbles and gravel, sometimes with varying amounts of coarse sand. The sediment is highly mobile and subject to high degrees of drying between tides. As a result, few species are able to survive in this environment. Beaches of mobile cobbles and pebbles tend to be devoid of macroinfauna, while gravelly shores may support limited numbers of crustaceans, such as *Pectenogammarus planicrurus*. Littoral coarse sediments are found along relatively exposed open shores, where wave action prevents finer sediments from settling. Coarse sediments may also be present on the upper parts of shores where there are more stable, sandy biotopes on the lower and mid shore. The sediment particle size structure may vary seasonally, with relatively finer sediments able to settle during calmer conditions in summer. Where the sediment grain size is very large (at the interface between sediment and boulder shores), cobbles may be mobile during exposed winter conditions, but stable enough during summer months to support limited juvenile rocky shore epifauna (e.g. juvenile barnacles).
MA62	Atlantic littoral mud	Shores of fine particulate sediment, mostly in the silt and clay fraction (particle size less than 0.063 mm in diameter), though sandy mud may contain up to 40% sand (mostly very fine and fine sand). Littoral mud typically forms extensive mudflats, though dry compacted mud can form steep and even vertical structures, particularly at the top of the shore adjacent to saltmarshes. Little oxygen penetrates these cohesive sediments, and an anoxic layer is often present within millimetres of the sediment surface. Littoral mud can support communities characterised by polychaetes, bivalves and oligochaetes.

Habitat Code	Name	Description
MB52	Atlantic infralittoral sand	Sands which occur in shallow water, either on the open coast or in tide-swept channels of marine inlets. Clean sands typically lack a significant seaweed component and is characterised by robust fauna, particularly amphipods (BathyporEIAR) and robust polychaetes including *Nephtys cirrosa* and *Lanice conchilega*. Non-cohesive muddy sand (with 5% to 20% silt/clay) supports a variety of animal-dominated communities, particularly polychaetes (*Magelona mirabilis, Spiophanes bombyx* and *Chaetozone setosa*), bivalves (*Fabulina fibula* and *Chamelea gallina*) and the urchin *Echinocardium cordatum*.
MB62	Atlantic infralittoral mud	Shallow sublittoral muds, extending from the extreme lower shore to about 15-20 m depth in fully marine or near marine conditions, predominantly in extremely sheltered areas with very weak tidal currents. Such habitats are found in sealochs and some rias and harbours. Infralittoral, cohesive sandy mud, typically with over 20% silt/clay, have a rich variety of polychaetes including *Melinna palmate*, tube building amphipods (*Ampelisca* spp.) and deposit feeding bivalves such as *Limecola balthica* (*Macoma balthica*) and *Mysella bidentata*. Sea pens such as *Virgularia mirabilis* and brittlestars such as *Amphiura* spp. may be present but not in the same abundances as found in deeper circalittoral waters. Mud with minimal sand content have populations of the lugworm *Arenicola marina* may be dense, with anemones, the opisthobranch *Philine aperta* and synaptid holothurians also characteristic in some areas. The extent of the oxidised layer may be shallow with some areas being periodically or permanently anoxic. In these areas bacterial mats may develop on the sediment surface.

No MPAs designated for marine habitats and/or benthic species overlap with the proposed development area. Carnsore Point SAC, designated to protect the Mudflats and sandflats not covered by seawater at low tide [1140] and Reefs [1170] Qualifying Interests (qIs), is 1 km from the area to the south-east of the Rosslare Europort breakwater. Long Bank SAC and Blackwater Bank SAC, both designated to protect the Sandbanks which are slightly covered by sea water all the time [1110] QI, are 2.75 km and 7 km from the area respectively.

10.4 Potential Impacts

The following potential benthic ecology impacts may be associated with the proposed development:

- Construction impacts
    - Permanent habitat loss arising from the reclamation of a total of 20 ha of seabed
    - Temporary disturbance/loss of habitat arising from displacement/compaction of the seabed in the vicinity of piling activities and placement of material on the seabed
    - Temporary effects of increased suspended sediment concentrations and sediment deposition within the area
    - Potential for resuspension of contaminated sediments with effects on marine ecology receptors

- Dredging impacts
    - Temporary disturbance/loss of habitat arising from dredging activity within the area
    - Temporary effects of increased suspended sediment concentrations and sediment deposition within the area
    - Temporary effects on marine ecology receptors associated with the disposal of dredged material at a licensed disposal site
    - Potential for resuspension of contaminated sediments with effects on marine ecology receptors

10.5 EIA Report Assessment Methodology

A full marine benthic ecology assessment will be undertaken which will include a review of readily available information from desktop sources supported by intertidal and subtidal ecological surveys and geophysical, geotechnical and metocean site investigation surveys at the site.

Key additional sources of information to be consulted will include data collected previously within and near to Rosslare harbour as well as any additional information from local sources.

All intertidal and subtidal marine habitats and species identified as having the potential to occur in the vicinity of the proposed development will be categorised as Valued Ecological Receptors (VERs) against which impacts associated with the construction and operation of the proposed development will be assessed. Identification of VERs will consider the economic, ecological and nature conservation importance of the benthic features.

Effects on VERs will be assessed from the project alone as well as cumulatively with other relevant proposed developments. Impacts will be assessed assuming the implementation of mitigation measures included as part of the design of the project, as well as any residual effects assessed after any further mitigation has been factored in if necessary.

10.6 Preliminary Mitigation Measures

Mitigation measures will include the following:

- A Construction Environmental Management Plan (CEMP) which will include pollution prevention measures during construction

10.7 Summary of Benthic Ecology Scoping Exercise

The scoping exercise has concluded that potential environmental effects on benthic ecology should be scoped into the EIA.

11 Biodiversity: Fishing and Fish Ecology

11.1 Introduction

This section describes the key fish and shellfish receptors in the vicinity of the proposed development area that have the potential to be impacted by the development works. Policies and guidance and potential impacts relevant to fish and the development works are identified, and a recommended EIA Report assessment methodology and preliminary mitigation measures are outlined.

11.2 Policy and Guidance

The Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna) adopted in 1992, transposed into Irish Law in 1997 and subsequently amended and consolidated, aims to promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements. It provides a framework for legal protection to ensure the conservation of a wide range of rare, threatened, or endemic animal and plant species throughout the European Union. Together with The Birds Directive (Conservation of Wild Birds Directive (79/409/EEC), the Habitats Directive forms a coherent network of protected areas (Special Areas of Conservation and Special Protection Areas), called Natura 2000, which are safeguarded against potentially damaging developments.

Several fish species, including the allis shad and twaite shad, and shellfish species, including the freshwater pearl mussel, are Annex II species types[5] which occur in Irish waters and for which SACs are designated.

The assessment of effects of the proposed development on fish will consider the EIAR policies and guidance documents set out above. Specific to this topic, the following guidance documents will also be considered:

- Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, and Coastal, 2nd edition (CIEEM, 2016) and

- Guidelines for Ecological Impact Assessment in Britain and Ireland. Marine and Coastal published by the Chartered Institute of Ecology and Environmental Management (IEEM, 2010).

5 Species Interest Features - Special Areas of Conservation (jncc.gov.uk)

11.3 Baseline Environment

11.3.1 Shellfish

Razor clams (*Ensis siliqua*) occur along the east coast of Ireland in mud and muddy sand sediments from Dundalk to Dublin and from Cahore to Rosslare (Marine Institute and Bord Iascaigh Mhara, 2015). *Ensis siliqua* is slow growing and has relatively low productivity.

The south Irish Sea fishery opened in 2010 and expanded up to 2013. Fishing depth is limited to water depths of 4 - 14 m because of the fishing method, which uses hydraulically pressurised water to fluidise sediments in front of the dredge. Management measures were introduced for the Rosslare – Cahore fishery in December 2014. These included a quota, a requirement to transmit GPS position of the vessel on a 1-minute frequency and a defined fishing area to minimise overlap with Natura 2000 sites.

In 2015 the fishery in the South Irish Sea occurred mainly in Rosslare Bay and further north at Curracloe. Approximately 12 vessels were fishing in the area with vessel numbers changing seasonally. The fishery occurred close to, and in some cases overlapped with, SACs and SPAs. The SAC designations to the east of the fishery are mainly sandbanks (the Marine Institute and Bord Iascaigh Mhara, 2015). Common Scoter, which feeds sub-tidally on bivalves, is a designated SCI in the nearby Raven SPA. The recorded fishing effort lies outside either the proposed development area or approach channel.

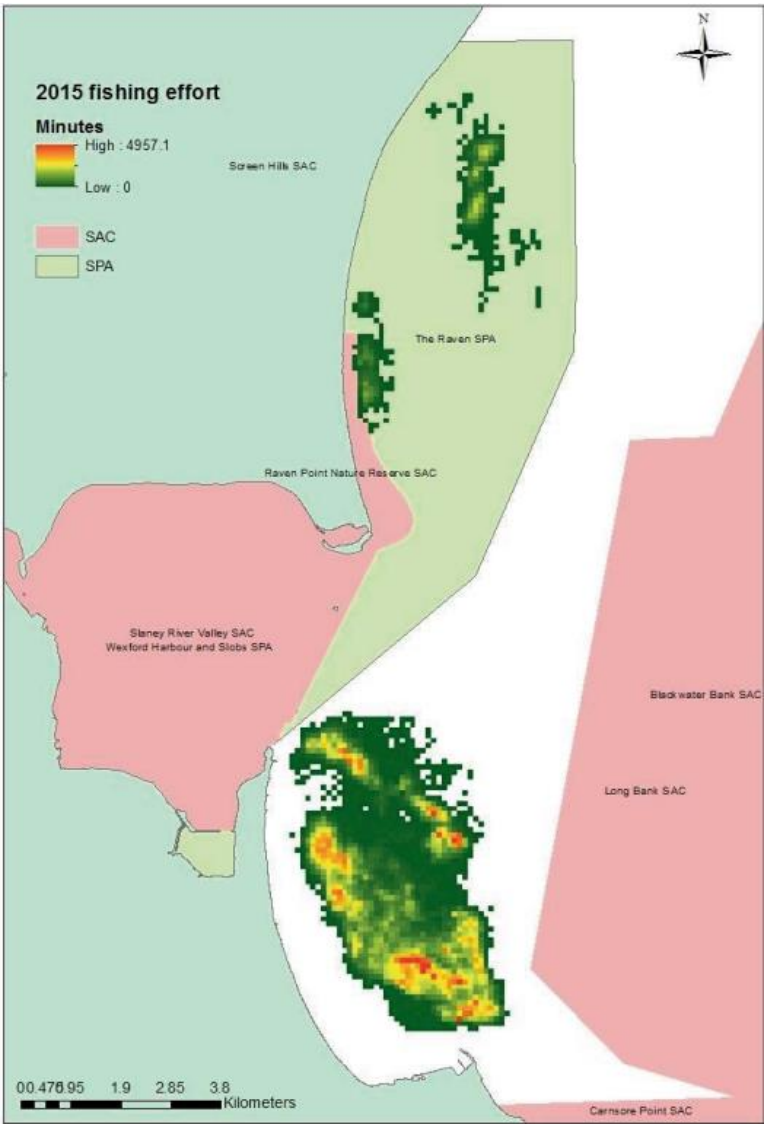


Figure 11-1: Distribution of fishing for Razor clams at Rosslare and Cahore in relation to the distribution of SACs and SPAs in 2015. Source: Inshore VMS data [from The Marine Institute and Bord Iascaigh Mhara, 2015].

A survey completed in April 2015 estimated a biomass of 859±69 tonnes in an area of 10.2 km^2 of Rosslare Bay (Figure 11-1). Densities were highest in the south-east corner of the survey area and on the western margin close to shore (the Marine Institute and Bord Iascaigh Mhara, 2015).

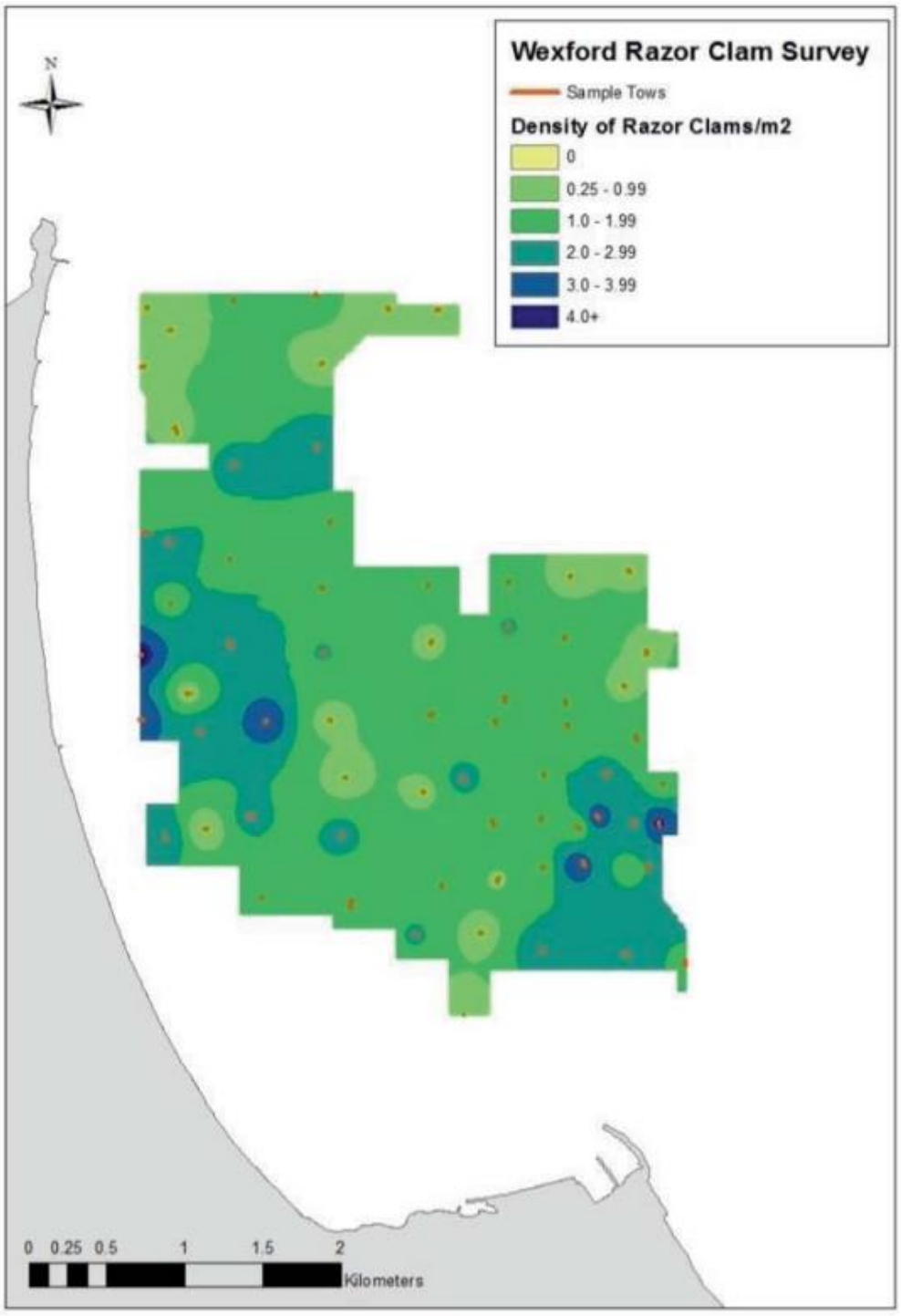


Figure 11-2: Density distribution of Razor clams in Rosslare Bay in April 2015 [reproduced from The Marine Institute and Bord Iascaigh Mhara, 2015].

Bivalve species found to co-occur with *Ensis siliqua* in Rosslare Bay included *Lutraria lutraria* (otter shell), *Pharus legumen*, *Acanthocardia aculeata* (spiny cockle), *Mactra stultorum*, *Acanthocardia echinata* (spiny cockle), *Ensis arcuatus* (razor clam), *Solen marginatus* (grooved razor clam), *Arctica islandica* (ocean quahog), *Spisula solida* (surf clam) and *Chamelea gallina*.

There was a reduction in fishing effort in the Rosslare Bay in particular as biomass of large grade clams had declined in the period up to 2017 and there was voluntary closure (or part closure) in the period 2018-2019 to enable growth of a strong 2014-year class (the Waterford estuary fishery was closed by court order in 2019). A strong recruitment event in Rosslare Bay in 2014 was observed in a 2017 survey and biomass increased significantly between the 2017 and 2020 surveys from 2,000 to 6,300 tonnes (the Marine Institute and Bord Iascaigh Mhara, 2022).

A survey completed in September 2021 estimated a biomass of 5,299 tonnes in an area of 12.3 km^2 in Rosslare Bay. 85% of the razor clams surveyed were above the 130 mm size class (Figure 11-3a). Higher densities of razor clams <130 mm MLS were found at the centre of the bed (Figure 11-3b), whereas razors >150 mm were more abundant towards the northern part of the surveyed area (Figure 11-3c).

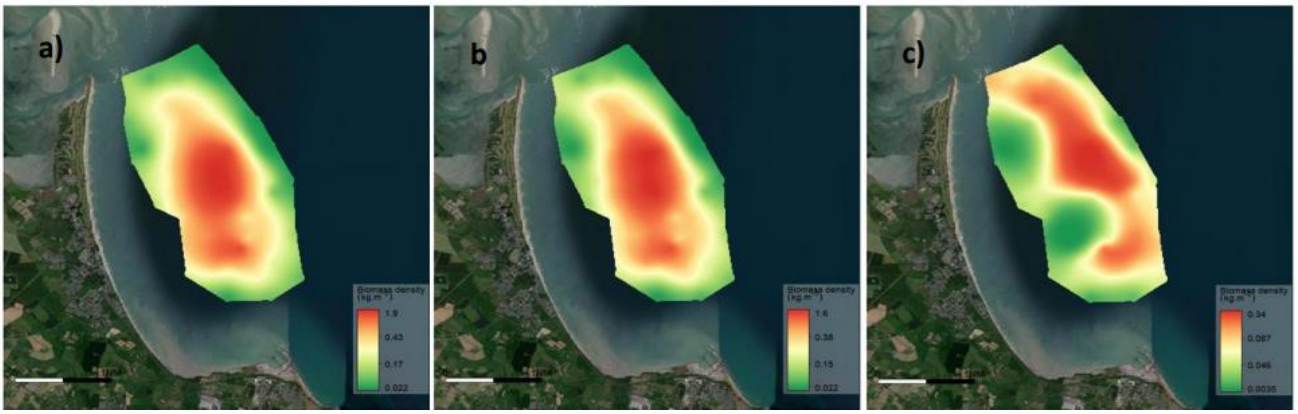


Figure 11-3: Distribution of Ensis siliqua in Rosslare Bay in 2021, a) all size class, b) >130 mm and c) >150 mm (reproduced from The Marine Institute and Bord Iascaigh Mhara, 2021).

11.3.2 Finfish

Twaite and allis shad are designated mobile species of several Irish and UK SACs which may be in the zone of influence of the proposed development.

Suitable habitats for shad must include abundant, suitable prey and adequate water quality. The water column throughout the proposed development area is assumed to be suitable habitat for shad and the water quality to be of sufficiently high quality in open coastal water however the importance of the Rosslare Europort area for shad feeding, the status of preferred prey species within the site and any potential contamination load of prey species is unknown.

Rosslare Europort overlaps with nursery grounds for mackerel, horse mackerel and cod. Whiting use the area as a spawning and nursery ground. The extent of overlap with the mapped spawning and nursery grounds is summarised in Table 11-1. It should be noted that the spatial resolution of the data used the determine the overlap with the nursery and spawning grounds is such that when overlayed with the Rosslare Harbour area the data encroach on what is now reclaimed land therefore the accuracy of the data in relation to the port area is questionable.

Table 11-1: Overlap with commercial fish species distribution areas (Ireland Marine Atlas, 2021).

Species	Nursery Area	Spawning Area
Cod	✓	X
Whiting	✓	✓
Mackerel	✓	X
Horse Mackerel	✓	X

The Department of Agriculture, Food and the Marine (DAFM) has responsibility for the regulation of aquaculture. Under Section 6 of the Fisheries (Amendment) Act, 1997 (as amended), it is illegal to engage in aquaculture without an appropriate Aquaculture Licence. Aquaculture includes the culture or farming of fish, aquatic invertebrates, aquatic plants, or any aquatic form of food suitable for the nutrition of fish. The closest licenced aquaculture site is in Wexford Harbour 6 km north of Rosslare Europort.

11.4 Potential Impacts

The following potential impacts on fish may be associated with the proposed development:

- Temporary disturbance/loss of spawning grounds arising from dredging activity within the harbour
- Temporary disturbance/loss of spawning grounds arising from displacement/compaction of the seabed in the vicinity of piling activities and placement of material on the seabed
- Permanent spawning grounds loss arising from the development of the ORE Hub and due to reclamation of a total of circa 20 ha of seabed
- Effects to water quality of increased suspended sediment concentrations and sediment deposition (including contaminated sediments) within Rosslare Europort and the selected dredge disposal location impacting fish species
- Effects on fish species associated with the disposal of dredged material at a licensed disposal site and
- Effects of underwater noise arising from construction activities (e.g. dredging, vessel noise and piling) on fish, including migratory fish species

11.5 EIA Report Assessment Methodology

A full ecological characterisation of fish and shellfish stocks will be undertaken which will include a review of readily available information from desktop sources supported by fisheries surveys at the site of the development. Fisheries surveys will be carried out to determine the species and their distribution within the vicinity of the proposed development. The Sea Fisheries Protection Authority will be consulted regarding the exact nature of the survey, survey design and survey methods (e.g. beam trawling, drop down video) to be applied and undertaken. In addition, consultation with the

local fishing industry will be undertaken in advance of any survey effort and survey design will take into consideration fish spawning and fishing seasons.

In the harbour, all marine habitats and fish species identified as having the potential to occur in the vicinity of the proposed development will be categorised as Valued Ecological Receptors (VERs) against which impacts associated with the construction and operation of the proposed development will be assessed. Identification of fish VERs will consider the economic, ecological and nature conservation importance of the features within the vicinity of Rosslare Europort.

The impacts arising from the construction and operation of the redevelopment project will be identified, and an assessment made of the likely effects on the fish VERs identified through the desktop review and the results of surveys. The effects will be assessed from the project alone as well as cumulatively with other relevant proposed developments. Impacts will be assessed assuming the implementation of mitigation measures included as part of the design of the project, as well as any residual effects assessed after any further mitigation has been factored in if necessary.

11.6 Preliminary Mitigation Measures

- Known razor clam beds will be avoided during construction and dredging works

There are no further preliminary mitigation measures proposed for this receptor as the remaining data is considered of insufficient quality and reliability to proposed appropriate mitigation measures

11.7 Summary of Receptor/Topic Scoping Exercise

The scoping exercise has concluded that potential environmental effects on fisheries, fish and shellfish at construction and operational stages should be scoped into EIA.

12 Marine Mammals

12.1 Introduction

This section of the EIASR provides marine mammal information relevant to the proposed development. It identifies the marine mammal receptors that are known to occur in the vicinity of the proposed development that have the potential to be impacted by the proposed development. It considers potential impacts resulting from the construction, operation and maintenance of the development and sets out the proposed scope of the assessment for the EIA.

12.2 Policy and Guidance

The 1976 Wildlife Act and its subsequent Amendments (2000, 2005, 2010 and 2012) provide a legal framework for the conservation of Irish wildlife and their habitats, conferring specific protection on seals, whales, dolphins and porpoises. Under the Act it is an offence to injure or wilfully interfere with, disturb or destroy the resting or breeding place of a protected species. The Wildlife Act includes waters within Ireland's Territorial Sea (i.e., within the 12 nautical mile limit from the baselines).

The EC Directive on the conservation of natural habitats and of wild flora and fauna (the Habitats Directive, Council Directive 92/43/EEC) has been transposed into Irish law through the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended). Under the Regulations all marine mammal species normally occurring in Ireland are given protection. The Directive requires the strict protection of all cetaceans (whales, dolphins & porpoises). And the designation of Special Areas of Conservation (SAC) for harbour porpoise, bottlenose dolphin, grey seal and harbour seal.

All Irish waters were declared a whale and dolphin sanctuary in 1991, including a ban on hunting in Irish waters, although no legislation was enacted to support this declaration.

12.3 Baseline Environment

This section describes the key marine mammal aspects of the marine environment in the vicinity of the proposed development. The characterisation of the marine mammals of the area is based on available existing information on the environment of the proposed development and the wider surrounding area.

Data sources used to inform this baseline assessment are:

- Berrow et al. 2011. Inshore Irish Sea cetacean surveys undertaken in 2011
- Lysaght and Marnell, 2016. An Atlas of mammals in Ireland. Presenting observations for all mammals recorded in Ireland including for all marine mammal
- Hammond et al. 2017. SCANS III survey report. Presents the results of the most recent SCANS survey undertaken in 2016. SCANS Block E covers waters in the Irish sea to the north of Rosslare.
- Morris and Duck, 2019. Aerial survey data undertaken in August and September 2017/2018

- Rogan et al. 2018. Presents the results from ObSERVE aerial survey data collected in 2015 and 2016. The survey areas Stratum 5 and 8 are of most relevance for this project.

12.3.1 Species

Based on published information the following species have been identified as having the potential to occur in the region of Rosslare and could therefore be impacted by proposed activities:

- Humpback whale
- Minke whale
- Harbour porpoise
- Bottlenose dolphin
- Common dolphin
- White-beaked dolphin
- Risso's dolphin
- Killer whale (orca)
- Harbour seal
- Grey seal

Table 12-1: Description of species in the vicinity of the proposed project

Species	Species Description
Humpback whale (*Megaptera novaeangliae*)	Humpback whale occur regularly in the Celtic Sea but are less frequently recorded further east in the Irish Sea. Peak number of sightings occur between July and November with relatively few sightings in March and April. The number of sightings around Rosslare are relatively low (Lysaght and Marnell, 2016).
Minke whale (*Balaenoptera acutorostrata)*	Minke whale occur widely in Irish waters, including in the Irish Sea and in waters off County Wexford, with majority of sightings across the continental shelf. Peak sightings occur April and November with relatively few during the winter months (Lysaght and Marnell, 2016). The ObSERVE surveys only recorded minke whale in Stratums 5 (Irish Sea) and Stratum 8 (south and west) during the summer surveys. Densities in Stratum 5 were 0.014 ind./km^2 and those in Stratum 8 were 0.07 ind.km^2. Abundance estimates for each Stratum were 495 (221 – 1,105) and 2,242 (1,029 – 4,882) (Rogan *et al.* 2018). The results from the surveys indicate relatively high abundance of minke whale in the summer months to the south and west of Ireland with relatively lower densities in the south-east and Irish Sea. A Density of 0.0173 ind./km^2 were recorded in Block E during the SCANS III surveys, providing an estimated abundance of 603 (134 – 1,753) individuals (Hammond *et al.* 2021)
Harbour porpoise (Phocoena phocoena)	The harbour porpoise occurs widely in Irish continental shelf waters and has been recorded off all Irish coasts throughout the year. Highest densities have been reported in the Irish Sea (Lysaght and Marnell, 2016). Harbour porpoise was the most abundant cetacean recorded during the ObSERVE surveys in Stratum 5 and 8 with peak densities of up to

Species	Species Description
	1.046 ind./km^2 recorded in Stratum 5 (Irish Sea) during the summer period and only slightly lower densities of 0.867 ind./km^2 recorded during the winter (Rogan *et al.* 2018). Lower densities were recorded in Stratum 8 (south and west) suggesting that harbour porpoise are more abundant in the Irish Sea than in waters to the south and west of Rosslare. Harbour porpoise was also the most abundant cetacean recorded in the SCANS III Block E during the most recent survey with an estimated density of 0.239 ind./km^2 and an abundance of 8,320 (4,643 – 14,354) individuals (Hammond *et al*. 2021).
Bottlenose dolphin (*Tursiops truncatus*)	Bottlenose dolphin occur throughout Irish waters with most sightings in coastal waters off the west coast and a resident and well studied population in the Shannon Estuary. There are fewer sightings along the south and east coast but there have been sightings in waters off County Wexford (Lysaght and Marnell, 2016). No bottlenose dolphin were recorded during the ObSERVE surveys in Stratum 5 (Irish Sea) but relatively high densities were recorded in Stratum 8 (south and west) with estimated density of 1.161 recorded in the summer and 0.342 during the winter surveys, providing an estimated abundance of 11,266 (3,579 and 35,464) during the summer and 3,322 (1,303 – 8,471) during the winter (Rogan *et al.* 2008). However, the highest abundance in Stratum 8 occurred in the south-west with relatively low abundance waters around County Wexford. Relatively low densities of bottlenose dolphin were recorded during the SCANS III surveys in Block E (which overlaps with Stratum 5) with an estimated density of 0.0082 ind./km^2 and an abundance of 288 (0 – 664) individuals (Hammond *et al*. 2021).
Common dolphin (*Delphinus delphis*)	One of the most frequently recorded cetaceans in Irish waters, the common dolphin occurs in all coastal waters. Recorded throughout the year with an increase in sightings from March onwards, peaking during September and October. Common dolphins are regularly recorded in waters off County Wexford (Lysaght and Marnell, 2016). The ObSERVE surveys did not record any common dolphins in Stratum 5 (Irish Sea) during the two years surveys were undertaken. In Stratum 8 (south and west) relatively low densities were recorded of 0.056 ind./km^2 in the summer providing an abundance estimate of 1,319 (753 – 2,308) individuals. During the winter densities were lower at 0.033 ind.km^2 during the winter, giving an estimated abundance of 778 (325 – 1,862) individuals (Rogan *et al*. 2008). No estimated densities or abundance are provided for Block E in the latest SCANS III survey report (Hammond *et al*. 2021).
White-beaked dolphin (*Lagenorhynchus albirostris*)	A relatively scarce species in Irish waters, with the majority of sightings off the west coast. However, there are historical sightings (Pre-2010) of white-beaked dolphin in waters off County Wexford and the species could occur in the area, albeit in low numbers (Lysaght and Marnell, 2016). The ObSERVE surveys did not record any white-beaked dolphins in the region (Rogan *et al*. 2008).
Risso's dolphin (*Grampus griseus*)	Risso's dolphin are recorded across Irish inshore waters, with most sightings occurring between the east and south-west coasts, including

Species	Species Description
	County Wexford. The majority of sightings occur between May and August with relatively few outwith the summer and autumn period (Lysaght and Marnell, 2016). Very low densities of Risso's dolphin were recorded during one year within Stratum 5 (Irish Sea) with an estimated summer density of 0.0565 ind./km^2 and abundance of 35 (7 – 188). In Stratum 8 (south and west) densities were higher at 0.0565 ind./km^2 and abundance of 548 (204 – 1,477) (Rogan *et al* 2018). The SCANS III data for Block E estimate a density of 0.313 ind.km^2 in waters to the north of Rosslare and an abundance of 1,090 (0 – 2,843) individuals (Hammond et al. 2021).
Killer whale (*Orcinus orca)*	Killer whale are widely distributed across Irish waters in relatively low numbers. Although recorded throughout the year, most sightings occur in June. Killer whales have been recorded in waters off County Wexford (Lysaght and Marnell, 2016).
Harbour seal (*Phoca vitulina*)	Harbour seals are widespread throughout coastal waters in Ireland, including County Wexford where they occur along the coastline, estuaries and sheltered bays (Lysaght and Marnell, 2016). The Irish harbour seal population is estimated to be stable and between 4,500 and 6,500 individuals of which an estimated 33 occur in south-east Ireland all at Slaney River Valley SAC (Morris and Duck 2019). Since 2003 the population in south-Ireland has increased and from 2011 may have stabilised. Smaller numbers of harbour seal are known to occur within Wexford harbour off Rosslare point.
Grey seal (*Halichoerus gryphus*)	Grey seals occur throughout Irish waters including County Wexford throughout the year. With relatively more sightings along the south and west coasts (Lysaght and Marnell, 2016). The Irish population is estimated to be between 7,000 and 9,000 individuals, of which the south-east Ireland population is estimated to be 550 individuals. The majority of the grey seal population occurs on the Saltee Islands SAC to the south-west of Rosslare harbour, although smaller numbers also occur on at Raven Point with counts of up to 130 individuals recorded during March (O'Cadhla 2007). Tagged seals from Raven Point indicated that foraging occurred predominantly to the south of Raven Point (Cronin *et al*. 2016). Since 2003 the grey seal population in the region has increased (Morris and Duck 2019).

Table 12-2: Estimated densities in Stratum 5 and Stratum 8 from the ObSERVE aerial surveys in Year 1 (2015/2016) and Year 2 (2016/2017).

Species	Year	Density		Abundance	
		Summer	Winter	Summer	Winter
Stratum 5					
Minke whale	1	0.014	0	495 (221 –1,105)	0
	2	0.005	0	180 (59 – 553)	0
Harbour porpoise	1	0.696 –	0.867	7,734 (5,247 – 11,398)	9,636 (5,633 - 16,482)
	2	1.046	0.924	11,6245 (8,725 – 15,486)	10,263 (7,555 – 13,924)
Bottlenose dolphin	1	0	0	0	0
	2	0	0.036	0	401(76 – 2,105)
Risso's dolphin	1	0.0032	0	35 (7 – 188)	0
	2	0	0	0	0
Common dolphin [1]	1	0	0	0	0
	2	0	0	0	0
Stratum 8					
Minke whale	2	0.236	0	2,242 (1,029 – 4,882)	0
Harbour porpoise	2	0.208	0.060	1,977 (963 – 4,058)	568 (248 – 1,297)
Bottlenose dolphin	2	1.161	0.342	11,266 (3,579 – 35,464)	3,322 (1,303 – 8,471)
Risso's dolphin	2	0.0565	0	548 (204 – 1,477)	0
Common dolphin [1]	2	0.056	0.033	1,319 (753 – 2,308)	778 (325 – 1,862)

Note – common dolphin densities and abundance includes common/striped dolphin totals.

Year 1 surveys undertaken 2015/16

Year 2 surveys undertaken 2016/17

Table 12-3: Estimated densities and abundance of cetaceans recorded from SCANS III surveys in Zone E (western Irish Sea).

Species	Density	Abundance
Minke whale	0.0173	603 (134 – 1,753)
Harbour porpoise	0.239	8,320 (4,643 – 14,354)
Bottlenose dolphin	0.0082	288 (0 – 664)
Risso's dolphin	0.0313	1,090 (0 – 2,843)
White-beaked dolphin	0	0
Common dolphin	0	0

Table 12-4: Counts of harbour and grey seals in south-east region and areas

Species	South-east Ireland area	2003	2011/12	2017/18
Harbour seal	1	17	49	33
	2	0	0	0
	3	1	4	1
Grey seal	1	189	239	550
	2	0	0	1
	3	0	0	5

12.3.1.1 Designated Conservation Sites for Marine Mammals

The Rosslare Europort site does not lie within any designated conservation sites for marine mammals. Thus, this area does not form part of any Natural Heritage Area (NHA), Special Protection Area (SPA), Special Area of Conservation (SAC), Statutory Nature Reserve or National Park.

The site is in the Celtic and Irish Seas Management Unit for the harbour porpoise (*Phocoena phocoena*) and the Irish Sea Management Unit for Bottlenose Dolphin (*Tursiops truncatus*).

The Celtic and Irish Seas harbour porpoise Management Unit contains the following SACs: Rockabill to Dalkey Island SAC, Roaringwater Bay and Island SAC, Blasket Islands SAC, North Anglesey Marine SAC, West Wales Marine SAC, North Channel SAC, Bristol Channel Approaches SAC, Recifs et landes de la Hague SAC, Cote de Granit Rose-Sept-Iles SAC,Tregor Golo SAC, Baie de Morlaix SAC, Abers-Cotes des Legendes SAC, Oussant-Molne SAC, Cap d'Equy - Cap Frehel SAC, Chausey SAC, Baie de Saint-Brieuc Est SAC, Baie de Lancieux SAC, Baie de l'Arguenon, Archipel de Saint Malo et Dinard SAC, Baie du Mont Saint-Michel SAC and Estuaire de la Rance SAC.

The Irish Sea Management Unit for Bottlenose Dolphin encompasses 2 Natura sites designated for the protection of bottlenose dolphins, both of which are in UK waters: Cardigan Bay SAC and Lleyn Peninsula and the Sarnau SAC.

The site is also within foraging range of several designated marine mammal Qualifying Interest seal species of SACs within foraging range. The designated SACs and the relevant seal qualifying feature that could be impacted by the proposed development are presented in Table 12-5. The potential impacts on the qualifying features of these sites will be assessed in any future Appropriate Assessment Screening and Natura Impact Statement.

Table 12-5: Designated Special Areas of Conservation (SAC) sites for seals that could be impacted by proposed activities.

SAC	Site Code	Distance (km)	Qualifying Interest
Slaney River Valley	IE000781	5.66	Harbour seal
Saltee Islands	IE000707	18	Grey seal
Pembrokshire Marine / Sir Benfo	UK13116	66.64	Grey seal
Cardigan Bay / Bae Ceredigion	UK12712	90.74	Harbour seal
Pen Llŷn a'r Sarnau/ Lleyn Peninsula and the Sarnau	UK13117	112.16	Grey seal
Lambay Island	IE000204	139.06	Harbour seal Grey seal

12.4 Potential Impacts

Based on the proposed construction and operational activities the main impacts on marine mammals that are predicted to occur are:

- Noise arising during construction, this will include noise arising from dredging, pile-driving, drilling
- Noise during operations and maintenance, this will include additional noise arising from increased vessel usage of the harbour and dredging noise during maintenance
- Seabed disturbance from dredging: causing sediment plumes in the water column

- Indirect impacts through impacts to prey species from construction noise and seabed disturbance from dredging.

No other sources of potential impact on marine mammals have been identified at this stage.

There is a substantial volume of literature describing the potential effects of sound on marine mammals with summaries in literature such as Thomsen *et al.* (2006), and OSPAR (2009).

There are recognised to be four main types of potential effect from noise in the marine environment:

- Fatal effects caused by significant levels of noise in close proximity to the receptor
- Auditory injury, specifically hearing impairment, which might either be permanent or temporary. These can impact on the ability of the marine mammal to communicate, forage or avoid predators
- Behavioural effects such as avoidance, potentially resulting in displacement from suitable feeding or breeding areas, changes in travelling routes
- Secondary impacts caused by the direct effects of noise on potential prey causing an overall loss of available prey

The range at which marine mammals may be able to detect sound arising from offshore activities depends on the hearing ability of the species and the frequency of the sound. Harbour porpoise are potentially more sensitive to relatively high frequency sounds than other marine mammal species and may also be more sensitive to sound than other marine mammal species (Defra, 2015).

Other factors potentially affecting the potential impact sound may have on marine mammals includes ambient background noise, which can vary depending on water depth, seabed topography and sediment type. Natural conditions such as weather and sea state and other existing sources of human produced sound, e.g. shipping can reduce the auditory range.

There is potential for impacts on prey species to affect marine mammals, in particular possible impacts of noise on fish species. The potential effects on fish in the form of physical injury and displacement are predicted to be similar to those for marine mammals, although their sensitivity to sound will differ.

There is potential for cumulative/in-combination impacts to arise. In particular, construction activities from offshore wind farm developments including pile-driving and clearance of unexploded ordnance (UXO) could cause multiple impacts to occur on the same marine mammal populations. Plans and projects that have potential to cause an in-combination impact will be identified at the time of undertaking the assessment following consultation and based on the best available information at the time.

12.5 EIA Report Assessment Methodology

A full marine mammal risk assessment will be undertaken which will include a review of readily available information from desktop sources supported by marine mammal surveys at the site.

The following guidance documents will be considered:

- Guidelines on the information to be contained in Environmental Impact Assessment Reports. Environmental Protection Agency (EPA, 2022)
- Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater and Coastal, 2nd edition (CIEEM, 2018)
- Guidance to manage the risk to marine mammals from man-made sound sources in Irish waters. January 2014 (DAHG, 2014).

12.6 Preliminary Mitigation Measures

Mitigation measures will be fully developed following completion of the impact assessment. At this stage the following mitigation might be required depending on the scale of the potential impacts and their significance have been determined:

- A Construction Environmental Management Plan (CEMP) which will include noise prevention measures during construction
- Development of a Marine Mammal Mitigation Protocol (MMMP): The MMMP will provide the detail on the eventual mitigation measures to be implemented. It will follow the best practice at the time activities are being undertaken.
- The identification of Marine Mammal Mitigation Zone (MMMZ): The MMMZ will be the area within which mitigation measures will be required. The extent of the MMMZ will vary depending on the predicted extent of any noise and the sensitivity of the potential receptor.
- Use of Marine Mammal Observers (MMO's) – to help monitor the presence of marine mammals within risk of injury during significantly noisy activities.
- Use of Passive Acoustic Monitoring (PAM) – to help monitor for the presence of certain species, e.g. harbour porpoise, dolphin Sp.
- Use of Acoustic Deterrent Devices (ADD): The use of ADD could be used to reduce the risk of injury to marine mammals in the event that blasting is undertaken.
- Use of bubble curtains should rock blasting be required during construction – To reduce the extent that noise propagates in the water column reducing the risk of injury and the potential range at which displacement could occur.
- Soft-start – If pile-driving is undertaken the gradual ramp-up of the hammer energy can provide time for marine mammals and fish to relocate away from where injury or significant disturbance could arise.

12.7 Summary of Marine Mammals Scoping Exercise

The scoping exercise has concluded that a number of potential environmental impacts during the construction, operations and maintenance phases of the proposed project have been identified. These are:

- Noise impacts on marine mammals during construction, operations, and maintenance activities.
- Seabed disturbance.
- Indirect impacts on prey from planned construction

- In-combination impacts on marine mammals from other offshore activities.

Therefore, impacts on marine mammals should be scoped into the EIA.

13 Ornithology

13.1 Introduction

This section provides information on the key terrestrial and marine ornithology receptors in the vicinity of the proposed development that have the potential to be impacted by the proposed development.

13.2 Policy and Guidance

The Birds Directive (Conservation of Wild Birds Directive (79/409/EEC) aims to promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements. It provides a framework for legal protection to ensure the conservation of a wide range of rare, threatened, or endemic bird species throughout the European Union. Together with the Habitats Directive, the Birds Directive forms a coherent network of protected areas (Special Areas of Conservation and Special Protection Areas), called Natura 2000, which are safeguarded against potentially damaging developments.

The assessment of effects for birds will consider the EIA policies and guidance documents set out above. Specific to this topic, the following guidance documents will also be considered:

- Guidelines on the information to be contained in Environmental Impact Assessment Reports Environmental Protection Agency (EPA, 2022)
- Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater and Coastal, 2nd edition (CIEEM, 2018), and
- National Biodiversity Action Plan 2017 – 2021

13.3 Baseline Environment

13.3.1 Designated Conservation Sites for birds

The proposed development site does not lie within any designated conservation sites for birds. Thus, this area does not form part of any Natural Heritage Area (NHA), Special Protection Area (SPA), Special Area of Conservation (SAC), Statutory Nature Reserve or National Park.

There are six designated conservation sites for birds within 20 km of the proposed development:

- Wexford Harbour and Slobs SPA (Site Code 4076) - approximately 3.8km north-west
- Lady's Island Lake SPA (Site Code 4009) – approximately 4.1km south
- Tacumshin Lake SPA (Site Code 4092) – approximately 7.7km south-west
- The Raven SPA (Site Code 0710) – approximately 9.5km north
- Ballyteigue Burrow SPA (Site Code 4020) – approximately 17.4km south-west
- Saltee Islands SPA (Site Code 4002) – approximately 18.6km south-west

A brief summary of the bird species of qualifying interest for these SPAs is provided below:

Species	Species Description
Wexford Harbour and Slobs SPA	Designated under the E.U. Birds Directive, of special conservation interest for the following species: Little Grebe, Great Crested Grebe, Cormorant, Grey Heron, Bewick's Swan, Whooper Swan, Greenland White-fronted Goose, Light-bellied Brent Goose, Shelduck, Wigeon, Teal, Mallard, Pintail, Scaup, Goldeneye, Red-breasted Merganser, Hen Harrier, Coot, Oystercatcher, Golden Plover, Grey Plover, Lapwing, Knot, Sanderling, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Black-headed Gull, Lesser Black-backed Gull and Little Tern. The SPA is of international importance for several species of waterbirds and also because it regularly supports well in excess of 20,000 waterbirds. Of particular importance is that it is one of the two most important sites in the world for Greenland White-fronted Goose. The geese feed almost entirely within the Slobs and roost at The Raven SPA (Site Code 0710), approximately 9.5 km north of the proposed development. The Wexford Harbour and Slobs SPA also has internationally important populations of Mute Swan, Light-bellied Brent Goose, Bartailed Godwit and Black-tailed Godwit. In addition, there are at least a further 26 species of wintering waterbirds which occur in numbers of national importance (NPWS, 2014a).
Lady's Island Lake SPA	designated of special conservation interest for the following species: Gadwall, Black-headed Gull, Sandwich Tern, Roseate Tern, Common Tern and Arctic Tern. The site is notable for its tern colony with internationally important populations of Sandwich Tern and Roseate Tern, and nationally important populations of Common Tern and Arctic Tern. The terns breed on islands in the lake (NPWS, 2015). In 2018, the Sandwich Tern population at the colony was 1,780 pairs (SMP, 2022), while the Common Tern population was 979 pairs between 2016 and 2018 (Cummins et al., 2019). In 2020, 273 pairs of Roseate Terns bred at Lady's Island Lake, making it the second largest colony in Europe, apart from the Azores (Irish Times, 2020). Crossfintan Point is an important roost site and crèche area for the breeding terns. In the past, Little Tern has also bred there. Black-headed Gull also breed on the islands in nationally important numbers (NPWS, 2015). The SPA also supports wintering wildfowl including a nationally important population of Gadwall, as well as Whooper Swan, Wigeon, Teal, Pintail, Pochard, Tufted Duck, Scaup, Red-breasted Merganser, Coot,

Species	Species Description
	Oystercatcher, Golden Plover, Lapwing, Black-tailed Godwit, Curlew and Redshank (NPWS, 2015).
Tacumshin Lake SPA	SPA designated for the following species: Little Grebe, Bewick's Swan, Whooper Swan, Wigeon, Gadwall, Teal, Pintail, Shoveler, Tufted Duck, Coot, Golden Plover, Grey Plover, Lapwing and Black-Tailed Godwit. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. In winter, the SPA supports internationally important populations of Whooper Swan and Black-tailed Godwit. A further twelve species occur in numbers of national importance. The SPA is also of importance for its summer visitors, including such rare and localised species as Marsh Harrier, Garganey and Reed Warbler, as well as a range of passage waders (NPWS, 2014b).
The Raven SPA	Designated for the following species: Red-throated Diver, Cormorant, Greenland White-fronted Goose, Common Scoter, Grey Plover and Sanderling. The SPA is an important bird site, being part of the Wexford Slobs and Harbour complex. Of critical significance is that it forms the principal night roost for the internationally important Wexford Harbour population of Greenland White-fronted Goose in the winter months. Various other waterfowl species are also attracted to the site during winter, both for feeding and roosting. The SPA is also a breeding site for Little Tern, with up to 30 pairs occurring in some years (NPWS, 2010).
Ballyteigue Burrow SPA	Designated for the following species: Light-bellied Brent Goose, Shelduck, Golden Plover, Grey Plover, Lapwing, Black-tailed Godwit and Bar-tailed Godwit. The principal ornithological importance of the site is wintering waterfowl, with internationally important populations of Light-bellied Brent Goose and Black-tailed Godwit occurring. It also supports nationally important numbers of Shelduck, Golden Plover, Grey Plover, Lapwing, and Bar-tailed Godwit (NPWS, 2014c).
Saltee Islands SPA	Designated for the following species: Fulmar, Gannet, Cormorant, Shag, Lesser Black-backed Gull, Herring Gull, Kittiwake, Guillemot, Razorbill and Puffin. The site is also of special conservation interest for holding an assemblage of over 20,000 breeding seabirds. The SPA supports nationally important numbers of 10 species of breeding seabird: Gannet, Fulmar, Cormorant, Shag, Lesser Black-backed Gull, Herring Gull, Kittiwake, Guillemot, Razorbill and Puffin. The SPA also supports

Species	Species Description
	populations of three species that are listed on Annex I of the E.U. Birds Directive, i.e. Peregrine, Chough and Hen Harrier (NPWS, 2012).

Other SPAs are present in the wider area; however, the next nearest is the Bannow Bay SPA, which is situated approximately 27 km from the proposed development. Birds associated with this or any of the more distant SPAs are less likely to routinely utilise the proposed development area or its habitats.

13.3.2 Overview of Receiving Environment

Based on aerial photographs of the proposed area from Google Maps (accessed June 2022), the proposed development area consists of mainly hardstand and scrub/grassland habitat which would typically support a variety of terrestrial species along with intertidal and nearshore areas which could potentially be utilised by waders, wildfowl, and seabirds. The proposed development area is adjacent to a busy vehicle ferry terminal and so there is likely to be existing high levels of disturbance from ferry movements and associated vehicle traffic in the vicinity.

13.3.3 Species of Interest

The proposed development area itself does not contain any nesting or foraging habitats that are considered optimal for the designated bird species SCIs of the six SPAs listed above. The distances from the proposed development to these six SPAs and the habitats present within the proposed site would indicate that the degree of interaction of individuals from these SPAs with the proposed site is likely to be very low.

There are various non-SPA bird species that are expected to occur in and around the proposed development site, and numbers and distribution of these species are likely to vary depending on the time of year.

13.3.3.1 Waders and Wildfowl

Rosslare Europort or Rosslare Harbour are not listed as regularly counted sites for wildfowl or waders as part of the Irish Wetland Bird Survey (I-WeBS) (Crowe, 1995). This indicates that numbers of any waders or wildfowl species in the vicinity are likely to be low, as I-WeBS aims to regularly monitor wetland areas for waders and wildfowl in the non-breeding season.

Waders such as Oystercatcher and Redshank (both red-listed) are considered likely to occur in the inter-tidal areas of the proposed development in the non-breeding season, although numbers are likely to be low. In addition, species of seaduck such as Common Scoter (red-listed) and Red-breasted Merganser (amber-listed) may occur in the nearshore areas in the non-breeding season, and it is also possible that species such as Red-throated Diver (amber-listed) may occur in the nearshore vicinity in the non-breeding season.

13.3.3.2 Seabirds

It is expected that a range of foraging gull species will be present, including (but not limited to) herring gull, common gull and black-headed gull. All three species are amber-listed on the current Birds of Ireland Conservation Concern list (Gilbert *et al.*, 2021). Auk species such as Guillemot (amber-listed) and Razorbill (Red-listed) may also forage in the nearshore vicinity of the proposed development.

13.3.3.3 Terrestrial species

In terms of terrestrial species, it is considered likely that the proposed site supports a range of regularly occurring species associated with the scrubby habitats present, including (but not limited to) species such as Wren, Robin, Stonechat, Dunnock (all Green-listed) and Linnet (amber-listed).

Walkover surveys of the terrestrial parts of the proposed site, together with vantage point counts of inter-tidal areas and nearshore areas commenced in May 2022 and will be continued for 12 months. These surveys will report in detail on bird usage of the proposed site and immediate vicinity.

13.4 Potential Impacts

The following potential impacts have been identified for key bird species resulting from the works associated with the proposed development:

- Permanent habitat loss arising from seabed reclamation, resulting in displacement
- Temporary habitat loss from disturbance/displacement due to airborne construction noise (including piling)
- Temporary habitat loss from disturbance/displacement due to construction activity (visual disturbance)
- Temporary disturbance/loss of habitat arising from dredging activity within the harbour and
- Effects on prey species due to underwater noise arising from construction activities (notably dredging, vessel noise and piling), increased suspended sediment concentrations and sediment deposition in the harbour and the selected dredge disposal location, and potential for resuspension of contaminated sediments

13.5 EIA Report Assessment Methodology

An ornithology desk-based assessment will be undertaken which will include a review of readily available information from desktop sources. The key sources of information to be consulted will include any data collected previously within Rosslare Europort as well as any additional information from local and national sources such as the Breeding and Winter Bird Atlas (Balmer *et al.,* 2013).

Information collated during the desk study will be supplemented by results from the survey programme of baseline data collection, which commenced in May 2022.

All bird species identified as having the potential to occur in the vicinity of the proposed development will be categorised in terms of their sensitivity and value against which impacts associated with the construction and operation of the proposed development will be assessed.

The impact pathways arising from the construction and operation of the project will be identified, and an assessment made of the likely effects on the key bird species identified through the desktop review and the results of surveys. The effects will be assessed from the project alone as well as cumulatively with other relevant proposed developments. Impacts will be assessed assuming the implementation of mitigation measures included as part of the design of the project, as well as any residual effects assessed after any further necessary mitigation has been factored in.

The following potential impacts have been identified for key bird species resulting from the works associated with the proposed development:

- Permanent habitat loss arising from the redevelopment of the Rosslare Europort and due to seabed reclamation, resulting in displacement
- Temporary habitat loss from disturbance/displacement due to airborne construction noise (including piling)
- Temporary habitat loss from disturbance/displacement due to construction activity (visual disturbance)
- Temporary disturbance/loss of habitat arising from dredging activity within the harbour, and
- Effects on prey species due to underwater noise arising from construction activities (notably dredging, vessel noise and piling), increased suspended sediment concentrations and sediment deposition in the harbour and the selected dredge disposal location, and potential for resuspension of contaminated sediments

13.5.1 Assessment

The assessment of effects on ornithology will follow the EIA methodology set out in considering the following guidance documents:

- Guidelines on the information to be contained in Environmental Impact Assessment Reports. Environmental Protection Agency (EPA, 2022)
- Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, and Coastal, 2nd edition (CIEEM, 2018), and
- National Biodiversity Action Plan 2017 – 2021

13.6 Preliminary Mitigation Measures

Embedded mitigation measures include the following:

- A Construction Environmental Management Plan (CEMP) which will include pollution prevention measures during construction
- Navigation safety management processes during construction and operation by the Rosslare Europort authority to manage vessel movements, and

- Update of the Oil Spill Contingency Plan (OSCP) to incorporate relevant pollution measures for operation of the Rosslare Europort

13.7 Summary of Scoping Exercise

The scoping exercise has concluded that environmental impacts on ornithology should be scoped into the EIA.

14 Onshore Archaeology

14.1 Introduction

This section of the report describes the scope of works and methods to be applied in the identification and assessment of cultural heritage impacts associated with the proposed development (inclusive of archaeological and architectural heritage). It presents a high-level overview of baseline conditions and considers the potential for significant effects to arise as a result of the proposed development. The proposed methodology and scope of work likely to be required to undertake a detailed assessment of the proposed development on cultural heritage as part of the EIA is provided.

14.2 Policy and Guidance

The assessment of effects of the proposed development on onshore archaeology will consider the EIA policies and guidance documents set out above (Chapter 3). Specific to this topic, the following guidance documents will also be considered:

- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government, 2018)
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017)
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports – Draft (EPA, 2017)
- National Monuments Acts, 1930-2014
- The Planning and Development (Strategic Infrastructure) Act, 2006
- Heritage Act 1995
- Frameworks and Principles for the protection of Archaeological Heritage (Department of Arts, Heritage, Gaeltacht and Islands) 1999
- Architectural Heritage (National Inventory) and Historic Monuments and the Local Government (Planning and Development) Act 2000

14.3 Baseline Environment

The section has been prepared using: the Records of Monuments and Places (DHLGH, 2022a); buildings of Ireland, Excavations Bulletin (DHLGH, 2022b), historic maps, aerial photographs, historic books, and journals.

The recorded cultural heritage resource within the proposed development site and the areas surrounding its boundary were assessed in order to compile a complete cultural heritage context. All recorded national monuments listed buildings and archaeological excavations within a 1km radius of the developments limit have been outlined below.

Due to the nature of the development and given that the impact of the scheme is confined to recently reclaimed and developed coastline, it was determined that a site inspection to identify any archaeological features present within the study area would not be required at this stage.

The proposed development site is located in the townland of Ballygerry to the NW of Rosslare Harbour. The study area comprises of former agricultural grassland, non-arable coastline, and reclaimed lands which are now dominated by haul roads, a Small Boat Harbour and loading bays utilized by Rosslare Europort. The haul road used to access the Small Boat Harbour forms the southern and eastern boundary of the development, while a field boundary extending into the Small Boat Harbours west pier marks the western limit of the site. The site includes no previously recorded archaeological monuments or listed buildings. There have also been no archaeological excavations carried out within the development area.

Figure 14-1 below outlines all cultural heritage assets within a 1km radius centred on the Small Boat Harbour at the southern limit of the site boundary. Additional sites ranging in distances of between 1km and 1.7km have also been included due to their significance.

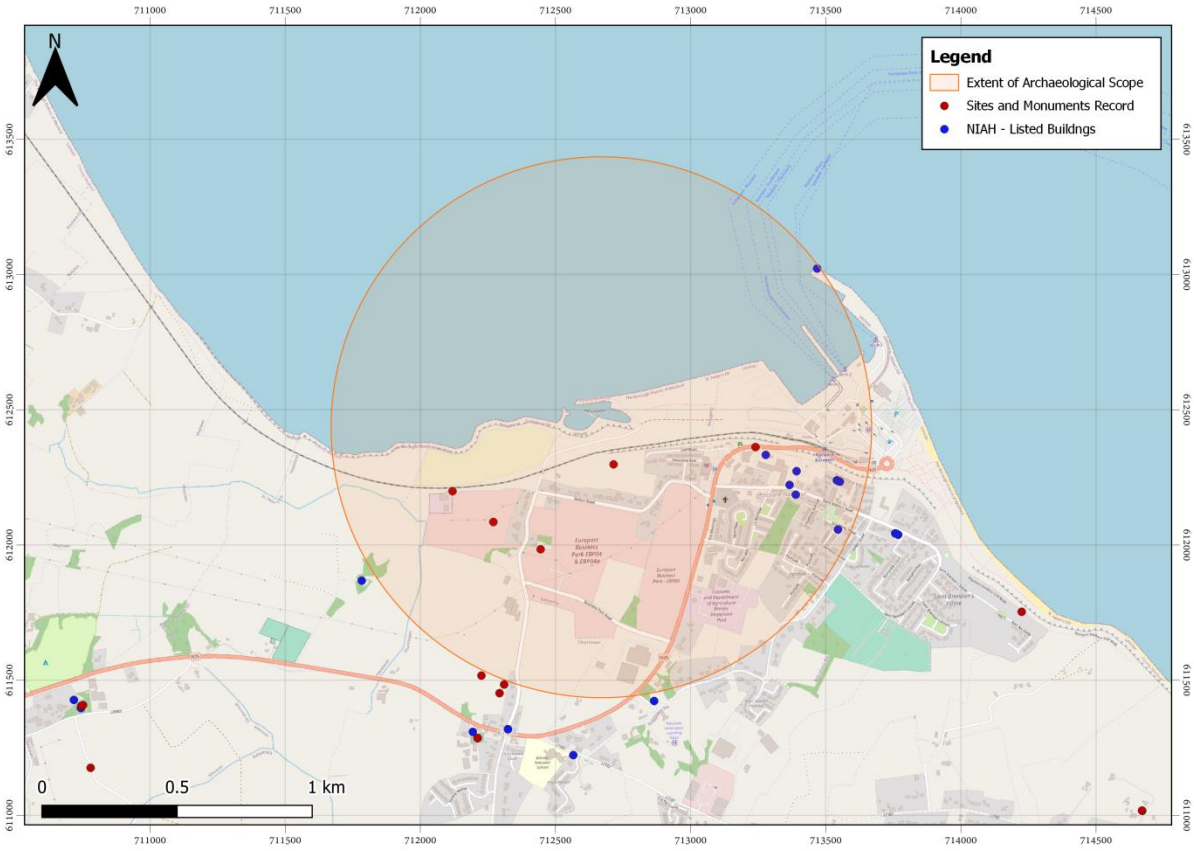


Figure 14-1: EIA Study Area and cultural heritage assets

14.3.1 Archaeological Monuments

Eight monuments and archaeological sites are recorded in the wider environs of the study area (archaeology.ie, accessed May 2022). The details of all these are listed in Table 14-1 below.

Table 14-1Archaeological Features in the Vicinity of the Study Area

Monument Type	RMP/ITM	Class	Townland	Distance to Study Area	Features Identified
Excavation	E 712270m, N 612085m	Not classified	Ballygerry	0.531km	Archaeological excavation first undertaken by Mary Henry Archaeological Services under licence number 04E1214. Archaeological features were identified only at the interface of ploughsoil and natural. The site was characterised by an extensive array of intersecting furrows, destroyed field boundaries and the remains of potato clamps. Archaeological pits, charcoal spreads and linears were also identified at the sites northern limit (closest the study area). These were later excavated under licence 04E1402.
Excavation	E 713240m, N 612362m	Not classified	Ballygillane Big	0.584km	Archaeological Test Trenching carried out by Red Tobin Archaeology under licence (08E0017). 10 trenches were excavated, no features or deposits of archaeological origin were recorded. The report notes that “the nature of the landscape here would suggest that the area was not suitable for settlement being poorly drained and relatively infertile. The soil cover would suggest that the land was used for rough grazing on a purely seasonal basis".
Excavation	E 713240m, N 612362m	Not classified	Kilrane, Rosslare	0.584km	Archaeological Monitoring carried out by Mary Henry Archaeological Services under licence no 05E0892 in association with interim drainage scheme for Rosslare Harbour. Monitoring works concentrated in two areas close to two monuments: Ballygerry "castle of" and Kilrane ruined churchyard. Excavation extended along the public road for total length of 615m monitored. Results showed that no archaeological layers remained intact.
Excavation	WX048-115	Not classified	Ballygerry	0.599km	Archaeological excavation carried out under licence number (04E1214) which recorded a number of pits and linear features. A slot trench uncovered by the excavation also produced a sherd of coil made pottery, and a large charcoal rich pit

Monument Type	RMP/ITM	Class	Townland	Distance to Study Area	Features Identified
					produced C14 dates. The report notes that most of the site was heavily truncated by post medieval agricultural furrows.
Ring-ditch	WX048-154001	Ring ditch	Churchtown	1.019km	Archaeological testing (licence no. 05E1303, McLoughlin) identified two ring ditches that are probable prehistoric hut sites with numerous associated pits, gullies and post holes. Geophysical Survey (licence no. 06R108) which mapped a wider area confirmed the identifications.
Ring-ditch	WX048-154002	Ring-ditch	Churchtown	1.016km	Archaeological testing (licence no. 05E1303, McLoughlin) identified two ring ditches that are probable prehistoric hut sites with numerous associated pits, gullies and post holes. Geophysical Survey (licence no. 06R108) which mapped a wider area confirmed the identifications.
Ring-ditch	WX048-154003	Ring-ditch	Churchtown	1.052km	Archaeological testing (licence no. 05E1303, McLoughlin) identified two ring ditches that are probable prehistoric hut sites with numerous associated pits, gullies and post holes. Geophysical Survey (licence no. 06R108) which mapped a wider area confirmed the identifications.
Ring-ditch	WX048-156	Ring-ditch	Ballyaddragh	1.698km	Archaeological monitoring (licence no. 06E0909, McLoughlin 2009) identified at least 5 prehistoric ring-ditches. No information was available about this site on the database for Irish archaeology (archaeology.ie, accessed May 2022).

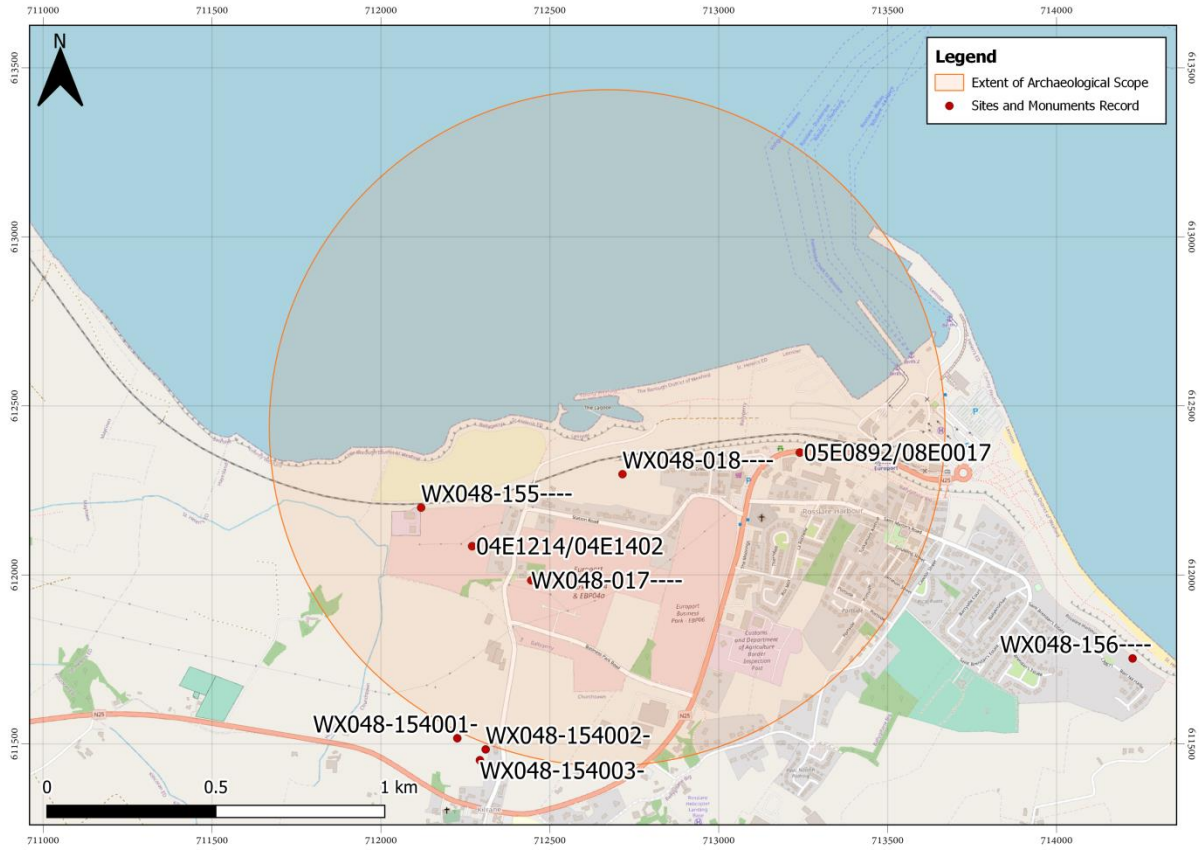


Figure 14-2: Archaeological Monuments and Excavations within the study area

14.3.2 Architectural Heritage

The Record of Protected Structures and the NIAH do not list any structures located within the boundary of the proposed development, however there are a number of listed recorded monuments and buildings located within 1 km of the site.

A Windmill (RMP WX048-018) is located circa 145 m south of the development area, while a 17th Century House, often referred to as Ballygerry Castle (RMP WX048-017) is located 420 m South of the shore to the immediate west of the Small Boast Harbour. The house was built by Simon Synnott in 1640 according to the Book of Survey and Distribution (1600s).

Both the house and the windmill are first depicted on the Down Survey (1656-1658) barony map of Fourth and the parish map of Kilrane. While the windmill is once more depicted on the 1939 and 1940 editions of the OS 6inch map, no part of the house was visible above ground level by 1840, as noted by a survey carried out by John O'Donovan in the same year.

Archaeological monitoring (licence no. 05E0892) carried out by M. Henry c. 80m to the west of the site of the castle failed to produce archaeological material, as outlined above.

Nine regional classed buildings within Rosslare Harbour are also of note. These are:

- Rosslare lighthouse (Registration number 15704829, 1900-1910)
- Rosslare Harbour townhouses (Registration numbers 15704830, 15704831 and 15704832, 1906-1940)
- Rosslare Harbour coastguard station (Registration number 15704833, 1890-1895)
- Tuskar Dwellings (Registration Number 15704834, 1885- 1895)
- Lifeboat station (Registration Number 15704835, 1906- 1911)
- Harbour house (Registration number 15704836,1906-1940)
- Workers house (Registration Number 15704840, 1906-1911)

These buildings range in distance from 0.616 km to 0.990 km of the Small Boat Harbour.

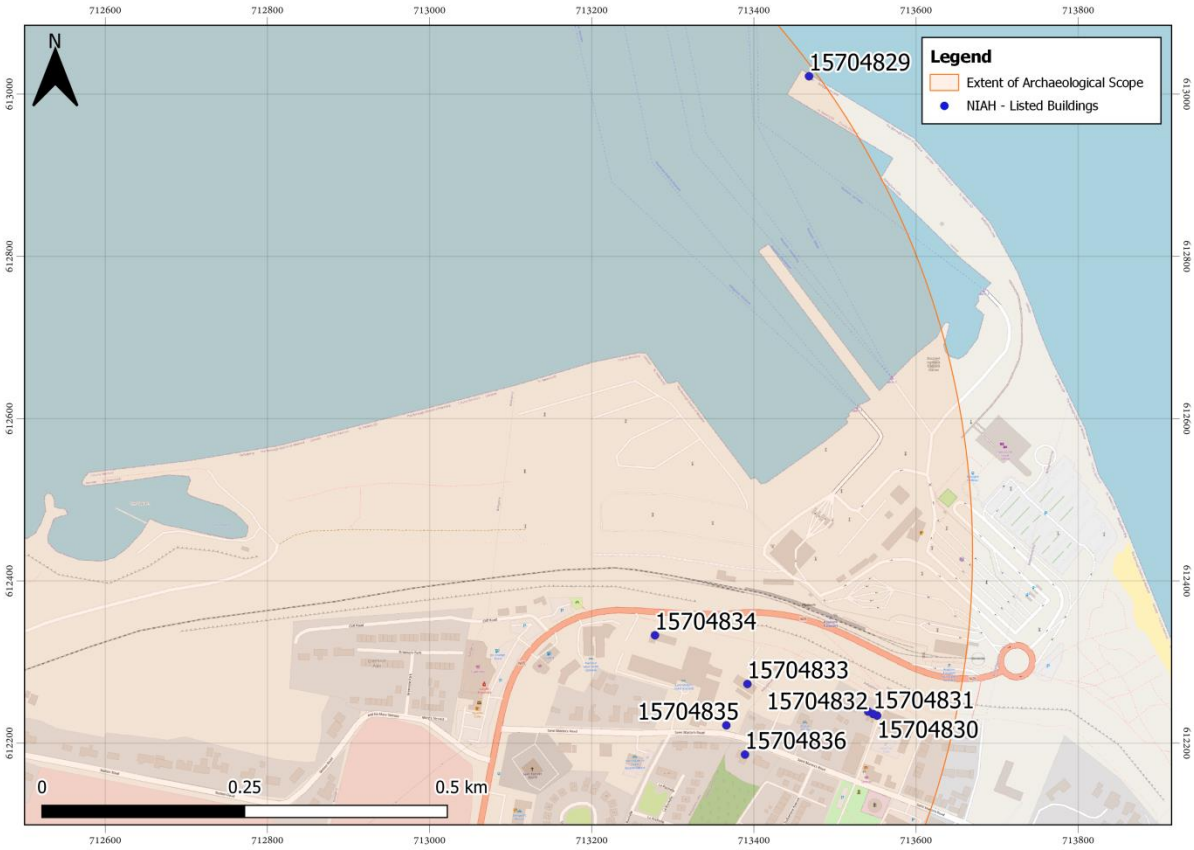


Figure 14-3: National Inventory of Architectural Heritage listed buildings within the study area

14.3.3 Cartographic Evidence

An examination of the cartographic evidence for the area of proposed development was undertaken. Cartographic evidence examined included the 17th century Down Survey (2013) map,

the first and second edition OSI Maps (1837-1842 and 1888-1913 respectively) and the later Cassini map. No features indicative of archaeological remains other than those discussed above were visible on the maps or the aerial photographs for the proposed site.

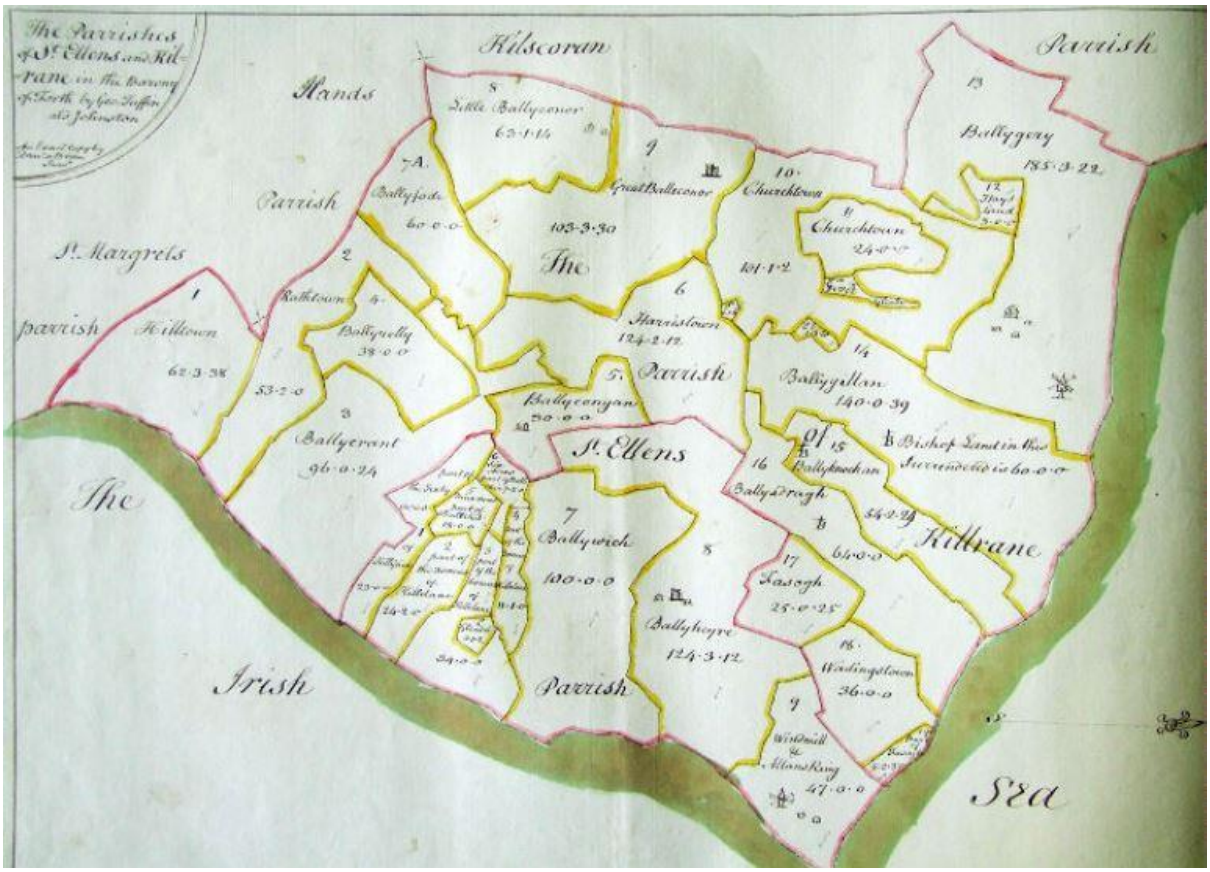


Figure 14-4 Down Survey of the Parishes of St Ellens and Kilrane which first illustrates the Windmill and the 17th Century House in the Townland of Ballygerry (Retrieved from: TCD, 2013).

Figure 14-5: First Edition OSI map (1837-1842) illustrating the Windmill Stump to the immediate South of Rosslare Small Boat Harbour (Retrieved from: OSI, 2022).

14.4 Potential Impacts

14.4.1 Construction Phase

The potential impact assessment is based on Environmental Protection Agency Guidelines (EPA 2017, 50-1, Table 3.3) and Appendix 4 of the Guidelines for the Assessment of Archaeological Heritage Impact of National Road Schemes (Anon. 2006, 54).

The proposed development has been designed to extend beyond previously reclaimed coastline, and thus no national monuments, listed buildings or extant archaeological features fall within the project's boundary. A windmill originally depicted on the Down Survey (1656-1658) is located less than 150 m from the developments southern limit, and earlier archaeological features have been discovered in excavations less than 600 m to the south-west of the proposed development. Though the potential for archaeological features being present within the development area is low, excavations within the study area indicate that extensive prehistoric and historic field systems do

extend to within 100 m of the local coastline.

Should these field systems extend into the developments limit, the greatest potential for impact is during the construction stage. This could include the movement of machinery and the storage of material on features (which do not have any surface expression), resulting in compaction or ground disturbance.

In the absence of the mitigation measures described below, the impact on these features as a result of the construction phase could be significant. Should the development proceed as planned, and with the appropriate mitigation strategies, the impact on any archaeological features present would be low.

14.4.2 Operational Phase

There are no potential impacts on archaeological cultural heritage expected as a result of the operational phase of the proposed development, as it is anticipated that issues of archaeological and cultural heritage interest will have been resolved prior to or during the construction phase.

14.5 EIA Report Assessment Methodology

14.5.1 Desktop Study

The assessment undertaken for this scoping exercise consisted of a paper survey identifying all recorded sites within the vicinity of the proposed development which can be used to inform the onshore archaeology section of the EIA Report. The methodology has been conducted based on the guidelines from the Department of Housing, Local Government and Heritage (DHLGH).

The desktop survey undertaken consisted of a document and cartographic search utilising a number of sources including the following:

- Record of Monuments and Places (RMP); The RMP records known upstanding archaeological monuments, the original location of destroyed monuments and the location of possible sites identified through, documentary, cartographic, photographic research, and field inspections.
- The RMP consists of a list, organised by county and subdivided by 6” map sheets showing the location of each site. The RMP data is compiled from the files of the Archaeological Survey.
- National Inventory of Architectural Heritage; The inventory of architectural heritage lists all post 1700 structures and buildings in the country. This includes structures of architectural, historical, archaeological, artistic, cultural, social, scientific, or technical importance.
- County Development Plans; The Development plan was consulted to ascertain if any structures listed in the Record of Protected Structures (RPS) and/or any Architectural Conservation Areas (ACAs). The Record of Protected Structures lists all protected structures and buildings in Wexford. This includes structures of architectural, historical, archaeological, artistic, cultural, social, scientific, or technical importance.

- Cartographic Sources; The following maps were examined: Down Survey (1656- 1658), 1st edition Ordnance Survey Maps (1837-1842) and 2nd edition Ordnance Survey Maps (1888-1913) and the Cassini Map (1940s).
- Reports from previous archaeological assessments and excavations within the research area and its environs.

A comprehensive list of all literary sources consulted is provided in references.

14.5.2 Site Inspection

An archaeological field inspection survey seeks to verify the location and extent of known archaeological features and to record the location and extent of any newly identified features. A field inspection should also identify any areas of archaeological potential with no above ground visibility. Many monument types do not leave surface markers and thus cannot be identified through site inspection.

Given the coastal location of the proposed development, and the extent to which the study area has been reclaimed and previously impacted by development, it was determined that a site inspection would not identify any archaeological potential. Aerial photography of the study area indicates that much of the previously undeveloped land to the south of the small boat harbour is characterised by stepped sea cliffs with shallow soil cover. This terrain would not be suitable for habitation or agriculture, and thus its potential for archaeology would be very low.
A small section of level land above these sea cliffs forms part of the schemes southern limit. Potential for agricultural archaeology here is possible, though these features leave no surface markers and thus would not be identified through site inspection.

14.5.3 Potential for Additional Survey

The development area has not yet been targeted by geophysical survey, which could indicate the presence of archaeological features such as furrows or field boundaries above the sea cliffs at the southern limit of the development. Though geophysical survey may be helpful in determining the presence and exact locations of archaeological features within the footprint of the development, all topsoil stripping will be subject to archaeological monitoring which will also identify any archaeology.

14.5.4 Assessment Criteria

The criteria used to assess the significance of the impact of a development on an archaeological landscape, site, feature, monument, or complex are defined as follows:

- **Profound:** Applies where mitigation would be unlikely to remove adverse effects. Reserved for adverse, negative effects only. These effects arise where an archaeological site is completely and irreversibly destroyed by a proposed development.
- **Significant:** An impact which, by its magnitude, duration or intensity, alters an important aspect of the environment. An impact like this would be where part of a site would be permanently impacted upon, leading to a loss of character, integrity and data about the

archaeological feature/site.

- **Moderate:** A moderate direct impact arises where a change to the site is proposed which though noticeable, is not such that the archaeological integrity of the site is compromised, and which is reversible. This arises where an archaeological feature can be incorporated into a modern-day development without damage and that all procedures used to facilitate this are reversible.
- **Slight**: An impact which causes changes in the character of the environment which are not significant or profound and do not directly impact or affect an archaeological feature or monument.
- **Imperceptible:** An impact capable of measurement but without noticeable consequences.

14.6 Preliminary Mitigation Measures

The Table 14-2 below summarises the proposed mitigation measures for archaeology and cultural heritage provided as part of the proposed development.

Table 14-2 Mitigation Measures for the protection of potential archaeology

Character of potential impact	Mitigation measure
Construction Phase	
In the event that unidentified sub surface remains are present: significant negative impact	Archaeological monitoring of topsoil stripping associated with the project. This will be under licence to the NMS.
Operational Phase	
N/A	All archaeological features identified during construction phase will be fully excavated and preserved by record. No mitigation measures will be necessary throughout operational phase.

Archaeological impact will be resolved prior to or during the construction stage of the proposed development. The residual impacts on any archaeological remains at the site will be profound in the absence of the mitigation measures described above.

If the mitigation measures are implemented, then the impact will be slight due to the production of a full archaeological excavation report for any archaeological sites and material uncovered by the development.

A suitably qualified archaeological consultant shall be appointed to undertake archaeological monitoring of the excavation of topsoil during and prior to the construction phase of the development. This will be under license from the National Monuments Service of the Department

of Culture, Heritage and the Gaeltacht.

Should archaeological features, deposits or structures be uncovered during archaeological monitoring the NMS should be contacted and a strategy for the resolution of these features be formulated.

The appointed archaeologist will be required to obtain a licence from the NMS this will involve preparing an archaeological method statement to outline the required works.

14.7 Summary of Onshore Archaeology Scoping Exercise

No previously recorded archaeological monuments, sites or features have been noted in the development site. Though potential for archaeology is low in the area, a broader context established by this chapter indicates that the development could impact on prehistoric and historic field systems associated with the sites outlined above.

The scoping exercise has therefore concluded that environmental impacts on onshore archaeology should be scoped into the EIA, and it is recommended that the mitigation measures outlined above are exercised during and prior to the construction phase to minimise the impact to potential prehistoric and historic field systems cultural heritage assets within the development.

15 Marine Archaeology

15.1 Introduction

This section of the Scoping Report identifies marine archaeology of relevance to the Proposed Development and considers the potential impacts from the construction of the Proposed Development on marine archaeology.

The assessment is based on a review of publicly accessible data sets that record the known archaeological sites under water and on land maintained by the Department of Housing, Local Government and Heritage. The purpose of the assessment is to inform an engagement with the archaeological consenting authority that will agree the consenting conditions for archaeological survey. The assessment will also inform the known archaeological constraints within the project area that will in turn provide input to the final project design.

The Offshore Archaeology Study Area extends west of Rosslare Europort to include the foreshore area to be reclaimed and developed as the focus of the proposed development.

15.2 Policy and Guidance

The assessment of effects of the proposed development on marine archaeology will consider the EIAR policies and guidance documents set out above. Specific to this topic, the following guidance documents will also be considered:

- National Monuments Act 1930 to 2014;
- Framework and Principles for the Protection of Archaeological Heritage; Marine Geophysics Data Acquisition, Processing and Interpretation, Guidance Notes (English Heritage, 2013).
- DAHGI Policy and Guidelines on Archaeological Excavation (1999).
- European Convention on the Protection of the Archaeological Heritage (Valetta Convention);
- International Council on Monuments and Sites (ICOMOS) guidance, non-governmental international organisation dedicated to the conservation of the world's monuments and sites; and
- United Nations Educational, Scientific and Cultural Organization (UNESCO) guidance, who seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity.

15.3 Baseline Environment

The development of the shoreline at Rosslare is associated with the construction of a harbour at the end of the nineteenth century to facilitate steam ferry traffic between Ireland and the United Kingdom. The integral nature of a railway connection to the pier head reflects the original association with the Great Western Railway.

The foreshore is reclaimed to facilitate the growth of the port area. Historic mapping indicates a natural shoreline, with the possibility of a small landing area to the southwest of the current port.

A series of cultural heritage sites are recorded to the south of the port, which include four archaeological sites and a number of more recent buildings that are listed in the National Inventory of Architectural Heritage (NIAH).

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The foreshore is reclaimed to facilitate the growth of the port area. Historic mapping indicates a natural shoreline, with the possibility of a small landing area to the southwest of the current port.

A series of cultural heritage sites are recorded to the south of the port outside the Foreshore Licence Area (FLA), which include six archaeological sites and a number of more recent buildings that are listed in the National Inventory of Architectural Heritage (NIAH) (Table 15-1, Figure 15-1). A single known cultural heritage site is located within the FLA (the Lighthouse at the pier head, NIAH15704829).

Table 15-1: Known Cultural Heritage sites within Foreshore Licence Area and within 500m outside the Foreshore Licence Area.

Register	Reference	Site Type	Site Name	Within FLA	Distance from FLA
HSI	W17556	Shipwreck	*Success (Part of)*, fishing trawler lost in 1982	✗	490m E
HSI	W10425	Shipwreck	Unknown	✗	40m S
SMR	WX048-018	Archaeological site	Windmill	✗	150m S
SMR	WX048-0155	Archaeological site	Excavation site	✗	160m S
SMR	WX048-017	Archaeological site	17th-century House	✗	490m S
NIAH	15704829	Historic Structure	Lighthouse	✓	Within FLA
NIAH	15704834	Historic Structure	Lighthouse Keeper's House	✗	220m S
NIAH	15704833	Historic Structure	Coastguard Station	✗	240m S
NIAH	15704835	Historic Structure	Lifeboat Station	✗	320m S
NIAH	15704836	Historic Structure	Harbour House	✗	340m S

Register	Reference	Site Type	Site Name	Within FLA	Distance from FLA
NIAH	15704831	Historic Structure	House	✕	330m S
NIAH	15704832	Historic Structure		✕	340m S
NIAH	15704830	Historic Structure	House	✕	340m S
NIAH	15704840	Historic Structure	Worker's House	✕	340m S

The archaeological sites in proximity to but outside the FLA comprise two historic shipwreck site locations and four terrestrial archaeological sites. Wreck site W10425 is an historic account of shipwreck located outside and south of the FLA but there is little known about it. W17556 is located 490m east of the FLA and is the site of the trawler *Success (Part of)*, which was lost as a result of a collision event in 1982.

The location of ring ditch burials 1.1 km to the southeast of the FLA (WX048-156), along with the site of a seventeenth-century house and a windmill to the southwest (WX048-017, WX048-018), and a series of small pit features revealed by excavation also to the southwest (WX048-155) highlight the potential for archaeological remains to survive inshore.

The series of younger buildings located in the village to the south of the port and outside the FLA chart the historic of Lifeboat and Coastguard stations that were developed in the nineteenth century.

The only recorded cultural heritage site within the FLA is the lighthouse on the pier head, which was commissioned in 1906 and built by the Fishguard and Rosslare Railways and Harbours Company (NIAH 15704829).

The area to the west of the port, which is the subject of the proposed development does not retain known archaeological features. However, the potential for archaeology exists within its shallow sands.

Archaeological monitoring of the maintenance dredging within the approach channel for the port area in recent years has been carried out. No significant archaeological features have been recovered.

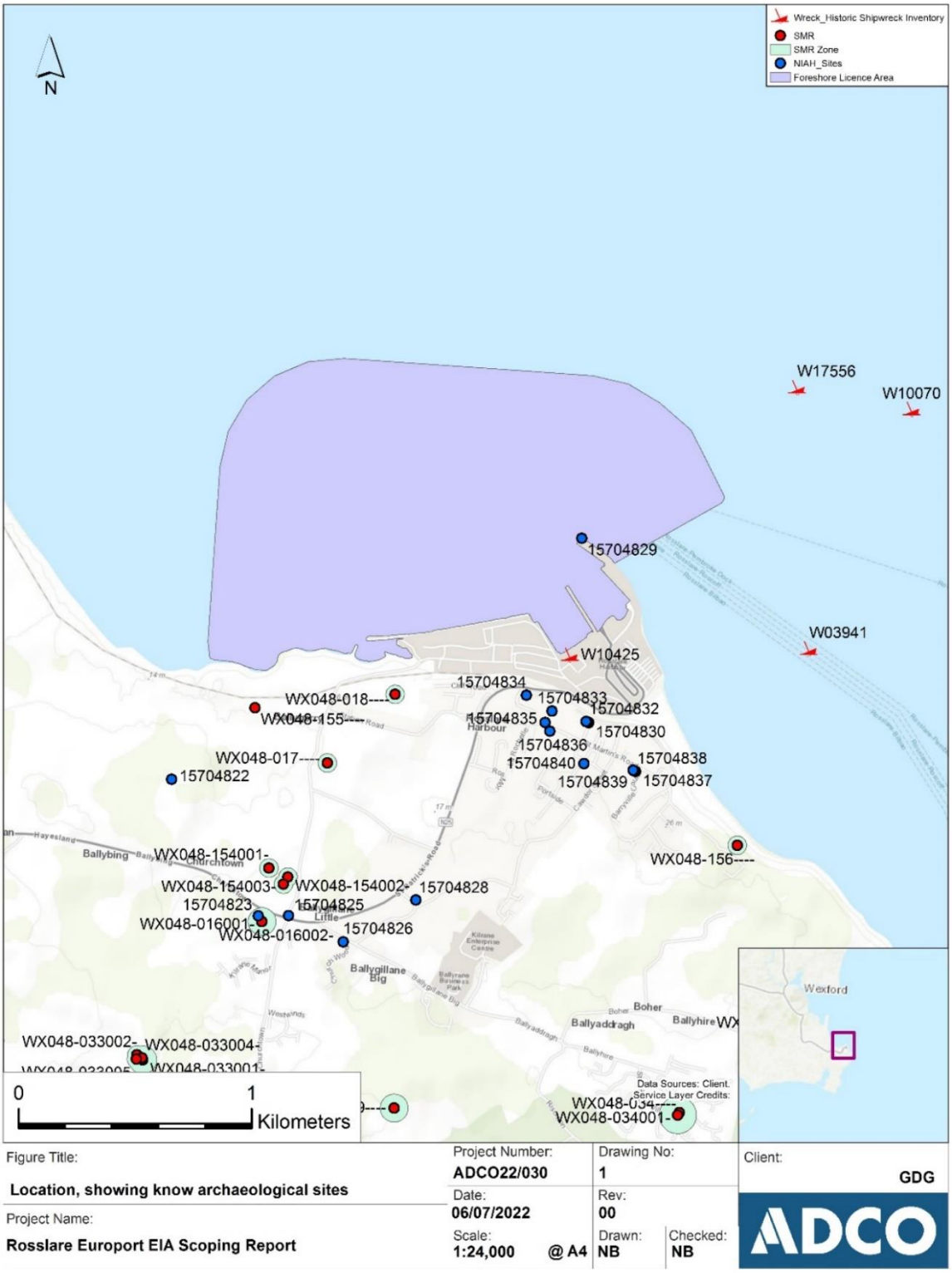


Figure 15-1 Known Cultural Heritage sites within Foreshore Licence Area and in outside Foreshore Licence Area in proximity to it. Those sites within 500m of the FLA are included on Table 1

15.4 Potential Impacts

The proposed development to the west of the current port area will include the construction of new breakwaters, infill of a 19.6 ha area of foreshore, the development of a new berth and a new small boar harbour. These works will include capital dredging, which represents a direct impact on the seabed deposits, and reclamation.

The archaeological risk lies in the potential for new discoveries to arise as a result of the capital dredging works, while inshore area to be reclaimed retains the potential for archaeological to lie buried under the covering sands.

15.5 EIA Report Assessment Methodology

The EIA will consider the potential effects of the construction, operational and maintenance phases of the Project within the Marine Archaeology study area. The assessment will follow the methodology identified in section 15.6 and will be conducted in line with the legislative procedures and guidelines identified in section 15.2.

15.6 Preliminary Mitigation Measures

The following mitigation measures will inform the EIA and are subject to archaeological consent:

- Marine geophysical survey of the proposed reclamation area. This would include multibeam bathymetry, high resolution side-scan sonar, magnetometry survey and sub-bottom profiling. The focus of such survey would be to help determine the presence of archaeological elements comprising principally submerged land surfaces and shipwreck.

- Archaeological underwater inspection/diver-truthing of target features identified in the marine geophysical survey data sets and associated data, to clarify the archaeological risk associated with such targets.

- Archaeological intertidal survey

The following mitigation measures will inform the construction phase and are subject to archaeological consent:

- Implementation of Archaeological Exclusion Zones (AEZs) will be applied around known heritage assets. The extent of these would vary depending upon the size of the heritage asset identified and would be agreed in consultation with the DHLGH as the development design progresses, and additional information becomes available.

- Implementation of an Archaeology Management Plan, setting out the principles and management actions for unexpected archaeological discoveries made during the course of development.

- Archaeological monitoring of ground and seabed disturbances is anticipated as the principal mitigation during construction works.

15.7 Summary of Marine Archaeology Scoping Exercise

The scoping exercise has therefore concluded that environmental impacts on marine archaeology should be scoped into the EIA.

16 Water Quality

16.1 Introduction

This section considers the potential impacts of the proposed development on water quality within the marine environment and the risk to water quality in the surrounding environment.

16.2 Policy and Guidance

16.2.1 The Water Framework Directive

The EU Water Framework Directive (2000/60/EC) (WFD) defines a framework that aims to protect inland surface water, transitional water, coastal water and groundwater within the scope of the "Directive, River Basin Management Plans" (RBMP). The RBMPs are updated every six years to maintain and implement measures related to the water quality of each river basin, aiming to achieve "good status".

Projects that could threaten water bodies “good status” or lead to the deterioration of quality elements must be evaluated to find other, more environmentally friendly alternatives. The project will only proceed if it demonstrates that it will take appropriate mitigation measures. If mitigation measures are not sufficient, the Project will only proceed if it is shown that the reasons for the deterioration are in the overriding public interest or that the benefits of the Project outweigh the failure to achieve the relevant environmental objectives. This identification and assessment process of such impacts can be carried out in the EIA procedure and with conditions set out in Article 4(7) of the WFD, which is more comprehensive than the EIA Directive.

Under the WFD guidelines, detailed environmental data for water is collected as part of the RBMP planning. In this way, the EIA can provide for data collection and the necessary assessments of effects on water bodies according to Article 4(7) of the WFD in a synergistic way. If critical, additional assessments should be conducted to develop and review possible alternatives. This may influence the scope and nature of an EIA Report by incorporating an assessment of the project's likely impacts on the objectives adopted for the water body in concern.

The strategies and objectives of the WFD in Ireland have influenced a range of national legislation and regulations. These include the following:

- Article 4(7) assessments under the Water Framework Directive
- European Communities (Water Policy) Regulations, 2003 (S.I. No. 722 of 2003)
- European Communities Environmental Objectives (Surface Waters); Regulations, 2009 (S.I. No. 272 of 2009 as amended SI No. 77 of 2019)

- European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. No. 9 of 2010 S.I. No. 366 of 2016)
- WFD assessment: estuarine and coastal waters (Environment Agency, 2017)
- Commission guidance document on Streamlining environmental assessments conducted under Article 2(3) of the EIA Directive
- Commission guidance on Streamlining environmental assessment procedures for energy infrastructure Projects of Common Interest (PCIs)
- Common Implementation Strategy for the WFD: Guidance document no 7 Monitoring under the Water Framework Directive
- Common Implementation Strategy for the WFD: Guidance document no 20 Exemptions to the Environmental Objectives

16.2.2 Marine Strategy Framework Directive

The Marine Strategy Framework Directive (MFSD) provides a framework for assessing and implementing the good environmental status of the EU's marine waters. The MSFD takes an ecosystem-based and integrated approach whereby environmental protection and sustainable use go together to avoid the depletion of the natural resources on which the economic and social activities related to the marine environment are based.

The MSFD establishes an environmental baseline concerning marine waters, and from there, measures must be adopted and gradually implemented to ensure that good environmental status is achieved within a specified number of years. The targets and measures adopted in Member States may influence the scope and nature of an EIA Report in that it should incorporate an assessment of the project's likely impacts on the targets adopted for the marine water body in question. Ireland's measures and monitoring programme have been in place since 2016.

16.2.3 Other relevant legislation

The following relevant legislation and guidance relating to water quality will be considered during the EIAR's preparation of the Water Quality chapter.

The main Irish primary legislation on water quality and pollution comprises:

- Local Government (Water Pollution) Acts 1977 to 2007
- Environmental Protection Agency Acts 1992 to 2011

- Waste Management Acts 1996 to 2011.

The following will also be considered:

- Marine Strategy Framework Directive 2008/56/EC establishing a framework for community action in the field of marine environmental policy
- Marine Natura Impact Statements in Irish Special Areas of Conservation
- Commission Final report on MSFD and licencing and permitting
- National Maritime Oil/HNS Spill Contingency Plan 2020
- Bathing Water Directive (2006/7/EC) puts rules in place to ensure the chemical and biological safety of public bathing waters
- Bathing Water Quality in Ireland: A report for the year 2020. EPA
- EPA Water Quality 2020 indicators report
- Coastal Process Modelling for Offshore Wind Farm Environmental Impact Assessment: Best Practice Guidance (ABPmer and HR Wallingford, 2009)
- Potential Effects of Offshore Wind Developments on Coastal Processes (ABPmer and Metoc Plc, 2002)
- Offshore Windfarms: Guidance note for Environmental Impact Assessment in Respect of FEPA and CPA requirements
- Environmental Protection Agency (EPA). 2008. Irelands Environment 2008, Chapter 9, Estuarine and Coastal Waters
- Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters' (Inland Fisheries Ireland, 2016)
- Technical Documents of Regional Drainage Policies. Wexford Council;
- Code of Practice for Drainage Works
- Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors" (CIRIA 532, 2001)

- Statutory Instrument (SI) No. 293 of 1988 European Communities (Quality of Salmonid Waters) Regulations 1988
- SI No. 258 of 1988 Water Quality Standards for Phosphorus Regulations 1998
- S.I. No. 386 of 2015 European Communities Surface Water Regulations (Amendment)
- SEA Directive [2001/42/EC] - Seeks to integrate environmental considerations into the preparation of plans and programmes as a means of ensuring a high level of protection for the environment whilst also promoting sustainable development.

A fundamental requirement of the WFD is to achieve 'good' ecological and chemical water quality status and ensure no deterioration in water status. New developments must ensure that these two fundamental requirements of the Directive are not compromised, nor are there any harmful impacts to nearby EU-designated Natura 200 sites.

16.3 Baseline Environment

The baseline conditions at the proposed development site will be carefully reviewed and analysed to identify all potential impacts related to the aquatic environment. Information related to water quality will be obtained through a desk study review of the sources of data of existing hydrology, catchment characteristics, local drainage and water quality status, and a walkover survey to inspect surface water and groundwater features (where visible, i.e. springs) in the vicinity of the proposed development.

An initial review of the geospatial hydrological data did not identify river channels in the reclamation area. The area is within the river base named Coastal, and the nearest stream (MILLTOWN ROSLARE_010) is 560 m upstream (Figure 16-2). The groundwater rock unit is Precambrian Quartzites, Gneisses & Schists. The Project is not within the area of influence of a Drinking Water scheme.

Figure 16-1 Proposed development area and the coastal river base (Source: Braga, 2022 using EPA, 2022).

Figure 16-2 River channels close to the proposed development area (Source: Braga, 2022 using EPA, 2022).

River Waterbody WFD Status 2013-2018 for these streams are 'moderate', and the Ground Waterbody WFD Status 2013-2018 is 'good'. The aquifer is classified as a poorly productive/ poor aquifer and low permeability subsoil, with High and Moderate groundwater vulnerability. The latest groundwater body status is "good", as shown in EPA Water Maps (accessed June 2022). Under the WFD, the project applicant must ensure the current water quality classification status is not deteriorated by the proposed development (EPA, 2022c).

Overall, 89% of coastal water quality around Ireland has a current status as 'excellent' or 'good'. There is little evidence of elevated nutrient levels or anthropogenic disturbance to nutrient ratios in Irish coastal or offshore waters (EPA 2008). However, the last Coastal Waterbody WFD Status 2013-2018 considered the site (Southwestern Irish Sea 11;12 under the Water Framework Directive) as a Moderate status (Figure 16-3).

The quality of the vicinity bathing beach waters close to the development falls into the 'excellent' status (Rosslare Strand and Carne Beach) and 'high-quality' status (St Helens Bay) for a different classification – Bathing Water EPA 2020.

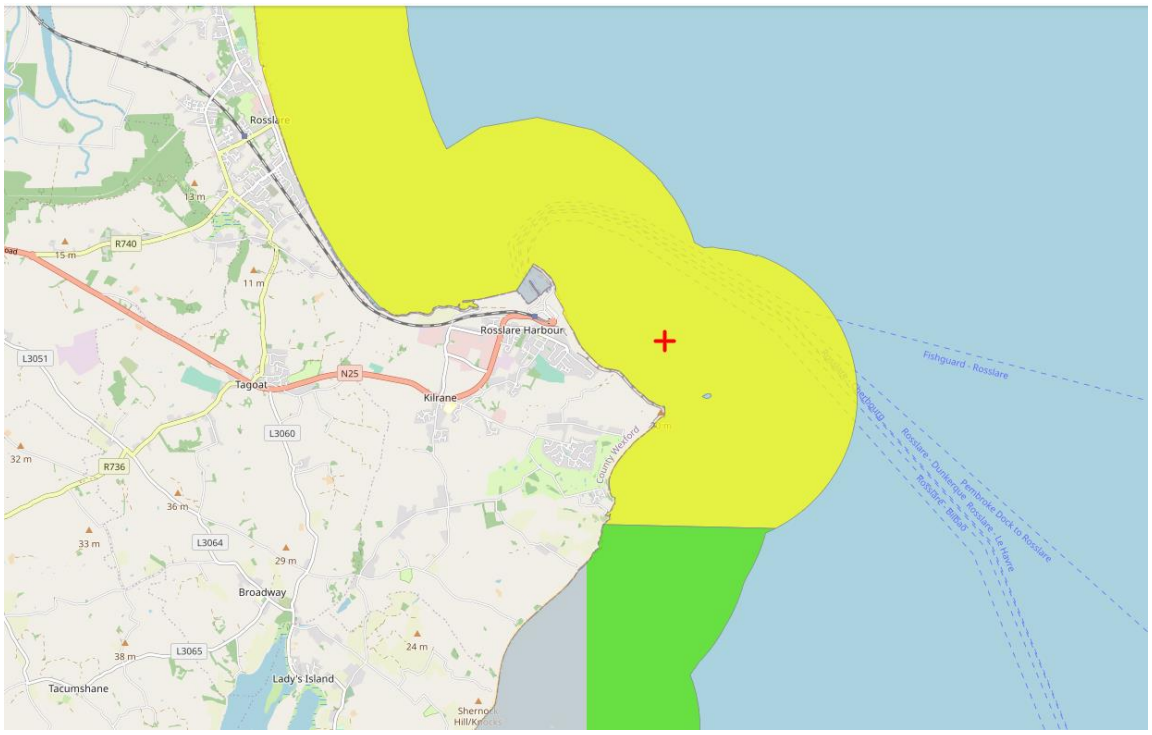


Figure 16-3 Southwestern Irish Sea quality of water. Green is a good status, and yellow is a moderate status. (Source: EPA, 2020).

16.4 Potential Impacts

The new development must ensure there is no deterioration in WFD ecological and chemical water quality status and no deterioration in water status. Considering the type of development, potential impacts expected to arise during the construction and operation of the development include:

- Potential deterioration in water quality as a result of the proposed activities (seabed preparation, installation of structures, etc.) primarily concerning changes in suspended sediment concentrations, water clarity and nutrients as a result of the proposed development
- Potential release of contaminated sediments resulting from disturbance of sediments during construction and operation and maintenance activities (such as cable maintenance or repair)
- Accidental releases and spills of construction materials or chemicals
- Groundwater impacts on the underlying aquifer in terms of groundwater volumes and quality

Appropriate evidence will be provided in the EIAR to assess these and other potential impacts.

16.5 EIA Report Assessment Methodology

The baseline characterisation will be a two-part assessment. The first is comprised of a literature review, a search of available site-specific and regional data, and previous site-specific studies of relevance. The literature review will be undertaken to understand the processes controlling the

receptors, pathways and features within the study area. A broader context will also be provided by describing the regional baseline. A relevant data request may be submitted to the EPA and the appropriate Local Authority if the available data is not enough.

Below are some examples of available background information, and the following sources of information and references will be consulted, but not restricted to:

- Latest EPA Maps & Envision water quality monitoring data for watercourses in the area (this data can be accessed at
- National River Basin Management Plan 2018-2021
- GSI groundwater information
- EPA water quality results and WFD surface water status
- River Basin Management Plan (RBMP)
- Any ground investigation (GI) works conducted at Rosslare Europort area - strata encountered, groundwater levels, and groundwater quality
- Integrated Mapping for the sustainable development of Ireland's Marine Resource (INFOMAR) surveys

Considering the development is facilities for an Offshore Wind Hub at Rosslare Europort, the installations will be in the coastal and shallow sea region. These baseline investigations will bring information on the onshore and marine aquatic environment. A detailed description of the water features present in the vicinity of the proposed reclamation area will be provided. The sensitivity of the water features will be determined in terms of international, national or local significance.

The second step will be to complement this collected information with collected primary data and surveys to be carried out for this specific proposed development and additional localised monitoring programmes. A monitoring programme is required to model the impact of the development on water quality. The monitoring programme should be aligned with the EPA requirements as set out below:

- Physico-chemical monitoring of the waters deemed at risk of being impacted by the development, be they surface waters, underground waters in the aquifers immediately below the development and coastal waters in the same terms analysed by the WDF.
- Physico-chemical monitoring on surface sediment samples to be assessed alongside WFD and Local Authority monitoring;
- Marine boreholes, that will fully meet the requirements of seabed sampling and testing at the various depths required as per Marine Licensing.

Water quality must be assessed with flood risk to ensure the capacity of the existing drainage, foul and storm network is considered in conjunction with the additional loadings posed by the new development.

The results of biodiversity surveys carried out will be used to inform the assessment of the potential impact to be caused by the development on water quality and ecological status.

16.6 Preliminary Mitigation Measures

The proposed development will be constructed following accepted best practice. A Construction Environmental Management Plan (CEMP) will be developed before construction works to help prevent, manage and/or minimise significant environmental impacts during the construction phase. The CEMP should comprehensively incorporate all environmental commitments and provide a method of compliance for meeting the objectives set.

Where the impact assessment identifies potential impacts on water quality that can be reduced or eliminated through mitigation, appropriate mitigation measures will be suggested. This may include consideration of changes in design or methodologies.

Mitigation and control measures will be implemented to address potential construction impacts such as high suspended solids, concrete, oils, and chemicals. Contingency plans will also be developed for any accidental spills from working with fuels and chemicals.

Monitoring programmes may also be proposed; to confirm compliance with any environmental requirements and minimise the impact of future works.

Following the incorporation of any mitigation measures, the potential impacts will be re-examined, and a description of the impact and significance of the residual impacts, with mitigation in place, will be provided.

16.7 Summary of Water Quality Scoping Exercise

The scoping exercise concludes that there is potential for deterioration in water quality during the installation of the Offshore Wind Hub structures at Rosslare Europort in Rosslare Harbour and therefore impacts on water quality should be scoped into the EIAR. Sediment disturbance is likely to arise during installation and operation, and there is the potential for spills of construction materials or chemicals to occur. These impacts are likely to occur in coastal waters but may also have consequences for groundwater adjacent to the development.

In summary, the scope of the water quality chapter in the EIA should consider the two steps of analysis of the baseline environment:

- Archive research of the data available from specific bodies, as well as previous studies in the same area or adjacent areas.

- Acquisition of new data and monitoring appropriate to the undertaking under analysis, in sync with the Water Framework Directive.

The mitigation measures should consider, as a minimum, best practice, the development of an outline CEMP, and contingency planning for any accidental spillages which may arise from working with fuels and chemicals. Where necessary, specific water quality monitoring programmes should also be provided.

17 Waste Management

17.1 Introduction

This section considers the potential impacts of the proposed development on waste management.

17.2 Policy and Guidance

European Union (EU) legislation, the EU Circular Economy Action Plan, the European Green Deal and UN Sustainable Development Goals are the primary policy drivers concerning waste management policy in Ireland. They guide how waste materials should be managed, transported and treated.

The most comprehensive EU Legislation is the Waste Framework Directive (2008/98/EC) (WasteFD), which has been transposed into national legislation in Ireland. It sets the basic concepts and definitions related to waste management, such as definitions of waste, recycling, and recovery. The Directive explains when waste ceases to be waste and becomes a secondary raw material (so-called end-of-waste criteria) and how to distinguish between waste and by-products. The Directive requires that:

- Waste is managed without endangering human health
- Waste is managed without harming the environment.
- Waste is managed without harming water, air, soil, plants or animals.
- Waste does not cause a nuisance through the noise, odours, or to the countryside or places of special interest.

The WasteFD establishes a legal framework for managing and treating most types of waste. The Directive sets a waste hierarchy from its prevention to its disposal.

Waste management under the Directive must be implemented without endangering human health and without harming the environment (e.g. without risk to water, air, and biodiversity and without causing a nuisance).It also sets out rules for extended producer liability, effectively increasing the burden on manufacturers to manage products returned after use.

WasteFD requires adopting and implementing Waste Management Plans and Waste Prevention Programs at the national and local levels. These plans and programs should analyse the current situation concerning the waste treatment and identify the necessary measures to carry out waste management in the context of WasteFD objectives. This includes existing and planned waste management facilities, likely to constitute projects subject to the EIA Directive. The EIA Directive may also have relevance for any project concerning waste produced not only during the construction and operation of the project but also, in particular, concerning the decommissioning and/or rehabilitation of the site. As waste facilities must be provided for in Waste Management Plans, they are also subject to the requirements of the SEA Directive.

During the definition of the scope, the competent authorities may suggest the analysis of specific alternatives depending on the waste produced, mitigation measures in this regard, and the expanded responsibility of the entrepreneur (producer of the waste).

The critical piece of Irish waste legislation is:

- Waste Management Act 1996 (as amended) - Sub-ordinate and associated legislation includes:
    - European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011) as amended.
    - Waste Management (Collection Permit) Regulations 2007 (S.I. No. 820 of 2007) as amended.
    - Waste Management (Facility Permit and Registration) Regulations 2007 (S.I No. 821 of 2007) as amended.
    - Waste Management (Licensing) Regulations 2000 (S.I No. 185 of 2000) as
    - amended.
    - European Union (Packaging) Regulations 2014 (S.I. No. 282 of 2014) as amended.
    - Waste Management (Planning) Regulations 1997 (S.I. No. 137 of 1997) as amended.
    - Waste Management (Landfill Levy) Regulations 2015 (S.I. No. 189 of 2015)
    - European Union (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149 of 2014)
    - European Union (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2014) as amended.
    - Waste Management (Food Waste) Regulations 2009 (S.I. No. 508 of 2009) as amended.
    - European Union (Household Food Waste and Bio-waste) Regulations 2015 (S.I. No. 430 of 2015)
    - Waste Management (Hazardous Waste) Regulations 1998 (S.I. No. 163 of 1998) as amended.
    - Waste Management (Shipments of Waste) Regulations 2007 (S.I. No. 419 of 2007) as amended.
    - European Communities (Transfrontier Shipment of Waste) Regulations 1994 (SI 121 of 1994)
    - European Communities (Shipments of Hazardous Waste exclusively within Ireland) Regulations 2011 (S.I. No. 324 of 2011)
    - European Union (Properties of Waste which Render it Hazardous) Regulations 2015 (S.I. No. 233 of 2015)

The Irish government also regularly issues policy documents that outline measures to improve waste management practices in Ireland to help the country achieve EU targets regarding recycling and waste disposal. For example:

- A Resource Opportunity – Waste Management Policy in Ireland (2012) – emphasises improved waste management's environmental and economic benefits, particularly waste prevention.

17.2.1 Construction Waste

- Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects, published by the Department of Environment, Heritage and Local Government (DoEHLG) in 2006.
- Construction and Demolition Waste Management: A handbook for Contractors and Site Managers guidance issued by FÁS and the Construction Industry Federation (CIF)

17.2.2 Operational Waste

Construction and Demolition Waste Management Guidance is drawn from industry guidelines, UK standards and other relevant studies and reports, including:

- BS 5906:2005 Waste Management in Buildings – Code of Practice,
- East-Mid East Region Waste Management Plan 2015 – 2021,
- EPA National Waste Database Reports 1998 – 2012
- EPA National Waste Statistics Web Resource.

The assessment of effects for waste management will consider the waste and policies and guidance documents set out above. The following guidance documents will also be considered:

- EPA National Hazardous Waste Management Plan 2014 – 2020 - This plan sets priorities to be pursued to improve hazardous waste management. This plan sets out the priority actions that should be undertaken: the prevention of hazardous waste; improved collection rates for certain categories of hazardous waste; steps that are required to enhance Ireland's self-sufficiency in hazardous waste management, and the continued identification and regulation of legacy issues (e.g. identification, risk assessment and regularisation of historic unregulated waste disposal sites).

- Southern Region Waste Management Plan 2015 – 2021 - Provides a framework for the prevention and management of waste sustainably in 10 local authority areas, including Wexford.

- SEA Directive (2001/42/EC) - Seeks to integrate environmental considerations into the preparation of plans and programmes to ensure a high level of environmental protection whilst also promoting sustainable development.

- Environmental Protection Agency (Industrial Emissions) (Licensing) Regulations 2013 S.I. 137 of 2013

- National Climate Change Strategy 2007-2012 (DEHLG, 2007) has as its objective: waste management (principles and actions for the reduction of CO2 emissions in Ireland)

17.2.3 National Waste Management Plan for a Circular Economy.

Waste Management Planning establishes the activities and actions necessary to manage waste generated in an environmentally responsible way and achieve agreed targets for re-use, prevention, recycling, and treatment.

The preparation of a waste management plan is an obligation for the EU Member States, as required by Article 28 of the Waste Framework Directive, and the Member States can request regional or local authorities to prepare regional or local plans.

Ireland has three waste management planning regions: Connacht-Ulster, Eastern-Midlands and Southern. Rosslare (Wexford) is under the management of the Southern.

The Regional Waste Management Offices prepare cyclical statutory Regional Waste Management Plans, which set objectives and targets for preventing and managing waste within each region per national policy. Waste Management Plans must be assessed every six years and revised as appropriate. Relevant stakeholders, authorities and the general public should have the opportunity to participate in this process.

The EPA, the National TransFrontier Shipments Office (NTFSO), the National Waste Collection Permit Office (NWCPO), and local authorities regulate Ireland's largely prioritised waste industry.

Ireland must meet several EU targets to recycle and recover various wastes, including construction and demolition waste, packaging waste, and waste electrical equipment.

17.2.4 Integrated Pollution Control - IPC Licence

IPC licensing applies to certain activities specified in the First Schedule to the Environmental Protection Agency Act 1992, as amended.

IPC licences aim to prevent or reduce air, water, and land emissions, reduce waste, and use energy/resources efficiently. An IPC permit is a single integrated permit covering all facility emissions and environmental management.

17.2.5 Waste Licence

Requires EPA to issue a Waste Licence for specific waste activities listed in the 3rd and 4th Schedule to the Waste Management Act 1996, as amended. This single integrated permit addresses emissions to all the facility's environmental media and environmental management.

17.3 Baseline Environment

Regarding waste management, the receiving environment is broadly defined by the Wexford County Council (WCC) as the local authority responsible for establishing and administering waste management activities in the area. This is governed by the requirements in the Southern Waste Management Plan 2015 - 2021. The waste management plan sets out the following targets for waste management in the region:

- Achieve a recycling rate of 50% of managed urban waste by 2020, and
- Reduce to 0% the direct disposal of unprocessed municipal waste in landfills (from 2016)

  in favour of higher-value pre-treatment processes and indigenous recovery practices

The targets cover the areas of prevention, recycling and landfill, and their delivery will require local authorities and industry to work together. The plan has also looked forward to 2030, demonstrating a long-term commitment to the strategic vision, with other targets set, including a recycling rate of over 60%.

Several statutory changes governing the types of waste that can be disposed of at sea have been implemented in recent years. Since 1994, the dumping of most types of industrial waste has been banned, and the disposal of sewage sludge was phased out at the end of 1998 under the Urban Waste Water Treatment Directive (91/271/EEC).

Dredged material from the excavation of harbours and shipping channels and coastal engineering works now constitutes the majority of the material that remains eligible for disposal at sea, with most permits being granted by DCENR for the disposal of dredged waste from harbours and ports (Cronin et al. 2006).

Rosslare Europort, immediately adjacent to the area of the proposed development, has permission to load dredged material from maintenance dredging (Dumping at Sea Permit Ref. No. S0016-01) and the dumping of dredged material into the Irish Sea within 6.5km of the shore of Rosslare Harbour. Under this permission, a maximum of 210,000 tonnes of the material may be loaded and dumped per campaign.

17.4 Potential Impacts

This section details the potential waste impacts associated with the proposed development.

17.4.1 Construction phase

Site preparation includes the generation of construction waste by dredging gravelly silt or gravelly sand, sandy gravel, cobbles and possibly gneiss from the excavation of foundation piles and other works necessary to facilitate foundation construction, adequacy of access roads and installation of services. The excavated material may be able to be re-used, but this will require a specific study.

During the construction phase, waste produced could be surplus steel and metallic materials and cuttings from wood, plasterboard, concrete, tiles, bricks, etc. Packaging waste (cardboard, plastic, wood) and an oversupply of materials are also likely to be generated.

Waste may also be generated by construction workers, e.g. organic/food waste, dry mixed recyclables (wastepaper, newspaper, plastic bottles, packaging, aluminium cans, Tetra Pak cans and cartons), mixed non-recyclable waste and sewage sludge potentially from temporary welfare facilities provided on-site during the construction phase.

Waste printer/toner cartridges, waste electrical and electronic equipment (WEEE) and used batteries may also be generated infrequently from site offices.

Further details of the waste materials likely to be generated during excavation and construction works are presented in the project-specific C&D WMP that is to be prepared.

It should be noted that until the final materials and detailed construction methodologies have been confirmed, it is difficult to predict with a high level of accuracy the construction waste that will be generated from the construction of the proposed development, as the exact materials and quantities may be subject to some degree of change and variation during the construction process.

The appointed contractor(s) should prepare a detailed Construction Environmental Management Plan (CEMP) before the commencement of construction, which may refine the above waste estimates.

The recovery and recycling of construction waste positively impacts sustainable resource consumption, such as when wood waste is transformed into a landscaping product, or concrete waste is recycled into new floors. Using recycled materials, where appropriate, reduces the consumption of natural resources.

A carefully planned approach to waste management and adherence to the C&D WMP during the construction and demolition phase (see 17.7 Preliminary Mitigation Measures) will ensure that the environmental impact will be short-term, neutral imperceptible.

17.4.2 Operational phase

The nature of the development means that the generation of waste materials during the operational phase is an unavoidable impact.

During the operational phase, a structured approach to waste management will promote resource efficiency and waste minimisation (see 17.67 Preliminary Mitigation Measures). As long as mitigation measures are implemented and a high rate of re-use, recycling and recovery is achieved, the anticipated impact of the operational phase on the environment will be long-term, neutral and imperceptible.

17.5 EIA Report Assessment Methodology

The assessment of the impacts of the proposed development arising from the generation of waste materials must be carried out considering the methodology specified in relevant guidance documents

(as listed in Chapter 17.2). It must consider the processes in detail that will take place in the construction and operation phases. An extensive review of documents should also be undertaken to help identify current and future requirements for waste management, including national and regional waste policies, waste strategies, management plans, legislative requirements and relevant reports (also cited in Chapter 17.2).

A desk study will be undertaken that will include:

- A detailed review of existing conditions on a regional, local and site-specific terrain, in sync with the Coastal Process, Soils, Geology and Hydrogeology chapters.
- Review of policy and applicable legislation that creates the legal framework for resource and waste management in Ireland;
- Description of typical waste materials that will be generated during the construction and operation phases
- Identification of mitigation measures to avoid waste generation and promote waste management according to the waste hierarchy.
- Calculation of waste generation estimates during the construction and operation phases of the proposed development. Waste types and estimated amounts are based on data published by the EPA in the National Waste Reports, recorded data from previous similar developments, Irish EPA waste generation surveys, and other relevant available research sources.

Mitigation measures should be proposed to minimise the effect of the proposed development on the environment during the construction and operational phases, promote efficient waste segregation and reduce the amount of waste that requires disposal - more details will be presented in Chapter 17.6 Preliminary Mitigation Measures.

17.6 Preliminary Mitigation Measures

This section describes the measures that may be foreseen in the EIA to be used to reduce the amount of waste produced, manage the waste generated responsibly, and treat waste to minimise the effects on the environment.

17.6.1 Construction phase

A carefully planned approach should be developed with a Construction Demolition Waste Management Plan specific to the project site, in line with the requirements of the Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects guidance document issued by the Department of Environment Heritage and Local Government (DEHLG). Adherence to the strategy will ensure effective waste management and minimisation, re-use, recycling, recovery and disposal of waste generated during the demolition and construction phases of the proposed development. Typical demolition materials and construction waste will be generated during the construction phase. Before demolition and construction, the contractor(s) shall refine/update this document to detail specific measures to minimise waste generation and resource consumption and provide Wexford County Council with further information on proposed waste

contractors and destinations of each waste stream. This will ensure that the effect on the environment during the construction phase is short-term, neutral and discrete.

17.6.2 Operation Phase

The nature of the development means that the waste generated during the operational phase is an unavoidable impact. The possible mitigation measures to manage the effects of the waste generated during the operation will be proposed in the EIA.

The aim is to achieve a high rate of re-use, recycling and recovery of waste so that the predicted impact of the operational phase on the environment is long-term, neutral and imperceptible.

17.7 Summary of Waste Management Scoping Exercise

The scoping exercise concludes that there are potential impacts generated from the waste materials generation during the proposed development and therefore impacts from Waste should be scoped into the EIA.

Mitigation measures will be proposed to minimise the effect of the proposed development on the environment during the construction and operational phases, promote efficient waste segregation and reduce the amount of waste that requires disposal.

18 Transportation

18.1 Introduction

This section considers the potential impact of the proposed development on transportation. Information on the existing environmental baseline for transportation is presented along with an overview of the likely effects of the proposed development on transportation, both during construction and during the operation of the proposed facility.

18.2 Policy and Guidance

The assessment of effects for transportation will consider the EIA policies and guidance documents set out above (Chapter 3). Specific to this topic, the following guidance document will also be considered:

- Guidance for the assessment of the impacts on road traffic is set out in 'Environmental Impact Assessment of National Road Schemes – A Practical Guide", Rev 1 2008, published by the National Roads Authority (now Transport Infrastructure Ireland – TII).

18.3 Baseline Environment

Rosslare Europort is Ireland's second largest port for unitised freight and passenger numbers. The N25 national road is the primary route serving Rosslare Europort to the surrounding villages and communities including Rosslare Village. The N25 forms the route from Cork to Rosslare via Waterford City. The N11 and M11 connect Rosslare with Dublin as shown in Figure 18-1 below.

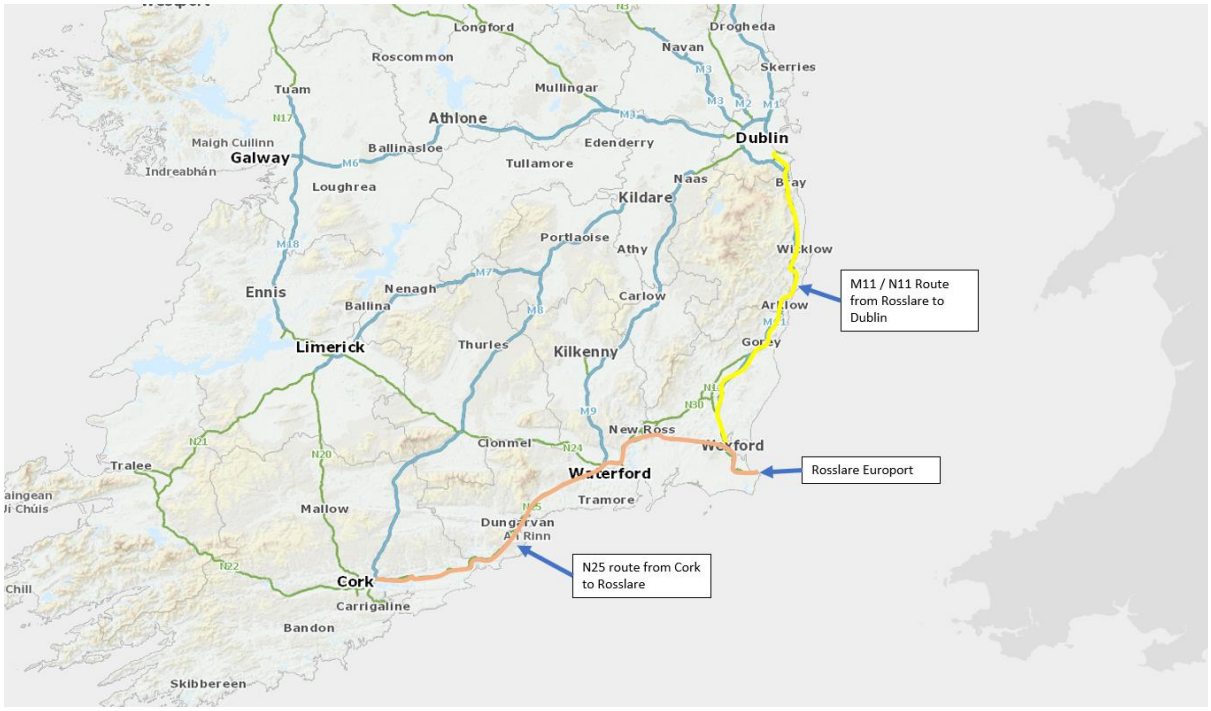


Figure 18-1: Map showing site location and links to Cork and Dublin (Source: OS Mapping, 2022)

Three individual projects are planned for the road network surrounding the port. These are:

- N11 / N25 Oilgate to Rosslare – 31 km of national road network connecting Rosslare Europort to Dublin via the M11 and to Waterford and Cork via the N25. This proposed route creates a new corridor which bypasses a number of villages but also utilises some of the existing road corridor, which will be upgraded. Further details on this scheme are provided in the sections below.

- N25 Rosslare Europort Access Road – this scheme will provide improved access to Rosslare Europort from the N25. This scheme was recently allocated funding under the Connecting Europe Facility programme

- N25 Ballygillane Roundabout. This scheme is due to be the starting point for the Rosslare Europort Access Road, site clearance has commenced, and it is due for construction in 2022. It involves providing a new roundabout at the existing junction between the N25 and the existing L7021 (Ballygerry Link Road).

Each of these schemes will be completed on varying timelines that are uncertain. Therefore, when carrying out an environmental impact assessment on the proposed development, several different scenarios will need to be considered. The impact of the proposed development on both the existing road network as well as the proposed road network following the improvements outlined above will need to be assessed.

The N11 / N25 Oilgate to Rosslare scheme as outlined above will enhance connectivity between the port and neighbouring urban centres of Waterford, Cork and Dublin. The timeline for delivery of this scheme aims to move to the construction phase in the period of 2026 to 2030. The TII grant allocations to local authorities for national roads, active travel and greenway stated released in November 2021 allocated €1.5 million for this project in 2022 and stated that going forward TII intend to 'allocate sufficient funding to continue planning and design of the N11/N25 Oilgate to Rosslare project with a view to achieving approval of its business case and making the application for its planning consent and land acquisition orders in the period 2021-2025. Commencement of main works construction, subject to approvals, is expected to commence in the 2026-2030 period of the NDP.' The delivery of this scheme will add significant capacity to the surrounding road network.

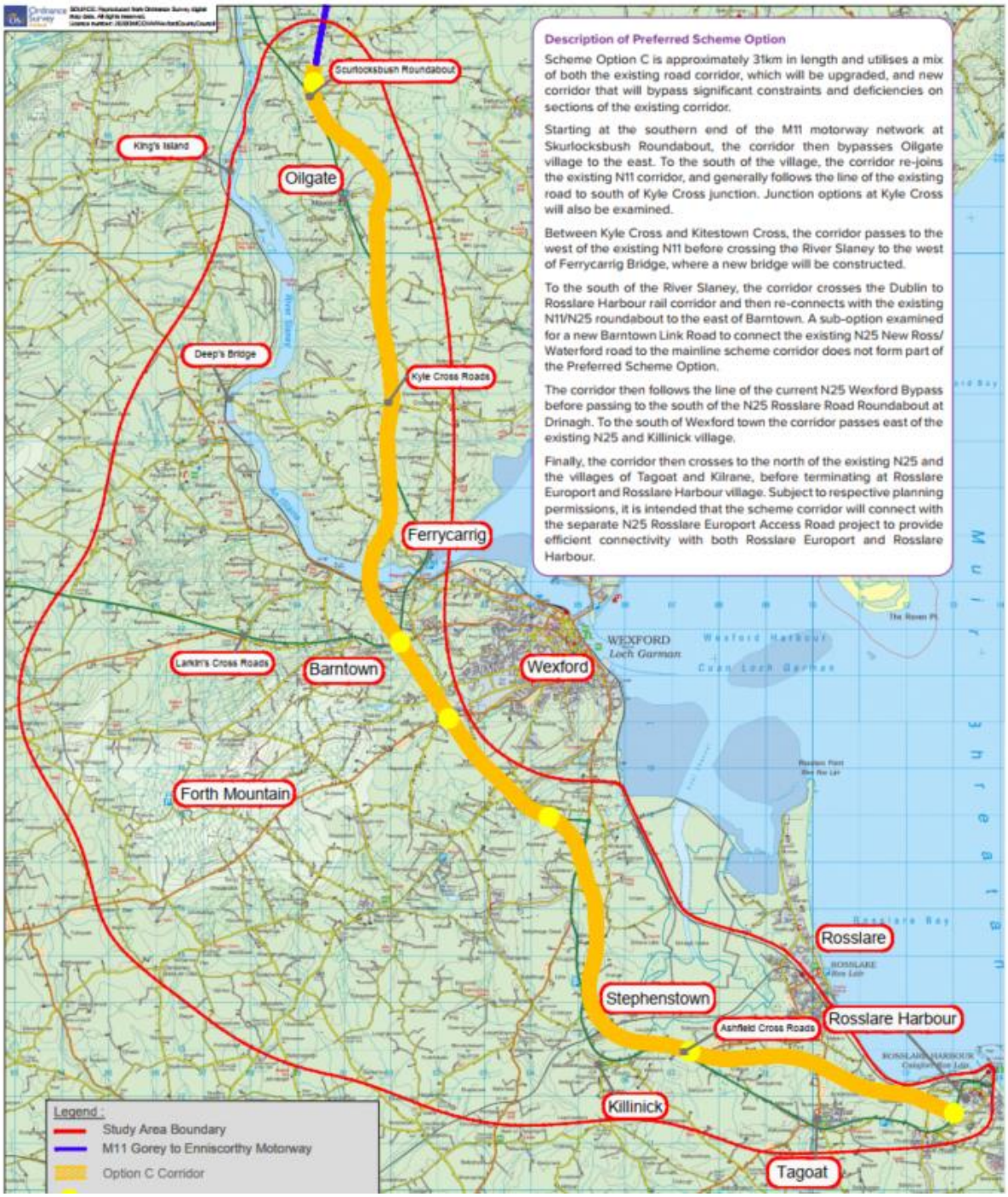


Figure 18-2: Preferred option for N11 / N25 Oilgate to Rosslare scheme (Source: Mott MacDonald Ireland Ltd., 2022a).

The N25 Rosslare Eurosport Access Road is also due to be delivered in the coming years and will tie-in with the aforementioned N11 / N25 scheme. This will provide a key multi-modal link to the harbour with adequate width for HGVs along with high quality walking and cycling facilities. The scheme will be fully integrated with the port masterplan and will provide more efficient connectivity for people and goods passing through the port.

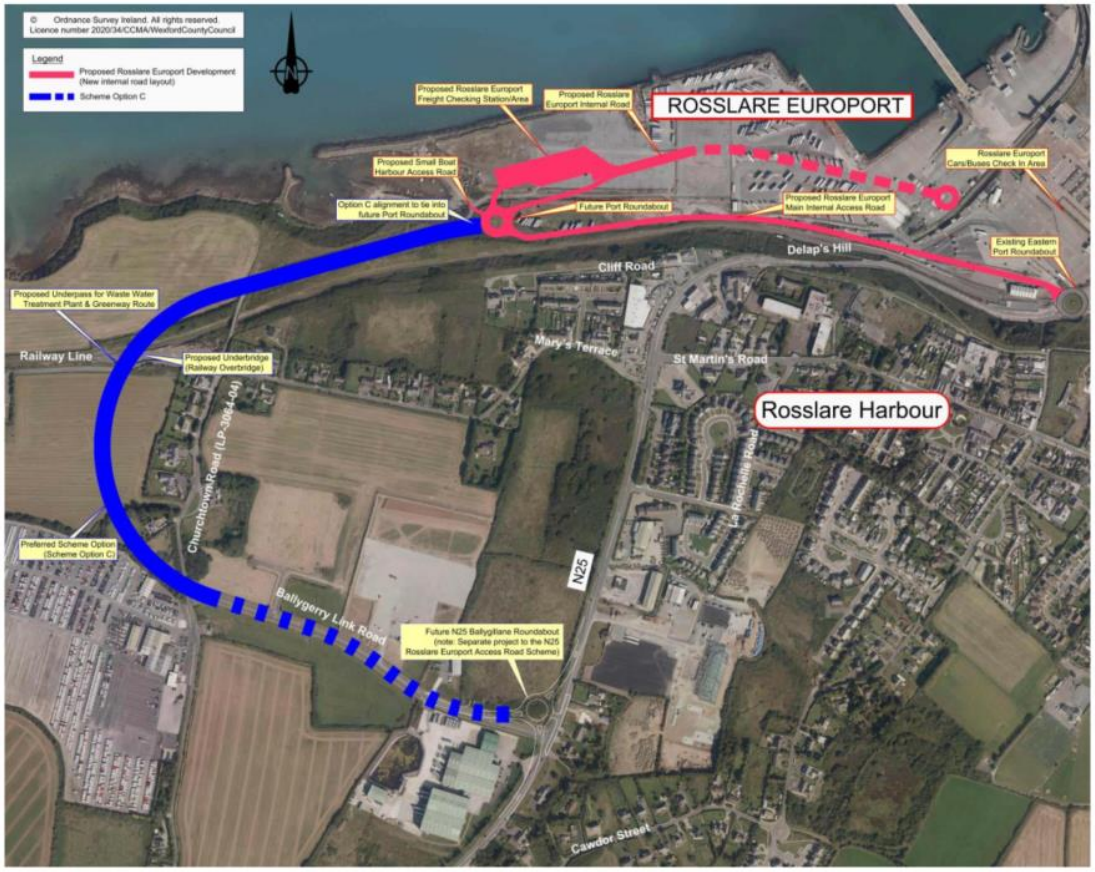


Figure 18-3: Proposed option for N25 Rosslare Europort Access Road Scheme (Source: Mott MacDonald Ireland Ltd., 2022b)

Traffic data is available for the N25 on the TII traffic data website (Traffic Counts for Transport Infrastructure Ireland (tii.ie)). The relevant node is station ID TMU N25 190.0 located at Kilrane approximately 1 km to the south of Rosslare harbour. Detailed statistics are available from 2013-2022 at 5-minute intervals for all classes of traffic.

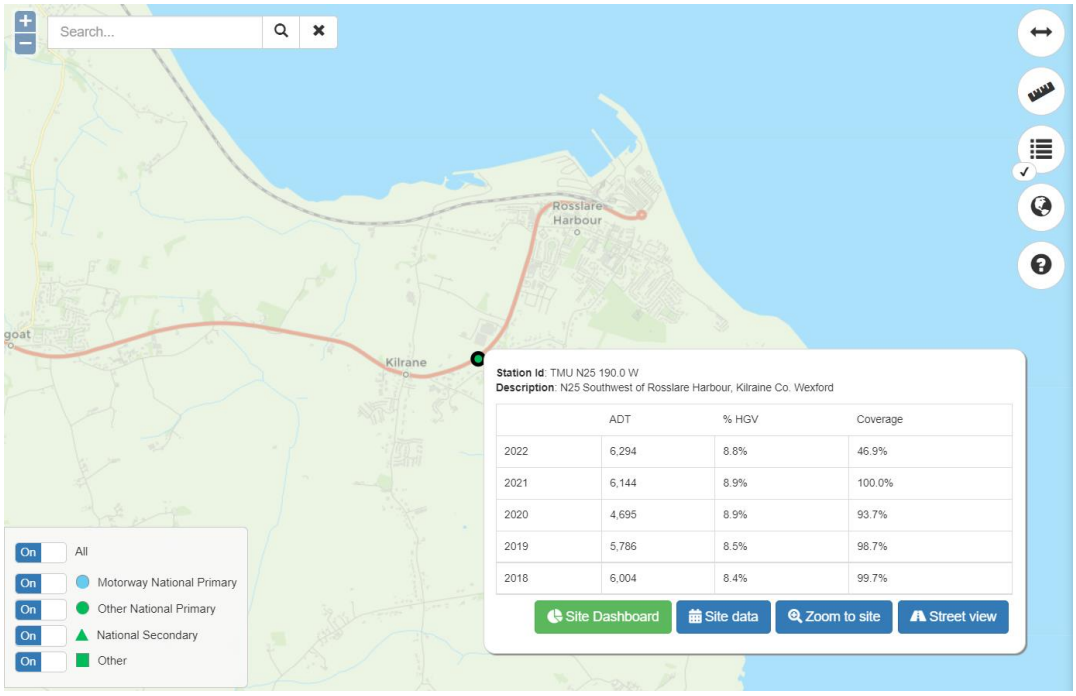


Figure 18-4 TII traffic count data at Station no. TMU N25 190.0 W (Source: TII, 2022).

18.4 Potential Impacts

The following are the key potential impacts of the proposed development with regards to transportation during construction and operation of the facility:

- Potential negative impacts on the surrounding road network which results in delays and disruption to traffic flows, taking into consideration the effects of constructing the N11 /N25 Oylegate to Rosslare Road and the N25 Rosslare Europort Access Road
- Increased levels of traffic at the existing harbour and potential impacts on traffic to and from the ferry terminal at peak times
- Damage to the condition / structure of the existing road surfacing due to the passage of HGVs and increased abnormal loads on the road network
- Environmental effects from associated noise, vibration and air pollution impacts
- Disruptions to pedestrians and cyclists in the area in terms of delays and amenity impacts
- Impacts on road safety in the area and increased potential for accidents
- Effects upon the operation and use of public transport
- Potential negative impacts on the safe operation of the existing harbour.

18.5 EIA Report Assessment Methodology

The methodology for the traffic impact assessment will include a review of the existing traffic patterns in the area. Given the nature of the proposed development, it is likely that the construction phase of

the proposed development will generate significant numbers of HGV and other vehicle movements which will require assessment.

The assessment will include a detailed description of the proposed land use and the nature and scale of the proposed redevelopment. This will include access arrangements for pedestrians, cyclists and vehicles along with the locations of public transport services.

The assessment will present an estimation of the traffic volumes generated by construction traffic during construction and separately during operation of the offshore wind facility. The traffic generated by the construction workforce as well as the transport of materials, equipment and plant machinery will be predicted. Any potential disruptions to the road network and flows of traffic during the construction and operations will also be assessed. The traffic distribution pattern on the local road network during construction will be examined and the impacts determined. Finally, recommendations will be made to mitigate any potential impacts from the development on the surrounding road network.

The trip generation for the proposed development will be presented along with potential origins and destinations for these trips. This information will be used to analyse how location, layout and design will influence the choice of mode. A review of the parking strategy will also be presented.

The proposals will be compared against the baseline transport conditions to establish the potential impacts on the area of influence.

18.6 Preliminary Mitigation Measures

Existing traffic survey information for the surrounding road network will be accessed and analysed. Detailed assessments will be undertaken for links where traffic flows are expected to increase by more than 30% as a result of the proposed development. Traffic surveys will be undertaken for these links in order to further understand the baseline conditions.

Data relating to public transport networks in the surrounding network will be obtained to minimise disruption to same during the construction phase of the facility.

Road safety data for the surrounding road network will be obtained from the Road Safety Authority (RSA). This data will allow assessors to gain an understanding of the road safety concerns in the area and the potential implications on road safety that the proposed development may have.

As with all construction works taking place in the marine environment, standard measures will be put in place to reduce the navigation risk, including clearly marking all construction work, appropriate lighting for construction plant and issuing notices to mariners using the harbour.

18.7 Summary of Transport Scoping Exercise

This scoping exercise on transportation has concluded that the greatest impact on the surrounding road network will be during the construction phase. Additional construction traffic including HGVs will be using the network in order to access the port.

The environmental effects of an increase in vehicle traffic, access, turning and parking provision and links and facilities for pedestrians and cyclists at operational stage should be scoped into the EIAR.

The timelines of the proposed improvements to the surrounding road network will dictate the mitigation measures that will be necessary to accommodate the construction and operation of the proposed facility. Access to the port is currently being upgraded as outlined above. When each of these schemes is complete, the road network will have additional capacity and it is envisaged that it will be able to accommodate HGVs and large loads accessing the port.

Once the facility is in operation, there will be increased traffic, due to the daily movements of operations and maintenance workforce at the facility. There will be times of increased traffic during the construction of offshore windfarms.

19 Air Quality and Climate

19.1 Introduction

This section considers the potential air quality and climate impacts as a result of the proposed development.

19.2 Policy and Guidance

19.2.1 Air Quality

In order to reduce the risk to health from poor air quality, national and European statutory bodies have set limit values in ambient air for a range of air pollutants. These limit values or "Air Quality Standards" are health- or environmental-based levels for which additional factors may be considered. For example, natural background levels, environmental conditions and socio-economic factors may all play a part in the limit value which is set.

Air quality significance criteria are assessed on the basis of compliance with the appropriate standards or limit values. EU Directive 2008/50/EC has set limit values for a number of pollutants. This EU Directive has been incorporated into Irish legislation under the Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011) thus establishing the EU limit values as applicable to Ireland. The limit values in relation to Nitrogen Dioxide (NO_2) and Particulate Matter (PM_{10} and $PM_{2.5}$) are applicable to the proposed development (see Table 19-1).

With regards to larger dust particles that can give rise to nuisance dust, there are no statutory guidelines regarding the maximum dust deposition levels that may be generated during the construction phase of a development in Ireland. Furthermore, no specific criteria have been stipulated for nuisance dust in respect of this type of development.

With regard to dust deposition, the German TA-Luft standard for dust deposition (non-hazardous dust) (German VDI, 2002) sets a maximum permissible emission level for dust deposition of 350 mg/(m^2*day) averaged over a one-year period at any receptors outside the site boundary. Recommendations from the Department of the Environment, Heritage & Local Government (DEHLG, 2004) apply the TA Luft limit of 350 mg/(m^2*day) to the site boundary of quarries. This limit value can also be implemented with regard to dust impacts from construction of the proposed development as is considered best practice in the absence of specific Irish limits in relation to construction dust deposition from building sites.

Table 19-1 Ambient Air Quality Standards Regulations

Pollutant	Regulation	Limit Type	Value
Nitrogen Dioxide (NO_2)	2008/50/EC	Hourly limit for protection of human health - not to be exceeded more than 18 times/year	200 µg/m^3

Pollutant	Regulation	Limit Type	Value
		Annual limit for protection of human health	40 µg/m^3
Nitrogen Oxide (NO_X)	2008/50/EC	Critical level for protection of vegetation	30 µg/m^3 NO + NO_2
Particulate Matter (as PM_{10})	2008/50/EC	24-hour limit for protection of human health - not to be exceeded more than 35 times/year	50 µg/m^3
		Annual limit for protection of human health	40 µg/m^3
Particulate Matter (as $PM_{2.5}$)	2008/50/EC	Annual limit for protection of human health	25 µg/m^3

19.2.2 Climate

Ireland is party to both the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol. The Paris Agreement, which entered into force in 2016, is an important milestone in terms of international climate change agreements and includes an aim of limiting global temperature increases to no more than 2°C above pre-industrial levels with efforts to limit this rise to 1.5°C. The aim is to limit global GHG emissions to 40 gigatonnes as soon as possible whilst acknowledging that peaking of GHG emissions will take longer for developing countries. Contributions to GHG emissions will be based on Intended Nationally Determined Contributions (INDCs) which will form the foundation for climate action post 2020. Significant progress was also made in the Paris Agreement on elevating adaption onto the same level as action to cut and curb emissions.

In order to meet the commitments under the Paris Agreement, the EU enacted Regulation (EU) 2018/842 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No. 525/2013 (the Regulation). The Regulation aims to deliver, collectively by the EU in the most cost-effective manner possible, reductions in GHG emissions from the Emission Trading Scheme (ETS) and non-ETS sectors amounting to 43% and 30%, respectively, by 2030 compared to 2005. Ireland's obligation under the Regulation is a 30% reduction in non-ETS greenhouse gas emissions by 2030 relative to its 2005 levels.

In 2015, the Climate Action and Low Carbon Development Act 2015 (No. 46 of 2015) (Government of Ireland, 2015) was enacted (the Act). The purpose of the Act was to enable Ireland 'to pursue, and achieve, the transition to a low carbon, climate resilient and environmentally sustainable economy by the end of the year 2050' (3.(1) of No. 46 of 2015). This is referred to in the Act as the 'national transition objective'. The Act made provision for, inter alia, a national adaptation framework. In addition, the Act provided for the establishment of the Climate Change Advisory Council with the function to advise and make recommendations on the preparation of the national mitigation and adaptation plans and compliance with existing climate obligations.

The first Climate Action Plan (CAP) was published by the Irish Government in June 2019 (Government of Ireland, 2019a). The Climate Action Plan 2019 outlined the current status across key sectors including Electricity, Transport, Built Environment, Industry and Agriculture and outlined the various broadscale measures required for each sector to achieve ambitious decarbonisation targets. The 2019 CAP also detailed the required governance arrangements for implementation including carbon-proofing of policies, establishment of carbon budgets, a strengthened Climate Change Advisory Council and greater accountability to the Oireachtas.

The Government published the second Climate Action Plan in November 2021 (Government of Ireland, 2021a). The plan contains similar elements as the 2019 CAP and aims to set out how Ireland can reduce our greenhouse gas emissions by 51% by 2030 (compared to 2018 levels) which is in line with the EU ambitions, and a longer-term goal of to achieving net-zero emissions no later than 2050. The 2021 CAP outlines, that emissions from the Built Environment sector must be reduced to 4 – 5 Mt CO_2e by 2030 in order to meet our climate targets. This will require further measures in addition to those committed to in the 2019 CAP. This will include phasing out the use of fossil fuels for the space and water heating of buildings, improving the fabric and energy of our buildings, and promoting the use of lower carbon alternatives in construction.

Following on from Ireland declaring a climate and biodiversity emergency in May 2019 and the European Parliament approving a resolution declaring a climate and environment emergency in Europe in November 2019, the Government approved the publication of the General Scheme for the Climate Action (Amendment) Bill 2019 in December 2019 (Government of Ireland, 2019b) followed by the publication of the Climate Action and Low Carbon Development (Amendment) Act 2021 (No. 32 of 2021) (hereafter referred to as the 2021 Climate Act) in July 2021 (Government of Ireland, 2021b). The 2021 Climate Act was prepared for the purposes of giving statutory effect to the core objectives stated within the CAP.

The purpose of the 2021 Climate Act is to provide for the approval of plans 'for the purpose of pursuing the transition to a climate resilient, biodiversity rich and climate neutral economy by no later than the end of the year 2050'. The 2021 Climate Act will also 'provide for carbon budgets and a decarbonisation target range for certain sectors of the economy'. The 2021 Climate Act defines the carbon budget as 'the total amount of greenhouse gas emissions that are permitted during the budget period'. The 2021 Climate Act removes any reference to a national mitigation plan and instead refers to both the Climate Action Plan, as published in 2019, and a series of National Long Term Climate Action Strategies. In addition, the Minister for the Environment shall request each local authority to make a 'local authority climate action plan' lasting five years and to specify the mitigation measures and the adaptation measures to be adopted by the local authority.

19.3 Baseline Environment

Sensitive receptors in the vicinity of the proposed development have the potential to experience air quality and climate related impacts. For the purposes of this assessment, high sensitivity receptors are regarded as residential properties where people are likely to spend the majority of their time. Commercial properties and places of work are regarded as medium sensitivity while low sensitivity receptors are places where people are present for short periods or places at which people do not

expect a high level of amenity. As part of the detailed EIAR the receptors in the surrounding area of the site will be identified and their sensitivity assigned. As the air quality limit values are based on the protection of human health and potential impacts to air quality are assessed against compliance with these limit values then the number of receptors, their sensitivity and their various distances to site will form part of the assessment of the magnitude of potential impacts.

19.3.1 Baseline Air Quality

Air quality monitoring programs have been undertaken in recent years by the EPA. The most recent annual report on air quality in Ireland is "Air Quality In Ireland 2020" (EPA, 2021a). The EPA website details the range and scope of monitoring undertaken throughout Ireland and provides both monitoring data and the results of previous air quality assessments (EPA, 2022a).

As part of the implementation of the Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011), as amended, four air quality zones have been defined in Ireland for air quality management and assessment purposes (EPA, 2022a). Dublin is defined as Zone A and Cork as Zone B. Zone C is composed of 23 towns with a population of greater than 15,000. The remainder of the country, which represents rural Ireland but also includes all towns with a population of less than 15,000, is defined as Zone D.

In terms of air monitoring and assessment, the proposed development site is within Zone D (EPA, 2022). Long-term monitoring data have been used to determine background concentrations for the key pollutants in this region. The background concentrations account for all non-traffic derived emissions (e.g. natural sources, industry, home heating etc.).

Long-term NO_2 monitoring was carried out at the Zone D rural locations of Killkitt and Emo and the suburban locations of Castlebar and Enniscorthy for the period 2015 - 2019 (EPA, 2021a). Long term average concentrations identified by this monitoring were significantly below the annual average limit of 40 µg/m^3 for all locations. Average results ranged from 2 – 10 µg/m^3. The NO_2 annual average for this five-year period suggests an upper average limit of no more than 5 µg/m^3 as a background concentration for the rural locations. Based on the above information a conservative estimate of the current background NO_2 concentration for the region of the proposed development is 8 µg/m^3.

Continuous PM_{10} monitoring was carried out at the Zone D locations of Castlebar, Kilkitt, Claremorris and Enniscorthy from 2015 - 2019. These showed an upper average limit of no more than 18 µg/m^3. Levels ranged from 7 – 18 µg/m^3 over the five-year period with at most 9 exceedances of the 24-hour limit value of 50 µg/m^3 (35 exceedances are permitted per year) in Enniscorthy (EPA, 2021a). Sufficient data is available for the rural background location in Kilkitt to observe long-term trends in the data. Data from 2015 – 2019 suggest an upper average annual mean value of at most 9 µg/m^3 as a background concentration at the Kilkitt location. Based on the EPA data, a conservative estimate of the current background PM_{10} concentration in the region of the proposed development is 10 µg/m^3.

Monitoring of both PM_{10} and $PM_{2.5}$ takes place at the station in Claremorris which allows for the $PM_{2.5}/PM_{10}$ ratio to be calculated. Average $PM_{2.5}$ levels in Claremorris over the period 2015 - 2019 ranged from 4 - 6 µg/m^3, with a $PM_{2.5}/PM_{10}$ ratio ranging from 0.36 – 0.60 (EPA, 2021a). Based on this

information, a conservative ratio of 0.6 was used to generate a predicted current $PM_{2.5}$ concentration in the region of the development of 6 µg/m^3.

19.3.2 Baseline Climate

Anthropogenic emissions of greenhouse gases in Ireland included in the EU 2020 strategy are outlined in the most recent review by the EPA which details provisional emissions up to 2020 (EPA, 2021b). The data published in 2021 states that Ireland will exceed its 2020 annual limit set under the EU's Effort Sharing Decision (ESD), 406/2009/EC1 by an estimated 6.73 Mt. For 2021, total national greenhouse gas emissions are estimated to be 57.70 million tonnes carbon dioxide equivalent (Mt CO_2eq) with 44.38 MtCO_2eq of emissions associated with the ESD sectors for which compliance with the EU targets must be met. Agriculture is the largest contributor in 2021 at 37.1% of the total, with the transport sector accounting for 17.9% of emissions of CO_2.

GHG emissions for 2020 are estimated to be 3.6% lower than those recorded in 2019. Emission reductions have been recorded in 6 of the last 10 years. However, compliance with the annual EU targets has not been met for five years in a row. Emissions from 2016 – 2020 exceeded the annual EU targets by 0.29 MtCO_2eq, 2.94 MtCO_2eq, 5.57 MtCO_2eq, 6.85 MtCO_2eq and 6.73 MtCO_2eq respectively. Agriculture is consistently the largest contributor to emissions with emissions from the transport and energy sectors being the second and third largest contributors respectively in recent years.

The EPA 2022 GHG Emissions Projections Report for 2021 – 2040 (EPA, 2022) provides an assessment of Ireland's total projected greenhouse gas (GHG) emissions from 2021 to 2040, using the latest inventory data for 2020 and provides an assessment of Ireland's progress towards achieving its National ambitions under the Climate Action and Low Carbon Development (Amendment) Act 2021 (Government of Ireland, 2021) and EU emission reduction targets for 2030 as set out under the EU Effort Sharing Regulation (EIASR) 2018/842. Two scenarios are assessed – a "With Existing Measures" (WEM) scenario, which is a projection of future emissions based on the measures currently implemented and actions committed to by Government, and a "With Additional Measures" (WAM) scenario, which is the projection of future emissions based on the measures outlined in the latest Government plans at the time projections are compiled. This includes all policies and measures included in the WEM scenario, plus those included in government plans but not yet implemented.

The EPA report states under the "With Existing Measures" scenario, the projections indicate that Ireland will cumulatively exceed its EIA emissions allocation by 52.3 Mt CO_2eq over the 2021-2030 period even with full use of the flexibilities available. Under the "With Additional Measures scenario", the projections indicate that Ireland can achieve compliance under the EIA over the 2021-2030 period using both flexibilities but only with full implementation of the 2021 Climate Action Plan. Both projected scenarios indicate that implementation of all climate plans and policies, plus further new measures, are needed for Ireland to meet the 51 per cent emissions reduction target and put the country on track for climate neutrality by 2050 (EPA, 2022b).

19.4 Potential Impacts

There is the potential for impacts to air quality and climate from both the construction and operational stages of the proposed development.

19.4.1 Construction Stage

The greatest potential impact on air quality during the construction phase of the proposed development is from construction dust emissions and the potential for nuisance dust and PM_{10}/$PM_{2.5}$ emissions. According to the Institute of Air Quality Management guidance (IAQM, 2014), while construction dust impacts can occur within 350m of a construction site, the majority of the deposition occurs within the first 50m. Therefore, sensitive receptors which fall within 50m of construction activities will be most likely to be impacted. In order to minimise dust emissions during construction, a series of mitigation measures will be prepared in the form of a dust minimisation plan. Provided the dust minimisation measures outlined in the plan are adhered to, the air quality impacts during the construction phase will not be significant.

There is the potential for a number of greenhouse gas emissions to be made to the atmosphere during the construction of the development which could impact climate. Construction vehicles, generators etc., may give rise to CO_2 and NO_2 emissions. However, the impact on climate is not predicted to be significant.

19.4.2 Operational Stage

There is the potential for a number of emissions to the atmosphere during the operational phase of the development. In particular, traffic-related air emissions may generate quantities of air pollutants such as NO_2, PM_{10} and $PM_{2.5}$. The changes in traffic associated with the proposed development will be quantified as part of the detailed assessment at the EIA stage. However, it is envisaged that traffic-related air emissions are unlikely to have a significant impact on the local air quality. Due to the nature of the development area at Rosslare Port, there are likely to be emissions associated with existing port activities during the operational stage. These include emissions from boats, haulage trucks and port vehicles and machinery. However, existing port activities will be encompassed within the existing baseline air quality. Air quality standards are set for the protection of human health, therefore, compliance with these standards will ensure no adverse impacts to human health occur.

Emissions of carbon dioxide (CO_2) are not predicted to have a significant impact on climate during the operational stage.

19.5 EIA Report Assessment Methodology

The air quality and climate assessment will be carried out in accordance with the following guidance and established best practice, and will be tailored accordingly based on professional judgement and local circumstance:

- EPA Guidelines on the Information to be Contained in the Environmental Impact Assessment Reports (EPA, 2022)

- Guidance on the Assessment of Dust from Demolition and Construction (IAQM, 2014)
- Guidelines for the Treatment of Air Quality during the Planning and Construction of National Road Schemes (TII, 2011) and
- UK Design Manual for Roads and Bridges (DMRB), Volume 11, Environmental Assessment, Section 3 Environmental Assessment Techniques, Part 1 LA 105 Air quality and Part 14 LA 114 Climate (UK Highways Agency, 2019).

In line with the above guidance, the assessment will cover potential impacts to air quality and climate, it will describe the existing conditions and the likely potential impacts associated with the construction and operation of the proposed development. The impact assessment process will involve:

- Assigning receptor sensitivity
- Identifying and characterising the magnitude and significance of any potential impacts
- Incorporating measures to avoid and mitigate (or reduce) these impacts and
- Assessing the significance of any residual effects after mitigation.

The air quality assessment will include a review of the relevant standards and legislation, a review of background ambient air quality data from the EPA and establishment of the baseline environment in the region of the proposed development. The sensitivity of the surrounding environment to air quality impacts will be established based on the IAQM guidance (IAQM, 2014) and the potential impacts from the construction and operation of the proposed development will be identified.

Baseline monitoring surveys will be conducted in the area surrounding Rosslare Europort at 3 nr. monitoring locations as selected with Wexford County Council's Environment Team to be representative of all groups of sensitive receptors. One dust monitoring survey will be conducted at all three monitoring locations. Dust monitoring should be undertaken for a period of 3 months.

The climate assessment will include a review of all relevant standards and legislation, a review of the existing climate baseline and identification of the potential climate related impacts as a result of the construction and operational phases of the proposed development.

19.6 Preliminary Mitigation Measures

A detailed dust minimisation plan will be prepared for the construction phase of the proposed development. The measures outlined within the plan will be incorporated into the overall Construction Environmental Management Plan (CEMP) to be prepared for the site. Best practice mitigation measures will be proposed to ensure no significant emissions of dust are released from the site. In order to develop a workable and transparent dust control strategy, a dust management plan will be formulated by drawing on best practice guidance from Ireland, the UK and USA.

Significant impacts are not predicted for the operational phase of the development therefore further mitigation measures are not envisaged.

19.7 Summary

No significant impacts to air quality or climate are predicted during the construction or operational phases of the proposed development. Once the best practice dust minimisation measures are implemented, fugitive emissions of dust from the site during construction will be insignificant and pose no nuisance to nearby receptors.

Baseline dust monitoring will be conducted in the area surrounding Rosslare Europort for a period of 3 months prior to construction.

20 Noise and Vibration

20.1 Introduction

This section sets out the methodology for assessing the impact of noise and vibration arising from the construction, operation and maintenance of the proposed development. This chapter will cover the following:

- Potential noise impacts associated with construction
- Potential impacts associated with the operational phase such as increased traffic flows and vessel numbers
- Noise mitigation measure necessary to comply with current noise standards and guidance during both construction and operation.

20.2 Policy and Guidance

The assessment of effects of the proposed development on noise and vibration will consider the EIA policies and guidance documents set out above (Chapter 3). Specific to this topic, the following guidance documents will also be considered:

- TII Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes
- S.I. No. 549/2018 - European Communities (Environmental Noise) Regulations 2018
- BS8552 British Standard for "Noise and Vibration control on construction and open site" contains certain operating levels for marine vessels.
- British Standard BS7445: Description and Measurement of Environmental Noise
- BS5228 Construction noise assessment using the ABC method
- Directive 2002/49/EC of the European Parliament and of the Council of 25 Jun 2002 relating to the assessment and management of environmental noise - Declaration by the Commission in the Conciliation Committee on the Directive relating to the assessment and management of environmental noise transposed into Irish Law as S.I. No. 140/2006 - Environmental Noise Regulations 2006
- Guidance Note for Noise NG4: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (EPA, 2016) Recommended Noise Limit Criteria

20.3 Baseline Environment

Under S.I. No. 549/2018 - European Communities (Environmental Noise) Regulations 2018 Noise Mapping Bodies (NMB) must make and approve strategic noise maps (SNM) for a number of specific high noise situations. This includes a major road. The closest Strategic Noise Map to Rosslare ends just south of Carley's Cross roundabout on the N25, c. 6 km north of Rosslare Harbour. The closest Noise Action Area (NAA) is c. 7-8 km north of Rosslare (shown in EPA, 2022d).

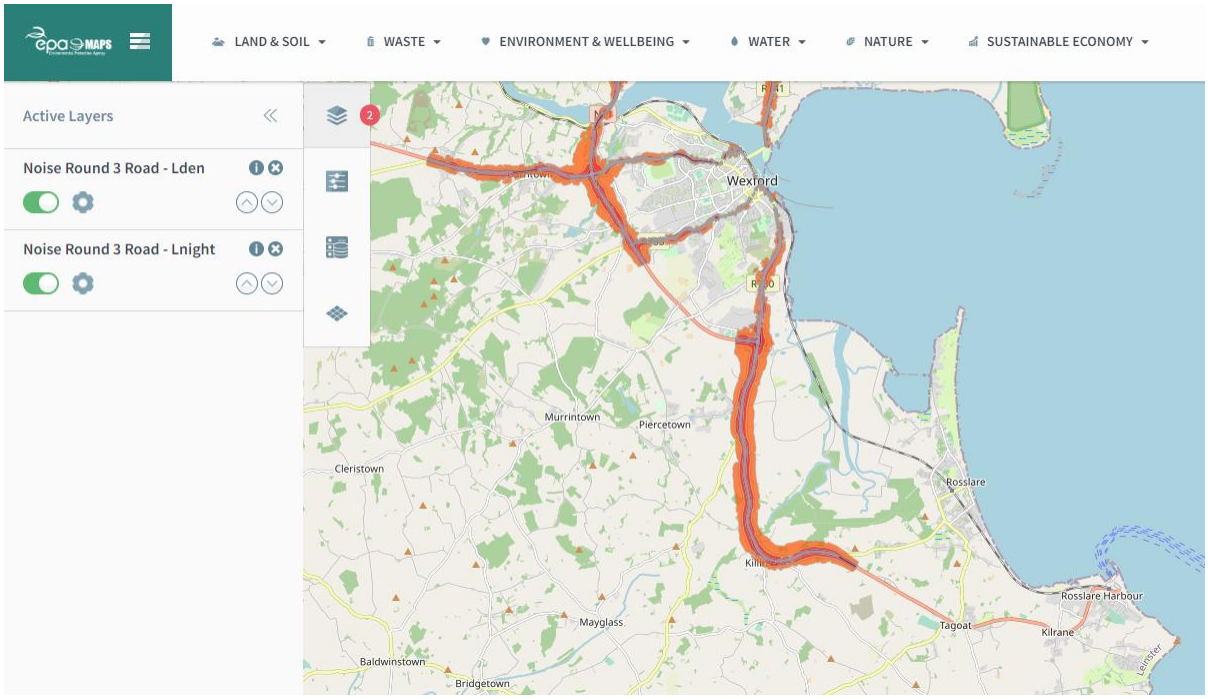


Figure 20-1: Strategic Noise Map for Wexford area with the current Round 3 Noise Action plan areas displayed (Source: EPA, 2022d)

Under the regulations NMBs must produce and approve an annual Noise Action Plan (NAP) which must satisfy the minimum requirements set out in the Fourth Schedule of the 2006 regulations and also aim to protect quiet places. The relevant NAP for Rosslare is the Wexford County Council Noise Action Plan 2019-2023. The plan contains a settlement hierarchy of Hub, Larger Towns, District Towns, Strong Villages, Smaller Villages and Rural Settlements and finally open countryside.

As the plan aims to protect quiet areas, potential quiet areas in both open countryside and settlements are identified (Figure 20-2). There are no identified potential quiet areas in Rosslare Harbour or its vicinity. The potential quiet areas are shown in with the closest identified area to Rosslare being the Drinagh Intake area. There is significant residential and farmland between the proposed development and the closest potential quiet area.

The baseline environment is characterised by a working port catering for both passenger and freight. It is the second largest passenger and unitised freight facility in the country. The port is surrounded by the Rosslare-Kilrane area which is classified as a district town under the NAP for County Wexford. It has a population of c 1,800 (CSO, 2016). North-west is the small village of Tagoat with the areas in between and beyond characterised by open farmland with individual one-off dwellings. Rosslare Strand is located north-west along the coast.

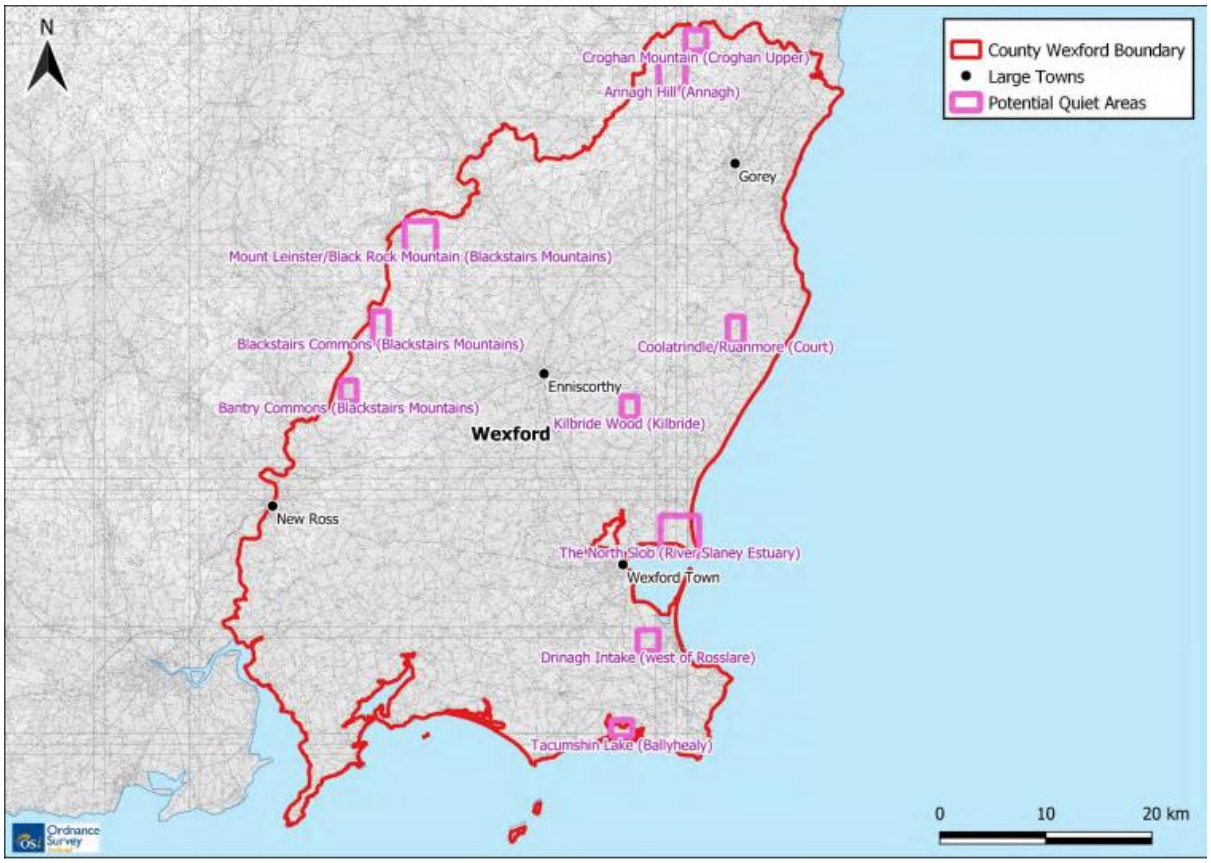


Figure 20-2: Potential Quiet Areas identified in the Wexford County Council Noise Action Plan 2019 - 2023 (Source: WCC, 2019).

20.4 Potential Impacts

While the construction method has not yet been determined, piling, drilling or a combination of the two together with ripping of marine based rock will result in noise from the construction of the quays and storage area. In addition, above ground noise related to dumping and spreading of dredged material to be used as infill within the reclaimed area is expected as well as general vehicle and plant noise on site.

During the operational phase, the most significant potential noise impacts will be as a result of increased vessel movements and associated road traffic. However, the above water noise from vessel movements is expected to be no louder than existing port operations. Also expected will be noise generated by loading and unloading activities. Again, this is expected to be similar to the noise produced by existing freight activities at Rosslare Europort. There potentially may be other noise impacts during the construction phase such plant/equipment noise.

Consideration will be given to the proposed development's potential impact on the residential buildings located within the zone on influence of the proposed development.

20.5 EIA Report Assessment Methodology

20.5.1 Baseline Noise Monitoring

One continuous noise monitoring survey will be conducted at four noise monitoring stations for a duration of one month. Noise monitoring stations have been selected with Wexford County Council's Environment Team (as the relevant noise planning authority) to be representative of all groups of sensitive receptors. Following the month-long noise monitoring survey, two locations should be monitored for noise in daytime (i.e. during port operation hours) with one monitored at night.

Baseline noise measurements will be made at a height of 1.2 – 1.5m above ground level. Weather conditions will be recorded in accordance with the requirements of BS7445: Description and Measurement of Environmental Noise and ISO 1996: Acoustics - Description, Measurement and Assessment of Environmental Noise.

Table 20-1 outlines the applicable noise threshold limits that apply at the nearest noise sensitive receptors. The determination of what category to apply is dependent on the existing baseline ambient (L_{Aeq}) noise level (rounded to the nearest 5dB) at the nearest noise sensitive property.

The following parameters will be recorded during each monitoring period:

- L_{Aeq} The continuous equivalent A-weighted sound pressure level. This is an "average" of the sound pressure level.
- L_{Amax} This is the maximum A-weighed sound level measured during the sample period.
- L_{Amin} This is the minimum A-weighted sound level measured during the sample period.
- L_{A10} This is the A-weighted sound level that is exceeded for noise for 10% of the sample period.
- L_{A90} This is the A-weighted sound level that is exceeded for 90% of the sample period.

The assessment will consider the impact of the proposal on noise and vibration considering demolition, construction including dredging and reclamation and operational phases of the proposed redevelopment. A noise and vibration chapter will be submitted as part of the EIAR which will be submitted in support of the marine licence application.

The assessment report will include:

- Construction Phase: BS5228: 2009 + A1:2014 Assessment of potential construction phase noise and vibration impacts at nearest residential properties and adjacent commercial buildings within the port estate
- Operational Phase: CadnaA noise modelling software or similar is considered likely to be used to predict the worst-case operational phase noise levels from the proposed development

- Operational Phase: BS4142:2014, BS8233:2014 and WHO Guidelines will be used to assess the potential noise impact from plant/equipment associated with the proposed development

- Traffic Noise: Assessment of construction and operational phase traffic noise in accordance with the 2014 Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes

Mitigation measures will be outlined to minimise the impact for the construction and operation phase. It is unlikely that there will be operational vibration that effects noise sensitive receptors, as there are no known significant vibration sources affecting the site.

20.6 Preliminary Mitigation Measures

The preliminary mitigation measures will be developed using a variety of methods:

- An appropriate noise and vibration assessment will be used to develop the relevant mitigation measures as appropriate for operation and construction phases of the development
- Range of measures should be applied to ensure that the quietest machinery is used (e.g. appropriate drilling rigs such as a down-the-hole hammer) or that the use of machinery is sensitive to all port users and surrounding developments
- The British Standard BS5228: 2009 + A1:2014 provides an outline of a range of measures that can be used to reduce construction phase impacts on the nearest receptors. Table 20-1 outlines the applicable noise threshold limits which are applicable at the nearest noise sensitive receptor.

- Determination of the applicable limits is based on the "baseline ambient noise level" (rounded to the nearest 5dB) at the nearest receptor:

    - Daytime: If the ambient noise level is less than Category A threshold (i.e. 65 dB), this threshold applies.
    - If the ambient noise level is equal to Category A, the Category B threshold (i.e. 70 dB) is applied.
    - If the noise level is more than Category A, Category C threshold limit (i.e. 75 dB) applies.

Table 20-1: BS5228 Construction noise assessment using the ABC method (BSI, 2014).

Assessment category and threshold value period (L_{Aeq})	Threshold values, in decibels (dB)		
	Category A	Category B	Category C
Night-time (23:00-07:00)	45	50	55
Evenings and Weekends	55	60	65

A) Category A: Threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.

B) Category B: Threshold values to use when ambient noise levels (when rounded to the nearest 5

dB) are the same as category A values.

C) Category C: Threshold values to use when ambient noise levels rounded to the nearest 5 dB) are higher than category A values.

D) 19:00 – 23:00 weekdays, 13:00 – 23:00 Saturdays and 07:00 – 23:00 Sundays.

20.7 Summary of Receptor/Topic Scoping Exercise

Impacts from noise and possible impacts from vibration generated by construction activities and during the operational period have been identified and therefore noise and vibration should be scoped into the EIA.

21 Navigation and Shipping

21.1 Introduction

This section identifies possible impacts of the proposed development on shipping and navigation. This includes preliminary identification of the potential effects from construction and operation and setting out the proposed scope of the Environmental Impact Assessment Report (EIAR).

Following the scoping process these impacts will be assessed as part of the Navigational Risk Assessment (NRA) process.

21.2 Policy and Guidance

The National Marine Planning Framework (the Department of Housing, Planning and Local Government, 2021) (which uses the National Ports Policy (Department of Transport, 2019) as a frame of reference) structures maritime proposals to mitigate impacts against various receptors. Relevant chapters of the document to this report include:

- Chapter 4 – Overarching Marine Planning Policies;
- Chapter 18 – Ports, Harbours, and Shipping; and
- Chapter 19 – Safety at Sea.

The policy included within these chapters will be considered where appropriate.

The proposed development area will also progress in accordance with the Maritime Area Planning Act (MAP) 2021 (the Department of Housing, Local Government and Heritage, 2021) and the Planning and Development Act 2000, as amended (the Department of Housing, Local Government and Heritage, 2000).

For the risk assessment itself, the Revised Guidelines for Formal Safety Assessment (FSA) (International Maritime Organization (IMO), 2018) will be considered. Use of FSA is standard for shipping and navigation assessments and is a structured systematic process which uses frequency of occurrence and severity of consequence to determine the significance of risk for identified hazards (further information in Section 21.4.2).

21.3 Baseline Environment

The data sources used to establish the shipping and navigation baseline are presented in Table 21-1. The study area has been defined as a one nautical mile (nm) buffer around the harbour dredging and reclamation fill areas.

Table 21-1: Key Sources of Information for Shipping and Navigation

Source	Date	Summary	Spatial Coverage
28 days of AIS data	10th to 23rd of July 2021 (14 days) and 10th to 23rd of December 2021 (14 days)	Vessel traffic data covering a 28-day period, collected from onshore receivers covering summer and winter periods.	Entirety of the study area.
Incident data provided by the Marine Casualty Investigation Board (MCIB)	2010 - 2019	Maritime incident data reported to the MCIB including location, type of incident, and type of vessel involved.	Entirety of the study area.
Incident data provided by the Royal National Lifeboat Institution (RNLI)	2010 - 2019	Maritime incident data of RNLI incident responses including location, type of incident, and type of vessel involved.	Entirety of the study area.
United Kingdom Hydrographic Office[6] (UKHO) Admiralty Charts 1772-0 and 1772-1	2021	Admiralty charts and historic mapping relevant to the defined study area.	Entirety of the study area.
UKHO Admiralty Sailing Directions NP40 (UKHO, 2019)	2019	Pilot book with information on the surrounding area.	Entirety of the study area.

21.3.1 Limitations and Clarifications

Automatic Identification System (AIS) carriage and broadcast is not compulsory for fishing vessels less than 15 metres (m) in length, or recreational vessels. Certain such vessels may broadcast on a voluntary basis; however, it should be considered that such traffic is likely to be underrepresented within characterisation of the scoping stage baseline.

The AIS data is considered as being sufficient for the purposes of the Scoping Report in terms of characterising traffic patterns at a high level, noting that additional data collected on site including account of non-AIS vessels will be collected at the NRA stage.

It is noted that several tracks are omitted from Figure 21-1, that are included in the relevant analysis, such as those that appear to cross land due to the gap between data points. Tracks of vessels berthed within the confines of the existing Rosslare Europort have been removed from the analysis as they do not represent transit activity.

21.3.2 Overview of Baseline Environment

This section identifies the baseline environment in proximity to the harbour dredging and reclamation fill areas of the proposed development in terms of navigational features and marine traffic.

6 The UKHO is the body responsible for Admiralty Charts in Ireland as well as the UK

21.3.3 Navigational Features

An overview of the relevant navigational features is presented in Figure 21-1. A more detailed figure of the same navigational features is presented in Figure 21-2.

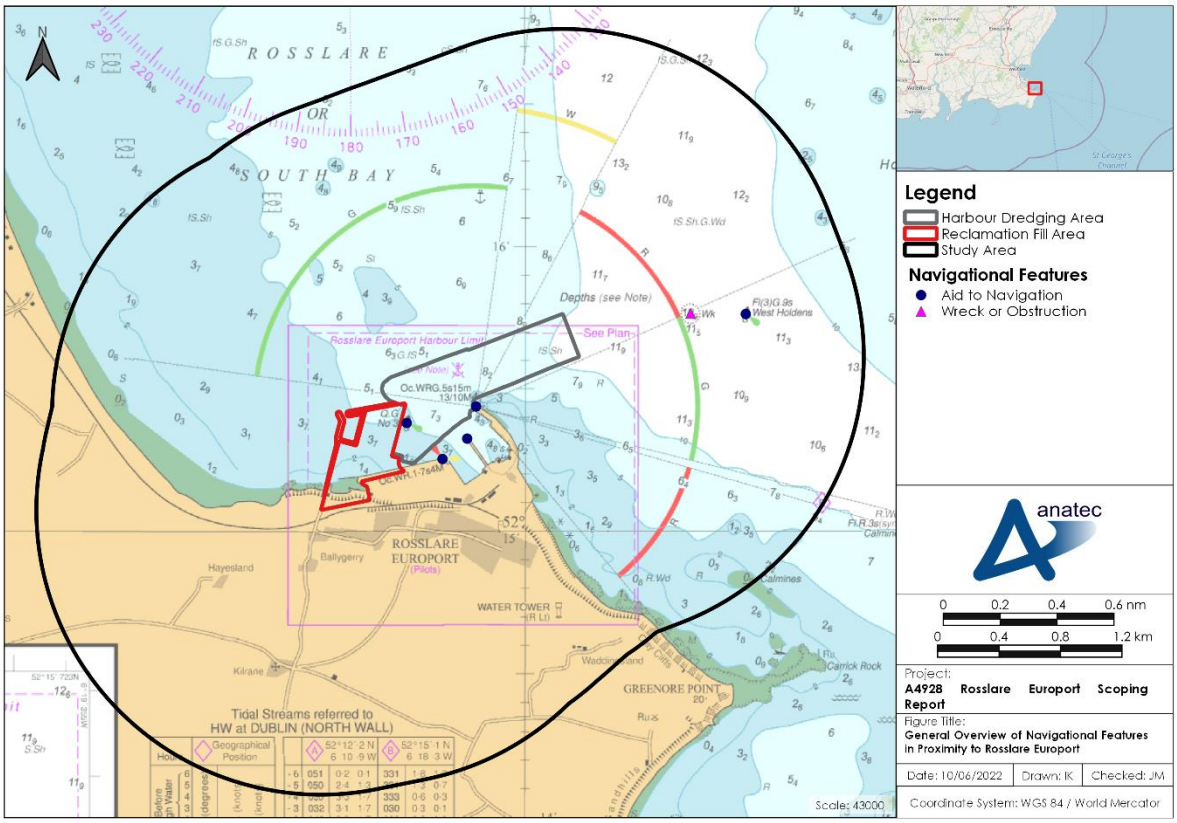


Figure 21-1: General Overview of Navigational Features in Proximity to the Rosslare Europort.

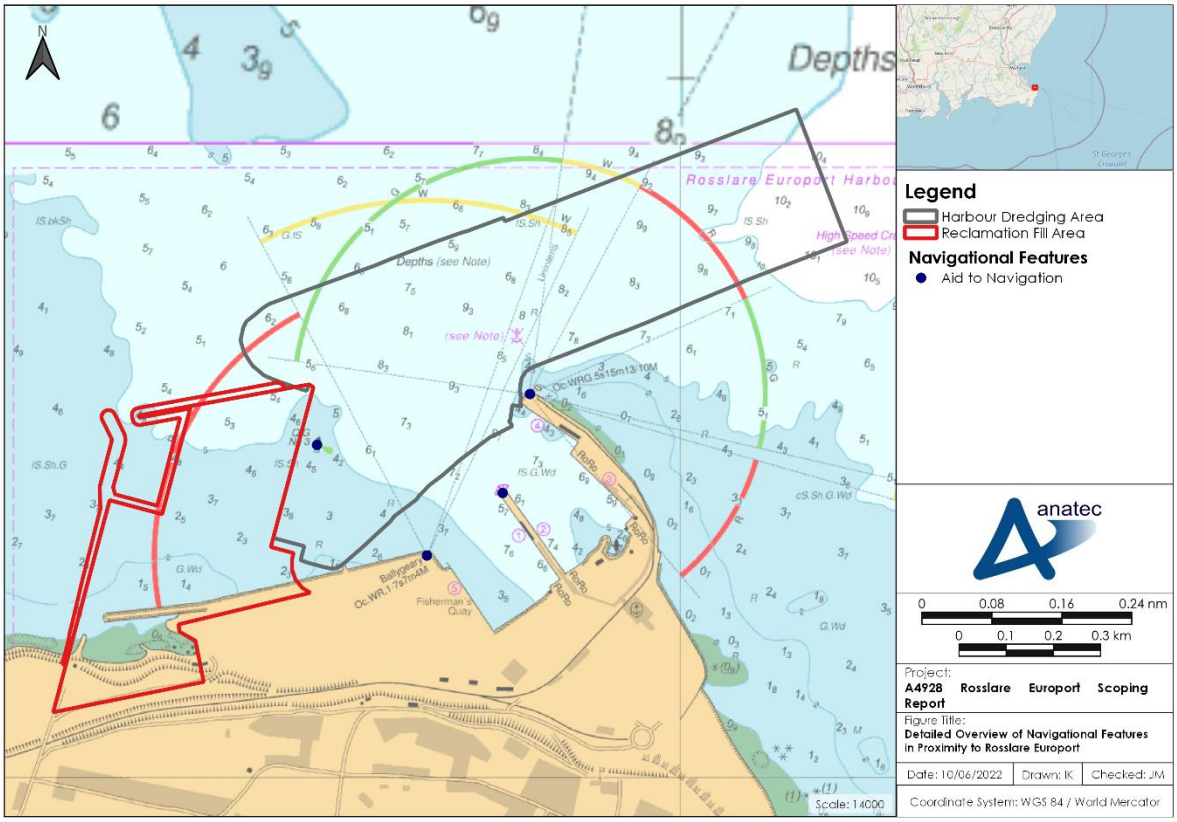


Figure 21-2: Detailed Overview of Navigational Features in Proximity to Rosslare Europort.

There are five aids to navigation and one charted wreck or obstruction located within the study area. Of these, only one navigational feature is located within the harbour dredging area – an aid to navigation indicating the approach to the Europort. There are no navigational features located within the reclamation fill area.

21.3.4 Vessel Traffic

The vessel tracks derived from 28 days of AIS data collected during 2021 is presented in Figure 21-3.

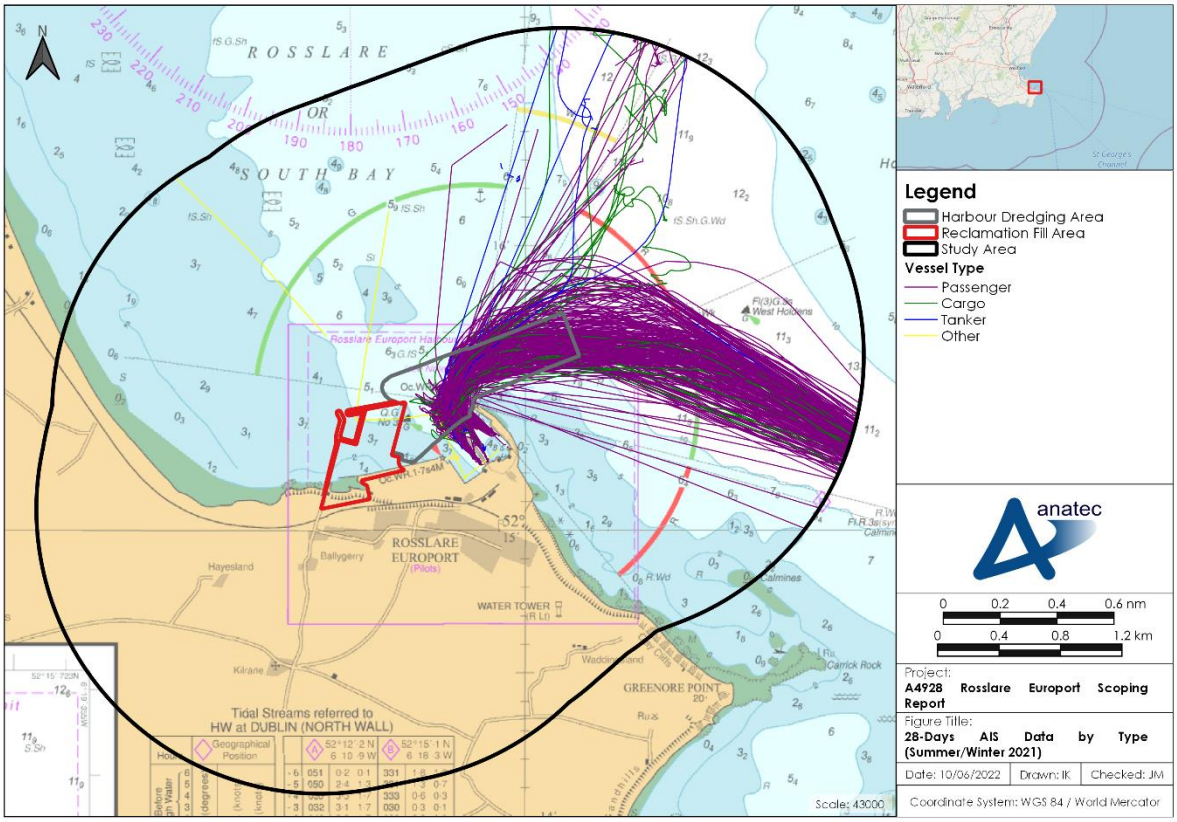


Figure 21-3: 28-Days Survey Data by Vessel Type (Summer/Winter 2021)

An average of ten unique vessels per day were recorded within the study area during the summer survey period, with the majority (90%) transiting through the harbour dredging area. An average of between seven and eight unique vessels per day were recorded within the study area during the winter survey period, with the majority (94%) again transiting through the harbour dredging area. A vessel was recorded transiting within the reclamation fill area on one occasion – an RNLI lifeboat in the summer survey period.

The most common vessel type recorded within the study area during the 28-day period were passenger vessels (91%). Other vessel types recorded included cargo vessels (6%), tankers (2%), and 'other' vessels (1%) - all of which were RNLI lifeboats.

All passenger vessels recorded within the study area during the survey period were roll-on/roll-off passenger (Ro-Pax) vessels. Apart from one transit by a vehicles carrier, all cargo vessels recorded within the study area during the survey period were roll-on/roll-off (Ro-Ro) cargo vessels.

The Ro-Pax vessels were operated by Stena Line (43%), Blue Star Ferries (23%), Brittany Ferries (12%), Destination Gotland (12%), and DFDS Seaways (10%). The descriptions of each Ro-Pax vessel including operator, route to, and frequency of transit in summer/winter, is presented in Table 21-2.

Table 21-2: Ro-Pax Vessel Descriptions

Vessel	Operator	Route To	Transits per Day (Summer)	Transits per Day (Winter)
Blue Star	Blue Star Ferries	Pembroke (UK)	4	1
Connemara	Brittany Ferries	Bilbao (Spain)/Cherbourg (France)	2	0-1
Cotentin	Brittany Ferries	Le Havre (France)	N/A	0-1
Kerry	DFDS Seaways	Dunkirk (France)	0-1	N/A
Regina Seaways	DFDS Seaways	Dunkirk (France)	N/A	0-1
Visby	DFDS Seaways	Dunkirk (France)	0-1	0-1
Stena Europe	Stena Line	Fishguard (UK)	4	4
Stena Horizon	Stena Line	Cherbourg (France)	1	0-1
Stena Vinga	Stena Line	Cherbourg (France)	N/A	0-1

It is noted that the above transits were not the regularly scheduled routes for the Stena Vinga. In addition, the Regina Seaways replaced the Kerry on the Rosslare-Dunkirk route between the summer and winter survey periods, and the Cotentin began transiting on the Rosslare-Le Havre route after the summer survey period.

The Ro-Ro vessels were operated by Stena Line (80%) and Seatruck (20%), with all Ro-Ro vessels for both operators transiting between Rosslare and Cherbourg. The Stena Line vessels were recorded transiting approximately once per day and were only recorded in the summer survey period. Seatruck vessel transit was recorded four times overall, with all four occasions during the winter survey period.

Based on speed/behaviour analysis and navigational status broadcast through AIS, one vessel – a tanker - was recorded at anchor within the study area, during the summer survey period.

21.3.5 Marine Incidents

The Marine Casualty Investigation Board (MCIB) is tasked with examining and, if necessary, undertaking investigations into all types of marine casualties to, or on board, Irish registered vessels worldwide and other vessels in Irish territorial waters and inland waterways.

An analysis of MCIB incident data from 2010 to 2019 indicated that three incidents were recorded within the study area, with one of these occurring within the harbour dredging area. The incident types recorded within the study area were comprised of one count each of collision, capsize, and flooding/foundering. The vessel types involved in these incidents were comprised of two fishing vessels, with the collision occurring between two Ro-Ro vessels during berthing operations.

The Royal National Lifeboat Institution (RNLI) operates lifeboats suitable for all weather conditions and coastal operations, and have stations located at frequent intervals along the Irish south coast, including at Rosslare, Wexford, and Kilmore.

An analysis of RNLI incident data from 2010 to 2019 indicated that 23 incidents were recorded within the study area, with one incident each recorded occurring within the harbour dredging and reclamation fill areas. The most common incident types recorded within the study area were machinery failure (seven instances), stranding/grounding (five instances), and fouled

propeller/impeller (four instances). The most common vessel types involved in these incidents were fishing vessels (13 instances), sailing recreational vessels (five instances), and powered recreational vessels (three instances).

21.4 Potential Impacts

The hazards identified at the scoping stage for assessment in the NRA are outlines in the below subsections.

21.4.1 Potential Impacts During Construction

The potential impacts during the construction phase of the project are detailed below. These include:

- Displacement and third-party collision risk
- Third-party vessel to project vessel collision risk
- Port access restrictions
- Third-party vessel to structure allision risk and
- Use of aids to navigation

21.4.1.1 Displacement and Third-Party Collision Risk

Construction activities associated with the Europort expansion may displace existing routes and activity, resulting in an increase in the likelihood of vessel-to-vessel encounters between third-party vessels, and a subsequent increase in vessel-to-vessel collision risk.

21.4.1.2 Third-Party Vessel to Project Vessel Collision Risk

The presence of vessels associated with construction activities may result in an increase in the likelihood of vessel-to-vessel encounters between third-party vessels and project vessels, and a subsequent increase in vessel-to-vessel collision risk.

21.4.1.3 Port Access Restrictions

Construction activities associated with the Europort expansion may displace or restrict existing routes and activity, reducing access to the existing Europort facilities.

21.4.1.4 Third-Party Vessel to Structure Allision Risk

Infrastructure associated with the Europort expansion may increase the likelihood of vessel to structure allisions for third-party vessels.

21.4.1.5 Use of Aids to Navigation

The construction of the Europort expansion may alter the approach of vessels entering the Europort as a whole, which may reduce the effectiveness, or prevent use of, existing aids to navigation in all weather conditions.

21.4.1.6 Under-Keel Interaction / Grounding Risk

The construction of the Europort expansion may alter the approach of vessels entering the Europort as a whole, which may result in an increase in under-keel interaction / grounding risk.

21.4.1.7 Potential Impacts During Operation and Maintenance

The potential impacts during the operation and maintenance phase of the project are listed below. These include:

- Displacement and third-party collision risk and
- Use of aids to navigation

21.4.1.8 Displacement and Third-Party Collision Risk

The presence of dredging vessels may displace existing routes and activity, resulting in an increase in the likelihood of vessel-to-vessel encounters between third-party vessels and a subsequent increase in vessel-to-vessel collision risk.

21.4.1.9 Use of Aids to Navigation

The presence of the Europort expansion may alter the approach of vessels entering the Europort as a whole, which may reduce the effectiveness, or prevent use of, existing aids to navigation in all weather conditions. However, it is likely that this impact can be screened out on the basis that the port and CIL would modify the existing aids to navigation as required following construction.

21.4.2 Potential Cumulative Impacts

All hazards assessed for the Project in isolation will also be considered cumulatively with the presence of other offshore developments and activities in the NRA.

21.5 EIA Report Assessment Methodology

An NRA will be undertaken in support of the EIA Report (EIAR).

As a key input to the NRA, consultation will be undertaken with shipping and navigation stakeholders, including a Hazard Workshop. The Hazard Workshop is a standard step of the NRA process and allows a variety of stakeholders to raise specific concerns, and work together to assess potential risks and

mitigation measures. A Hazard Log is then produced summarising the findings of the Hazard Workshop and included in the NRA. Stakeholders to be included in the consultation effort include:

- Marine Survey Office
- Irish Coast Guard
- Commissioner of Irish Lights
- Irish Cruising Club (ICC)
- RNLI
- Regular vessel operators (including Ro-Pax/Ro-Ro operators) and
- Fisheries representatives

The findings of the NRA will inform the shipping and navigation assessment in the EIA. As an internationally recognised approach for risk assessment of shipping and navigation users, the IMO FSA methodology will be applied. This methodology assesses each hazard in terms of frequency of occurrence and severity of consequence, with a risk ranking matrix used to determine the resulting significance of risk for each hazard, as illustrated in Table 21-3. The level of risk in terms of frequency and consequence will be determined based on a number of factors, including:

- Baseline data
- Expert opinion
- Consultation feedback including the Hazard Workshop and
- Lessons learnt from other port developments.

Table 21-3: Risk-ranking Matrix for Determining Significance of Risk

Consequence	Major	Tolerable	Tolerable	Unacceptable	Unacceptable	Unacceptable
	Serious	Broadly Acceptable	Tolerable	Tolerable	Unacceptable	Unacceptable
	Moderate	Broadly Acceptable	Broadly Acceptable	Tolerable	Tolerable	Unacceptable
	Minor	Broadly Acceptable	Broadly Acceptable	Broadly Acceptable	Tolerable	Tolerable
	Negligible	Broadly Acceptable	Broadly Acceptable	Broadly Acceptable	Broadly Acceptable	Tolerable
		Negligible	Extremely Unlikely	Remote	Reasonably Probable	Frequent
		Frequency				

The significance of risk may be deemed Broadly Acceptable, Tolerable or Unacceptable. Where a hazard is assessed to have an Unacceptable significance of risk, additional mitigation measures (beyond those outlined in Section 21.4) will be required to reduce the significance of risk to within Tolerable (with mitigation) parameters.

21.6 Preliminary Mitigation Measures

A number of embedded mitigation measures relevant to shipping and navigation have been identified at the scoping stage:

- Charting and marking of new developments
- Charting and maintenance of dredged channels
- Management of Project vessels in line with international maritime regulations
- Promulgation of information including via Notices to Mariners and
- Use of a temporary guard vessel as deemed required by risk assessment.

These measures will ensure the significance of risk associated with the hazards outlined in Section 21.4 are As Low as Reasonably Practicable (ALARP) and should any additional mitigation measure be required, these will be identified.

21.7 Summary of Receptor/Topic Scoping Exercise

Impacts to shipping and navigation (as outlined below in Table 21-4) were identified and therefore navigation risk should be scoped into the EIA.

Table 21-4: Identified Impacts from the proposed development to Navigation and Shipping

Potential Impact	Construction	Operation and Maintenance
Displacement and third-party collision risk	✓	✓
Third-party to project vessel collision risk	✓	
Port access	✓	
Third-party vessel to structure allision risk	✓	
Use of aids to navigation	✓	✓
Under-keel interaction	✓	

22 Human Health, Population and Socio-Economics

22.1 Introduction

This section describes the scope of works and methods to be applied for the identification and assessment of the potential impacts on human health, population and socio-economics as a result of the proposed development.

The aspects to be assessed include employment effects during the construction phase, access to employment, impacts on and access to community facilities, economic investment in the local area and the impacts on recreation and amenity. The land use interactions including commercial, residential, community and future development land will be also assessed. The proposed development will play a key role in the movement of people throughout the area, during both the construction and operational phases.

From a human health perspective, the assessment will focus primarily on those that are considered the most likely to be affected and includes residents or workers within 1 km of the proposed development. However, impacts beyond this area will also be reviewed to ensure more distant effects are taken in account. Health in Ireland Key Trends 2019 provides a summary of health and healthcare statistics for the country over the past ten years.

In 2015, County Health Profiles were published on the HSE website under Healthy Ireland, which is a national framework to improve the health and wellbeing of the people of Ireland. A group made up of the Health Services Executive and Lenus (the Irish Health Research Repository) has published these health profiles for all local authorities in Ireland. These reports have been used to establish a community health profile for the proposed development.

In Ireland, in recent years there has been an increase in life expectancy and a decrease in mortality rates. Mortality rates in Ireland have declined 10.5% since 2009. Ireland has the highest self-perceived health status in the EU, with 82.9% people rating their health as good or very good (Department of Health, 2019).

According to the 2015 Health Profile report, Wexford has a higher-than-average percentage of people who report their health as being bad or very bad 1.6% (national 1.5%) or who have a disability 13.9% (national 13.0%). Cancer incidence rates are lower than average for female malignant melanoma, male colorectal cancer and male and female lung cancers. (HSE, 2015). Mortality rates are above national average for heart disease and stroke in those aged under 65 years (HSE, 2015).

Wexford is the fourth most disadvantaged local authority in the country. The majority of Wexford's population live in areas classed as 'Marginally below average; (56% or 84,039)' (Wexford County Council , 2018).

The population of county Wexford is approximately 149,722 (CSO Census 2016) and the proposed development is located within the Wexford County Council administrative area. Preliminary results

from Census 2022 show an increase of 13,805 people in Wexford County between 2016 and 2022 (CSO, 2022).

22.2 Policy and Guidance

The assessment for human health and population will require a comprehensive review of plans, policies and strategies, including (but not limited) to the documents listed in Chapter 3 and below:

- Night Noise Guidelines for Europe, World Health Organisation (WHO 2009)
- Health Impact Assessment Resource and Tool Compilation, (US EPA, 2016)
- Guidelines for Community Noise, (WHO, 1999)
- Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011)
- WHO global air quality guidelines: particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide, (WHO, 2021)
- British Standard (BS) 5228-1:2009+A1:2014– Code of Practice for Noise and Vibration Control on Construction and Open Sites Part 1: Noise, (BSI, 2014)
- Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4), (EPA, 2016)
- Environmental Noise Guidelines for the European Region, (WHO, 2018)
- Health Impact Assessment Guidance: A Manual, Institute of Public Health 2021 and Health in Environmental Impact Assessment- A Primer for a Proportionate Approach (Cave et al. 2017)
- National Development Plan 2021-2030
- Project Ireland 2040
- Regional Spatial and Economic Strategy for the Southern Region 2019 – 2031, (SRAH, 2019)
- Permeability. Best Practice Guide, (NTA, 2013) and
- Local Economic Community Plans
- National Marine Planning Framework

It should be noted that some of the aspects of the proposed development that can affect human health will be addressed in stand-alone chapters of the EIAR including noise and air quality.

22.3 Baseline Environment

The study area extends for a radius of 1 km from the proposed development, for the assessment of the local effects of the proposed development particularly with regard to land use. A wider study area will also be considered as part of the population assessment and will include the regional context of Wexford, as well as the communities in the proximity of the proposed development itself. The scoping report includes a preliminary assessment of various baseline factors to describe the study area. The information will be used to guide a more comprehensive and low-level assessment in later stages, particularly as the assessment areas are definitively set out.

22.3.1 Population

The 2016 Census results show that Ireland's population increased by 173,613 from April 2011 – 2016, to 4,761,865 people in April 2016. The population of all regions grew, but Leinster grew faster than the State overall, increasing by 5.2 per cent, concluding with April 2016. Leinster accounted for 55.3 per cent of the population in 2016 compared with 54.6 per cent in 2011. It should be noted that the population figures are based on the 2016 census, the next census was planned to take place on 18 April 2021 but this was moved to 3 April 2022 due to the COVID-19 pandemic. Preliminary figures for this census are available from the Central Statistics Office (CSO).

Over a 20-year period (1996 to 2016), Wexford experienced a 43.4% (+43,351) increase in its population base - the fifth highest rate in the State. The more recent growth rate (2006 to 2016) of 13.6% is the seventh highest in the state. The rate of growth has progressively slowed in the last number of years with the growth between 2011 and 2016 (+3%) ranking as the 13th highest rate of growth - below the State average of 3.8%. Inter-regional and international net inward migration also played a significant role in population movement over the period and future trends noted in the National Planning Framework (Department of Public Expenditure and Reform 2018) indicate that this will continue in the near to mid-term to 2040.

Preliminary results of Census 2022 show that the population has increased by 13,805 between 2016 and 2022 which is above the national average. This figure represents an increase of 9.22% over 2016, 6th highest in the country, the fourth highest percentage in Leinster after Longford, Meath and Kildare and the second highest percentage increase in the Southern Region after Waterford. In absolute terms it was the 6th largest increase in the country with only Dublin, Meath, Kildare, Cork and Galway showing larger population increases (CSO 2022). More detailed data such as unemployment related figures are not yet available.

In relation to the local effects, the proposed development lies within the moderately densely population Wexford County Council area (Wexford is the 13th most densely populated county in Ireland with a density figure of 63.12 persons per square km- however 43% of the population live on 3.3% of the county's total land area). The desktop study will create a profile of population at small area level which will feed into other demographic related indicators for assessment.

22.3.2 Land Use and Amenity

There are a variety of land uses in the area. The village centre area in Rosslare Harbour is characterised by retail, hotel, leisure and residential uses. Transport and logistics companies are present with the NVD car distribution centre and Roches Freight both in Rosslare Harbour. Perennial Freight and Baku GLS are currently located in Kilrane Enterprise Park, however Perennial Freight has secured planning permission to relocate to Ballygerry in Rosslare Harbour. Other uses in the Enterprise Park include AES Waste Transfer Station and Castle Design Timber Ltd. Much of the remaining area of the two settlements is occupied by residential, community and education and open spaces uses.

22.3.3 Education

The local primary school is located in Kilrane. It had an enrolment of 329 pupils for the 2019/2020 school year making it one of the larges primary schools outside the main urban centres in the county. The school has been extended in recent years and has sufficient lands available to facilitate future extensions, if required.

There is no post primary school in the settlement and the Department of Education and Skills has not identified a need for one. Post primary education for local students is provided for in Bridgetown (c. 18km) and Wexford Town (c. 21km).

22.3.4 Health Services

There are social and family support services that include Rosslare Health Centre. A detailed facility assessment will be carried out during the desktop study.

22.3.5 Sports and Leisure

Sports and leisure facilities in the study area include St. Paul's Athletic Club, St. Helen's Bay Golf Resort, St. Mary's GAA, Rosslare Rangers and Rosslare Port Soccer Clubs.

22.3.6 Security

Rosslare Garda Station is located in the study area. A detailed facility assessment will be carried out during the desktop study.

22.3.7 Economic Activity

There are also numerous local neighbourhood businesses scattered throughout the area. The principal destinations or attractors are Rosslare Europort itself, the Key District Centre of Rosslare Harbour with supermarkets, hotels and B&Bs and a number of logistics companies with significant operations in Rosslare Harbour and Kilrane including Roche Freight and Baku GLS.

22.3.8 Unemployment

The figures from the 2016 population census show that Wexford has an unemployment rate of 16.6 per cent compared to the average unemployment rate in the country of 12.9 per cent. An unemployment rate of 16.6 per cent for Wexford means that at the time of Census 2016 there were 11,478 unemployed (CSO 2016). A complete assessment covering principal economic status, unemployment, the labour force and participation rates will be undertaken as part of the desktop study. The development of the offshore wind facility will have a marked impact on the opportunity potential for employment within Rosslare, County Wexford and beyond.

22.3.9 Public and Active Transport

The Rosslare Europort forms part of a newly extended Eastern Economic Corridor (EEC) which extends from Belfast to Dublin to Rosslare Europort and includes the national road and rail links along the corridor and the settlements of Gorey, Enniscorthy, Wexford Town, Rosslare Harbour and Kilrane. This corridor is an important economic and transport opportunity, particularly in the post Brexit scenario. It also offers extended strategic connections throughout the island of Ireland through links with the TEN-T network.

22.3.10 Human Health

A review of available literature and publications for human health and well-being will be undertaken to develop an in depth understanding of the baseline conditions within the study area. A further literature review of potential health impacts arising from similar projects will be undertaken to identify potential health impacts arising from the proposed development.

22.4 Potential Impacts

22.4.1 Socio-economic Impacts

In 2020, the Carbon Trust released a report investigating the socioeconomic impacts of offshore wind development in Ireland. That report was based on up to 3.5GW of offshore wind capacity being installed in Ireland up to 2030. Based on 3.5GW the report determined that projects will spend nearly €18 billion over their lifetime. These projects will predominantly be built off the east coast overlapping with those communities within the project area of impact. These potential local areas will benefit from the development of the supply chain to implement these projects, in particular from the installation, operation and maintenance of the wind farms.

The development landscape has moved on since 2020 with the offshore wind target doubled to 7GW by 2030. This will be primarily achieved through fixed bottom offshore wind likely to be delivered from not only the Irish Sea with also off the south and south-east coasts in those areas of the Celtic Sea suitable for fixed bottom foundations including fixed jacket foundations and modern monopiles that can be deployed in slightly deeper waters (up to c. 70m). This increases the opportunities for development of an indigenous supply chain, particularly in the areas of offshore wind services (engineering and environmental consultancy, project management, logistics, research, education, operations and maintenance etc.) and as a new industry to Ireland will create thousands of jobs, with rapid growth over the next decade similar to that experienced in the financial services sector in recent years.

Most recent figures on unemployment in Ireland (July 2019) in Table 19 show 111,400 persons between the age 15-74 years unemployed, corresponding to an unemployment rate of 5.3%. The general unemployment trend in the country over the past 3 years has shown a steady decrease of around 1.8%. The offshore wind supply chain has the potential for significant and diverse employment opportunities.

Jobs within the installation and commissioning, operation and maintenance and decommissioning supply chain areas are predominantly based in the vicinity of the host port. Therefore, these opportunities have the potential to directly impact and benefit the local area. As an example, the 588 MW Beatrice offshore wind farm located 13 km off the Caithness coast, Scotland, was completed in June 2019 and is estimated to create 800 jobs across the UK supply chain on average each year, of which 370 jobs a year will be in Scotland during its operational phase. Of these, around 90 people, the majority from the local area, will be based in the Operation & Maintenance building.

For Ireland, based on the original target of 3.5 GW of offshore wind energy by 2030, the Carbon trust report stated that there was the potential to create 2,532 direct jobs during the development & construction stages, with the majority of these jobs created between 2025 – 2030. A further 675 permanent jobs will be created in Ireland across the operations and maintenance stage while 1,312 jobs will be created during the decommissioning stage of these projects between 2050 – 2055. These are direct jobs with thousands more being created across the supply chain.

However, there is concern over whether the skills are available within the Irish workforce to meet this demand. Furthermore, due to the lack of manufacturing capability in Ireland, the majority of the sixteen thousand employment opportunities created during the manufacturing of the components, required for 3.5GW of offshore wind, will be based internationally.

This further highlights the need for investment in the supply chain and skills required to maximise the opportunity offshore wind presents in Ireland. For example, there is potential for Ireland to be a first mover in floating offshore wind technology if the correct strategic investment is made in the coming years, where if successful it could develop a large number of manufacturing jobs in Ireland, looking to 2030 and beyond.

22.4.2 Construction Phase

The potential impacts to human health and the population arising from the proposed development during construction phase will include, but are not limited to:

- Noise & vibration: Potential construction phase impacts on sensitive receptors covered in Chapter 20 particularly as it ascertains to night-time noise
- Water: Potential effects on surface water, groundwater and drinking water quality and how that quality effects public health is reviewed in Chapter 16
- Air quality: Potential effects on air quality, both positive and negative will be determined
- Potential health effects arising from pests i.e. vermin
- Potential health effects due to varying public facilities and service access
- Temporary impacts on local residential amenity due to increased road traffic

The potential impacts to population and socio-economic effects arising from the proposed development during construction phase will include, but are not limited to:

- Positive impacts through the creation of direct employment opportunities during construction of the proposed facility as well as indirect employment through increased footfall in local business including retail, local accommodation and leisure facilities.
- Increased employment opportunities at the construction phase of an offshore windfarm as identified in the Carbon Trust report. These include but are not limited to disciplines requiring third level qualifications or above such as engineering, marine engineering, product design, naval architecture, mechanical engineering, geophysics, environmental science, electrical engineering and project management.
- Apprentice level skills are also required in this stage of offshore wind development including but not limited to welding, plating, fabricating, blasting, electricians, plant assembly and construction
- Additional low level certification jobs required at this stage include diving, maritime, vessel crew, crane operation and HGV drivers.

Negative impacts include;

- Potential temporary disturbance to businesses and non-commercial institutions

22.4.3 Operational Phase

The potential impacts to human health and the population arising from the proposed development during the operational phase will include, but are not limited to:

- Noise impact due to port operations
- Potential effects on health arising from economic development and

The potential impacts to population and socio-economic effects arising from the proposed development during operational phase will include, but are not limited to:

- The proposed development will have a positive impact in attracting employment and trade in the study area
- Carbon Trust identified the following areas of employment associated with the operational phase of an offshore wind farm; Electrical engineering, mechanical engineering, QSHE, marine biology, Electrical, instrumentation, engineering technicians (specifically working at high voltage), marine logistics, diving, maritime, vessel crew and helicopter pilot.

22.5 Assessment Methodology

Assessment will be undertaken for both the construction and operational phases and follow the guidance as set out below:

- EPA Advice Notes for Preparing Environmental Impact Statements, Draft, September 2015 and

- EPA Guidelines on the information to be contained in Environmental Impact Assessment Report, May 2022.

A review of available literature and publications for population will be undertaken to develop an in depth understanding of the baseline. This will include, but not limited to:

- Central Statistics Office Ireland's most updated census for the following variables:
    - Demographics (including population, age cohorts, gender)
    - Residential statistics (including, tenure, owner-occupied/rental, household composition)
    - Employment statistics industry of employment, principal economic group)
    - Educational statistics (qualifications held)
- International research and data on the socio-economic impact of comparable projects
- Projection of population within the area of assessment and at a regional level

The study area includes socially and economically disadvantaged sections, such as the Rosslare Harbour Direct Provision centre. The baseline will examine the existing demographic characteristics of the area, including the density of population, employment, skill levels, economic activity, levels of deprivation, sectoral breakdown of the economy and the labour catchment area. The baseline study will also consider the existing and projected land use characteristics such as the existing nature of the area in terms of land use and building density, the state of the local economy and property market. The assessment will address a number of effects likely arising from the proposed development.

The Development Plan and local plans will be reviewed for issues or proposals of relevance to these impact categories such as land use zoning, development proposals and proposals for complementary infrastructure. Planning policies will also be considered through reviews of policies and discussions with local planning authorities.

The impact assessment will address potential effects arising from the proposed development:

- Construction effects on employment: The assessment on effect of employment in the local region will include the degree of displacement, substitution and employment multipliers to determine the additional jobs likely to result from construction of the proposed development

- Economic investment in the region in form of construction expenditure: The assessment will be based on economic spend multipliers and capacity assessment of the local region to supply the requirements of the proposed development. The available data and information on local employment levels, labour mix and educational qualifications will be taken into account.

- Strategic level benefits: assessment will consider regional competitiveness, international profile, rankings and reputation and

- Access to recreation and amenity: The assessment will determine the effect of the proposed development on these facilities on recreation and amenity

The references to the 1985 and 2011 EIA Directives refer to “human health” and include “Human Beings” as the corresponding environmental factor. The 2014 EIAR Directive (2014/52/EU) changes this to “Population and Human Health”. However, no specific guidance on the meaning of the term Human Health has been issued in the context of Directive 2014/52/EU. The 2017 Draft EPA Guidelines on the information to be contained in EIARs notes that ’while no specific guidance on the meaning of the term Human Health has been issued in the context of Directive 2014/52/EU, the same term was used in the SEA Directive (2001/42/ EC)’. The Commission’s SEA Implementation Guidance (section 5.26) states “The notion of human health should be considered in the context of the other issues mentioned in paragraph (f) and thus environmentally related health issues such as exposure to traffic noise or air pollutants are obvious aspects to study”. (Paragraph (f) (of Annex I of the SEA Directive) lists the environmental factors including soils, water, landscape, air etc.)’ (EPA, 2017).

The 2017 Draft EPA Guidelines note that the above health assessment approach is consistent with the approach set out in the 2002 EPA Guidelines where health was considered through assessment of the environmental pathways through which it could be affected, such as air, water or soil: ’The evaluation of effects on these pathways is carried out by reference to accepted standards (usually international) of safety in dose, exposure or risk. These standards are in turn based upon medical and scientific investigation of the direct effects on health of the individual substance, effect or risk. This practice of reliance upon limits, doses and thresholds for environmental pathways, such as air, water or soil, provides robust and reliable health protectors [protection criteria] for analysis relating to the environment’ (EPA, 2017).

These guidelines therefore are supportive of the use of accepted standards such as those issued by authoritative bodies such as the World Health Organisation, European Commission, TII and other bodies. As a result, relevant standards will be used to classify the potential impacts on human health. The standards used will have regard to the assessment criteria used in other chapters in the EIAR. The 2022 EPA Guidelines also note that in an EIA Report, ‘the assessment of impacts on population & human health should refer to the assessments of those factors under which human health effects might occur, as addressed elsewhere in the EIAR e.g. under the environmental factors of air, water, soil, etc.’ and that “assessment of other health & safety issues are carried out under other EU Directives, as relevant.

These may include reports prepared under the Integrated Pollution Prevention and Control, Industrial Emissions, Waste Framework, Landfill, Strategic Environmental Assessment, Seveso III, or Floods. In keeping with the requirement of the amended Directive, an EIA should take account of the results of such assessments without duplicating them’ (EPA 2022b). The Institute for Environmental Management and Assessment (IEMA) in the UK issued a discussion document in 2017 Health in Environmental Impact Assessment - A Primer for a Proportionate Approach. This document provides a discussion on what a proportionate assessment of the impacts on health should be in EIA.

The WHO defined health to include its broader sense in its 1948 constitution as ‘a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity’. Therefore, whilst the EPA guidance mentioned above is useful in terms of identifying an approach to health protection, for a more holistic assessment as per the IEMA document, it is also worthwhile to look at

broader health effects in terms of opportunities for improvement of health and for improvement of access to services. Therefore, health protection, health improvement and improving services will all be considered in the EIA. In relation to health protection the health-based standards referred to above will be the primary assessment tool. The human health assessments will draw on the residual impacts identified in other assessments, specifically, visual, traffic and transport, water, material assets, air quality and noise. The broader health effects in terms of opportunities for improvement of health and for improvement of access to services will be assessed.

For human health, no field surveys are required for any of the assessments in this EIAR chapter. In addition to the desktop study the impact assessment will be informed using comprehensive surveys undertaken in the preparation of other EIAR chapters including those for Noise and Vibration, Air Quality, Traffic and Water.

For population, information will be collected through data already collected. Discussions will be conducted with people working locally in the areas of social disadvantage, economic development, recreation, and policing and with the managers or principals of community facilities. Discussions will be sought with local representative groups such as community groups, residents' groups, marine users, and sports clubs.

22.6 Preliminary Mitigation Measures

Potential mitigation measures will be proposed to remove or reduce possible negative impacts arising from the proposed development. Opportunities to enhance predicted positive impacts will also be explored. Mitigation will be developed and proposed for both the construction and operational phases.

22.7 Summary of Receptor/Topic Scoping Exercise

As potential impacts (both positive and negative) have been identified, Human Health, Population, and Socioeconomics should be scoped into the EIA.

23 Material Assets

23.1 Introduction

This chapter evaluates the impacts which the proposed development may have on Material Assets. Material assets are built services and infrastructure, roads and traffic and waste management (EPA, 2017). This section of the EIASR sets out the proposed methodology for assessing the impact on material assets in and near to Rosslare Europort.

23.2 Policy and Guidance

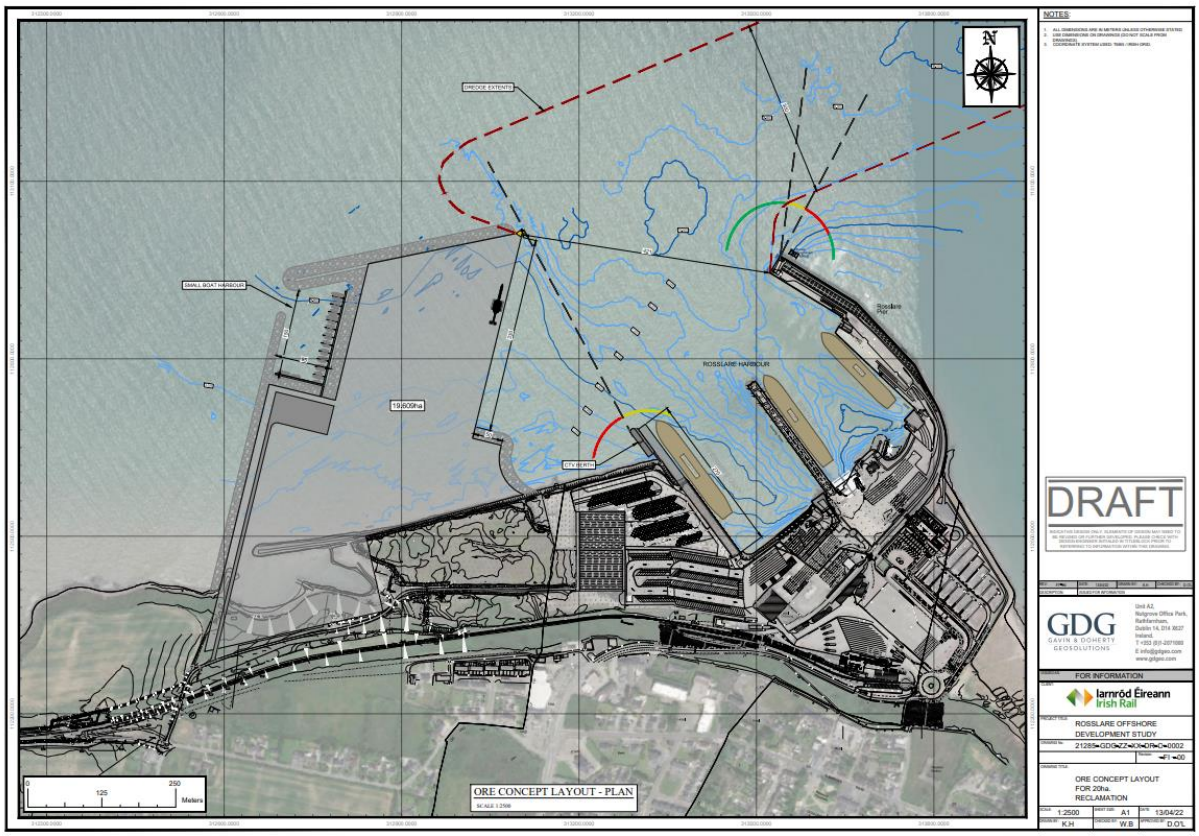
The assessment of effects of the proposed development on material assets will consider the EIA policies and guidance documents set out above.

23.3 Baseline Environment

Rosslare Europort is one of Ireland's leading ports and the gateway to Europe for the freight and tourist industries. The port is strategically located on the southeast coast of Ireland, which is home to 2.9 million people, and is within a 120-minute driving radius of major cities such as Dublin, Cork, and Limerick.

Rosslare Europort is a RoRo, RoPax, offshore and bulk port with three RoRo berths with a two tier linkspan and a dedicated offshore bulk berth (4 berths in total). There are also facilities for offshore and general cargo (Iarnród Éireann, 2021). This includes landside/hinterland storage space for cargo; entrance roads; queuing lanes and infrastructure to support ferry vessels; terminal building and admin office, workshops and storage facilities. There is a small boat harbour for small vessels that do not use the berths and a Fisherman's Quay.

In addition to port infrastructure, there are a number of other land uses / operations within the harbour estate, including shops, an RNLI station, and other port / fishing related commercial operations. Rosslare Harbour - Kilrane town backs onto the harbour estate with a mix of shops, restaurants, industrial/logistics units and residential properties.



The entire Europort is bar-swept to 7.2 meters, allowing unrestricted access to vessels with draughts of up to 6.5 meters. Rosslare Europort offers a comprehensive service including mooring, stevedoring and passenger-car check-in for RoRo shipping lines. It also provides facilities for offshore, dry bulk and general cargo. Rosslare Europort currently provide twice daily round services to the UK and a number of direct services to the continent each day (France and Spain).

The current material assets within the port include three berths for passenger and freight ferries and a fourth for heavy loads. There are 36 continental sailings a week to 3 major ports (Bilbao, Cherbourg and Dunkirk) and 55 UK sailings a week to two ports (Fishguard and Pembroke). Currently, the port is operating at 40-50% capacity (Rosslare Europort, 2022).

There is a subsea fiber optics telecommunications cable (UK-Ireland 2: Global Crossing) 5 km from the proposed development (Ireland's Marine Atlas, 2021cd).

The proposed development mainly consists of reclamation of land, while still maintaining (and upgrading) the current infrastructure.

Land use in the area surrounding the development is predominantly by the existing port and transportation infrastructure (e.g. trailer import & export, freight checking area, OPW Border Control Post, car check in, berth marshalling, existing rail line).

23.4 Potential Impacts

As a part of the development, the addition of the small boat harbour (and upgrade of the third berth to handle offshore wind operations) will have an impact on the redirection of small boat traffic. There will also be an extension and upgrade to the current Fisherman's Quay, which will support heavier traffic and comply with Offshore Wind requirements. Dredging of the berth pocket and navigation channel (- 9.0m CD) may temporarily disrupt the functioning of current material assets, such as passenger and freight traffic. There will be a temporary loss of the small boat harbour, but this will be mitigated with diversion of vessels to an alternative harbour while the development works are being completed.

The new development in combination with the new access road will accommodate an increase in port users from the improved facility combined with improved access and connectivity to the port. It is not anticipated that agricultural land and associated assets such as field boundaries which lie outside the extent of the harbour boundaries will be impacted by the proposal development.

23.5 EIA Report Assessment Methodology

It is considered that the extent and nature of the proposed redevelopment will have significant impact upon those material assets referenced above, which are not specifically addressed elsewhere within the EIAR.

A desktop study as well as consultation with the port will be undertaken to assess exact usage patterns within the port to allow for appropriate mitigation measures to be developed.

Consultation will be undertaken with the users of the small boat harbour to determine the frequency of usage of the existing small boat harbour facility and to allow appropriate mitigation measures and temporary alternative arrangements to be developed.

23.6 Preliminary Mitigation Measures

Alternative berthing/mooring facilities will be developed for the users of the small boat harbour.

Additional mitigation measures will be proposed if necessary once significance of effects has been established.

23.7 Summary of Material Assets Scoping Exercise

The scoping exercise has concluded that impacts to the small boat harbour are certain and therefore it should be scoped into the EIA.

24 Landscape and Visual

24.1 Introduction

The purpose of this section is to describe the scope of work and methods to be applied in the identification and assessment of landscape and visual impacts associated with the proposed development. A high-level overview of the baseline conditions is provided, together with the proposed methodology and a scope of work required to undertake a detailed assessment of the impact of the proposed development on the landscape as part of the Environmental Impact Assessment.

24.2 Policy and Guidance

At an overarching level, the 'National Landscape Strategy for Ireland 2015-2025' was published in mid-2015 by the Department of Arts, Heritage and the Gaeltacht. The aim of this Strategy is to inform and assist in the resolution of challenges that exist, arising from competing interests in the landscape, such as infrastructure provision versus landscape protection or local versus national objectives. One of the key objectives of the National Landscape Strategy, and requirement of the European Landscape Convention, is to prepare a National Landscape Character Assessment (LCA). However, this is not likely to be prepared prior to the submission of an EIAR for the Proposed Project.

A 'Regional Seascape Character Assessment for Ireland' was produced in 2020 by the Department of Agriculture, Food and the Marine (DAFM). This divides the country's seascapes into 13 specific Seascape Character Types and thereafter into numerous geographically specific Seascape Character Areas (SCAs). This is a comprehensive resource when considering the baseline setting of developments in the coastal environment, which covers natural, cultural and heritage aspects.

In terms of currently available Landscape Character Assessments as well as Landscape / Seascape policies and objectives, the most relevant source is the current draft Wexford County Development Plan 202 - 2028. This contains a Landscape Character Assessment for county Wexford.

In relation to landscape / seascape assessment guidance, specific regard will be given to the following guidelines and advice notes:

- Landscape Institute (LI) and Institute of Environmental Management and Assessment (IEMA) Guidelines for Landscape and Visual Impact Assessment 3rd Edition (GLVIA3) (2013);
- Environmental Protection Agency (EPA) publication 'Guidelines on the Information to be contained in Environmental Impact Statements (2022) and the accompanying Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (draft 2015);
- Scottish Natural Heritage (SNH) Offshore Renewables – Guidance on assessing the impact on coastal landscape and seascape (2012)

24.3 Baseline Environment

The proposed development is situated immediately west of the Rosslare Europort Harbour complex and north of the small coastal settlement of Rosslare Harbour. The coastline in the immediate vicinity of the site and existing Europort complex is typified by long sandy beaches, small sea cliffs, and coastal inlets. The broader seascape setting is well described in the Regional Seascape Assessment (2020). The coastline adjacent to the Rosslare Harbour site is identified as being part of Seascape Character Type 7 – 'Broad Estuarine bays and complex low plateau and cliff coastline'. The relevant geographically specific SCA for the development area is 'South Irish Sea':

The 'South Celtic Sea' SCA unit "forms the juncture between the Celtic and Irish Seas; the imaginary boundary between St George's Channel extending from Cansore Point to St David's Head, Pembrokeshire. Ireland's most southeasterly island Tuskar Rock is within this SCA.

The coastal form comprises an interplay of broad, moderate scale bays and estuaries. Long, relatively narrow beaches are a key characteristic of this SCA and are punctuated by Carnsore Point, Cahore Point, Kilmichael Point and Wicklow Head. From Raven Point north to Cahore Point, a spectacular series of strands are present including Curracloe, Ballinesker and Morriscastle Beach.

The hinterland is primarily agricultural with tillage and pasture; holiday homes, caravan parks associated with the beaches are present particularly around Curracloe and Courtown. Coastal and inland topography is generally low in elevation along this SCA, even at headland such as Greenore Point (22mOD) and Cahore Point (35mOD). Tara Hill (253mOD), to the NE of Gorey, is the only noticeable elevated feature along the coastal plain. The rocks at Greenore Point, south of Rosslare are the oldest bedrock in the south east of Ireland, and are associated with the Avalonia continent, when the Iapetus Ocean was in existence around 600 million years ago.

The SCA includes historical towns and harbours including Wexford with long established tourism and fishing bases. The Slaney River Estuary empties freshwater into the harbour. The low-lying coastal area around the harbour comprises the shallow estuarine waters, reclaimed polders known as the North and South 'Slobs', and the tidal section of the River Slaney".

A small harbour known locally as 'small boat harbour' is located along the coastline immediately southwest of the proposal site. Inland to the south, the landscape is comprised of a relatively flat coastal plain landscape near the south-eastern extent of Ireland's coastline. The land use is varied and reflects the nature of this port settlement. The principal land use in the immediate surrounds of the site is that of the Europort complex, whilst further to the south, the land cover comprises a mix of residential, industrial, and commercial uses. The existing N25 national road and the national railway line are also notable linear transport features within the study area. Beyond the coastal settlement of Rosslare Harbour, which is the principal settlement in relation to the site, the predominant land use is pastoral farmland.

In terms of tourism and amenities, the Wexford cycle hub, a network of cycling trails that passes through Enniscorthy, Wexford town, Rosslare and Kilmore Quay, runs along the N25 national road to the south of the site. The Rosslare Harbour Village Trail also passes through the central areas of Rosslare Harbour where views are afforded across the existing Europort facility. The coastal road

between Rosslare Town and Rosslare Harbour is a popular local walking route. A section of the EuroVelo 1 – Atlantic Coast Route also runs along the N25 national road within the study area. St Helens Bay golf club and Toskar Rock golf club are both situated in the general vicinity of the site and afford views across the coastline, however, these views are in the opposite direction to the proposal site. A number of public beaches are situated along the adjoining coastline and include Rosslare Harbour beach, St Helens beach and Rosslare strand.

24.4 Potential Impacts

24.4.1 Potential Construction Stage Impacts

The following is a list of potential construction phase impacts relevant to the Landscape and Visual Assessment;

- landscape / seascape and visual impacts from the expanding reclamation area.
- visual impacts from the movement of traffic and machinery along site access points and haul roads at the proposed development site;
- landscape / seascape and visual impacts arising from the movement and storage of construction materials in and around the port complex;
- landscape / seascape and visual impacts arising from ancillary construction requirements; for example, power and lighting, welfare facilities, etc.

24.4.2 Potential Operational Stage Impacts

The following is a list of potential Operational Phase impacts relevant to the Proposed Project:

- landscape / seascape and visual impacts arising from the completed reclamation area and relation of the small boat harbour.
- landscape / seascape and visual impact arising from permanent buildings / structures; and
- landscape / seascape and visual impacts – both positive and negative – arising from the implementation of any landscape mitigation proposals.

24.5 EIA Report Assessment Methodology

For the proposed reclamation development which is enclosed within Rosslare Harbour adjacent to the west of the existing Europort facility, it is expected that landscape / seascape and visual impacts will be relatively contained and localised. For this reason, a study area of no greater than 3 km is likely to be selected and this may be refined further in consultation with the planning authority.

The SLVIA will consist of a desktop study and fieldwork. The desktop study will comprise of the following:

- Review of a Zone of Theoretical Visibility (ZTV) maps, which indicates areas from which the development elements are potentially visible in relation to terrain within the study area;
- Review of the Wexford County Development Plan;
- Online review of tourism, recreational and heritage features within the study area that may be potential visual receptors.
- Selection of potential Viewshed Reference Points (VRPs) from key visual receptors to be investigated during fieldwork for actual visibility and sensitivity;

Fieldwork will comprise of the following:

- Examination of the salient landscape/ seascape character of the site and its surrounding coastal environs.
- Investigation of potential viewpoint locations identified at the desk study stage and selection / rejection of each.
- Selection of other relevant viewpoints that may not have been apparent from the desk study (local monuments, walkways etc.)
- Capture high resolution base photography in clear weather from which to prepare photomontages of the proposal.
- Preparation of a viewpoint selection report and associated map for consultation purposes (Planning Authority) indicating the intended VP selection set and study area to be used for the preparation of photomontages to support the visual impact assessment.

In accordance with the Guidelines for Landscape and Visual Impact Assessment (Landscape Institute, 2013), the method for estimating the significance of Landscape / Seascape impacts and visual impacts is very similar. This is summarised in Figure 24-1 below.

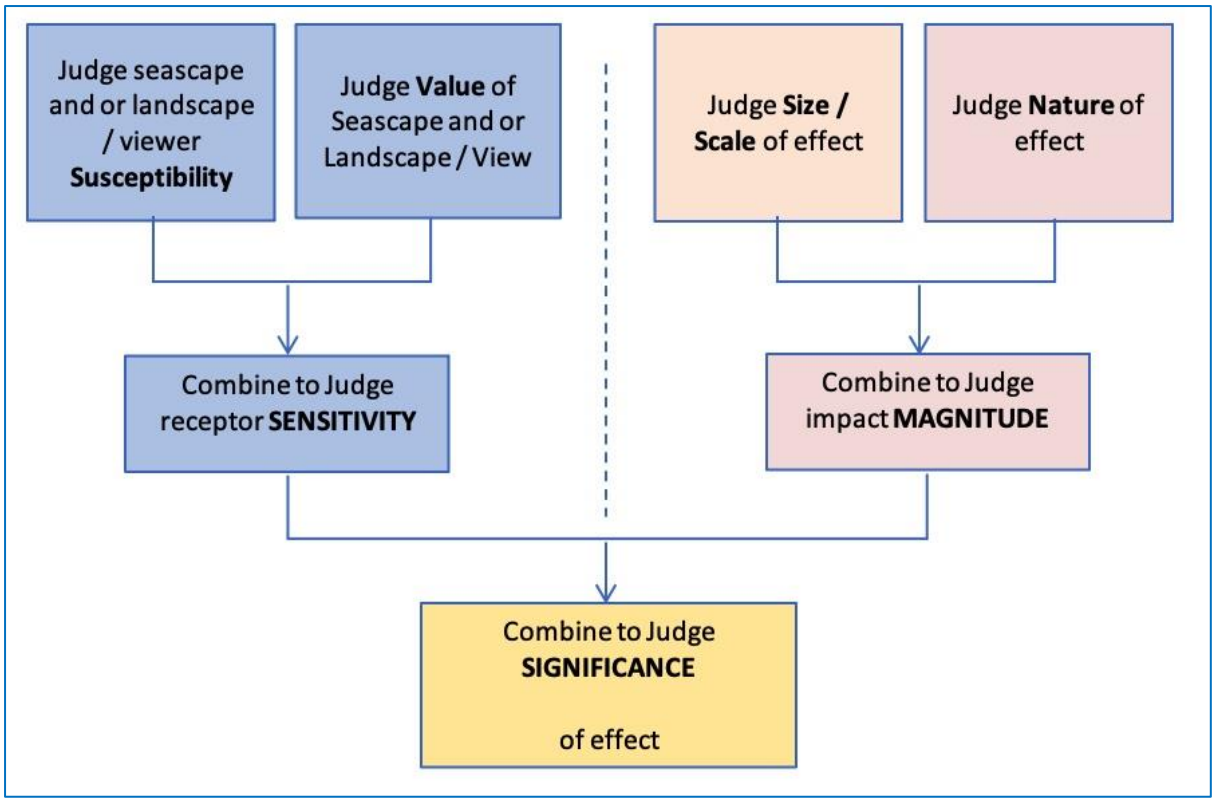


Figure 24-1: Method for assessing seascape/landscape impact significance and visual impact significance (based on GLVIA – 2013).

24.6 Preliminary Mitigation Measures

Following initial impact assessment, mitigation measures will be specified where required to reduce any significant impacts. This could involve screen planting measures and/ or consideration of the tone and texture of surfaces and buildings to minimise visual impacts.

24.7 Summary of Receptor/Topic Scoping Exercise

The scoping exercise has concluded that there is potential for landscape / seascape and visual effects to occur both within the development site and surrounding landscape / seascape character as well as from sensitive visual receptors. These effects will be likely negative (and permanent relative to the baseline) and will occur during construction and operational phases, however, this may be mitigated through considered measure. Thus, a landscape / seascape and visual impact assessment should form part of the EIAR. The scope and methodology for this assessment has been described herein.

25 Major Disasters and Accidents

25.1 Introduction

This section describes the expected significant effects on the environment arising from the vulnerability of the proposed development to risks of major accidents and/or natural disasters which are relevant the project. This assessment is carried out in compliance with the EIA Directive which states the need to assess: "the expected significant adverse effects of the project on the environment deriving from the vulnerability of the project to risks of major accidents and/or natural disasters which are relevant to the project concerned".

25.2 Policy and Guidance

The assessment of effects of the proposed development on major disasters and accidents will consider the EIA policies and guidance documents set out above. Specific to this topic, the following guidance document considerations will be addressed:

As set out in the EIA guidance there are two considerations, namely:

- The potential of the project to cause accidents and/or disasters, including implications for human health, cultural heritage, and the environment
- The vulnerability of the project to potential disasters/accidents, including both natural disasters (e.g. flooding) and man-made disasters (e.g. technological disasters)

Potential exists for the occurrence of a major disaster during both the construction and operational phases of the proposed redevelopment.

25.3 Baseline Environment

The receiving environment is an existing, operational port. Whilst the proposed development seeks to enhance port facilities by providing capacity to the support additional activities for the offshore wind industry, there will be no fundamental changes to the types of operations currently undertaken within the harbour.

Currently, operations within Rosslare Europort consist of a wide range of services across sectors including passenger ferry, freight, cargo, and onshore renewables.

An Iarnród Éireann provided service runs between Dublin and Rosslare Europort station, with connections to places such as Wexford, Enniscorthy, Arklow, Wicklow, Greystones, Bray to Dublin Connolly.

In addition to port infrastructure, there are a number of other land uses / operations within the harbour estate, including shops, ferry terminals, an RNLI station, and other port / fishing related commercial operations. Rosslare Harbour - Kilrane town backs onto the harbour estate with a mix of shops, restaurants, industrial units and residential properties.

Port operations and procedures are overseen by Iarnród Éireann, which are implemented in line with a range of control measures throughout the harbour, to include (inter alia): Rosslare Europort – Port Waste Management Plan 2021/2022, Iarnród Éireann Environmental Policy, Iarnród Éireann Health and Safety Policy, Byelaws of Rosslare Europort, Rosslare Europort Emergency Plan 2022/2023 and Rosslare Europort Oil Spill Response Plan -2018.

25.4 Potential Impacts

Impact upon the natural environment, local land uses and human population caused by accidental discharge of dangerous substances (oils, fuels, cement, paints, contaminants exposed through excavation works etc) could occur during the construction phase, but these are addressed in other chapters in the Scoping report including Water Quality and Soils, Geology and Contamination and do not merit further inclusion within this Major Accidents and Disasters chapter, and are therefore not examined further here.

Operational impacts may also occur through accidental discharge of dangerous substances (during servicing and refuelling of vessels, leaks, spillages and handling of sensitive cargo materials) but these matters will be addressed elsewhere within the Scoping Report and will not therefore be covered within the scope of the Major Disasters and Accidents assessment chapter and are therefore scoped out.

There is potential for storm surge flooding and over-topping from sea level rise within the harbour and at the new facility. The proposed design will consider a future sea level (+50 years) in specification of the infrastructure deck levels to allow for potential sea level rise and avoid issues with flooding or over-topping. The proposed deck levels are documented within the Design Basis Statement for the scheme (Customer Service Requirements document as per Iarnród Éireann documentation). Rosslare harbour is not known to be prone to river flooding nor tidal flooding.

The presence, movement and navigation of vessels during both construction and operational phases, has the potential to result in accidents; collision with other vessels or with natural and / or manmade features, may result in damage to the environment through accidental discharge of sensitive substances such as fuels and cargo materials. However, the existing navigational systems and controls in the harbour will be adhered to and remain in place during and post construction. The movement and navigation of vessels will be described in the Project Description of the EIAR.

25.5 EIA Report Assessment Methodology

As all potential Major Disasters and Accidents impacts identified are addressed by other EIA topics an assessment methodology is not required in this chapter.

25.6 Preliminary Mitigation Measures

As mitigation measures will be proposed under other chapters it is not proposed to include any preliminary mitigation measure sin this chapter.

25.7 Summary of Major Disasters and Accidents

The scoping exercise has concluded that major disaster or accident effects at construction and operational stages will be addressed in other chapters within the EIAR and there is therefore no requirement to address them separately in the EIA.

26 Cumulative Impacts

26.1 Introduction

This section describes the potential cumulative impacts of other existing and/or approved works in the vicinity of the proposed development with the proposed development on the receiving environment.

The EIAR for this development should consider the presence of existing developments as well as those approved to be located in adjacent areas to this development.

26.2 Policy and Guidance

In July 2004, regulations transposing the Strategic Environmental Assessment (SEA) Directive (2001/42/EC) introduced requirements for environmental assessment of certain plans and programmes. This had significant implications for the extent to which EIA needed to assess aspects such as cumulative effects.

26.2.1 Definition of Cumulative Effects

The addition of many minor or significant effects, including effects of other projects, create larger, more significant effects. Cumulative effects result from combining two or more individual effects on an individual receptor. Such effects can occur as a result of plans, programmes, projects and other actions in the past, present and the reasonably foreseeable future. They can result from impacts that may be individually insignificant, but collectively significant. Receptors are things affected by cumulative effects: natural resources (water, air, soil), climate, ecosystems/biodiversity, landscapes, and local communities.

These guides are essential for the development of that chapter when carrying out the EIA concerning cumulative impacts:

- Environmental Impact Assessment Reports Guidelines. Environmental Protection Agency (2022b);
- Good Practice Guidance on Cumulative Effects Assessment in Strategic Environmental Assessment. Environmental Protection Agency (2020);
- The European Commission (EC) Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions (EC, 1999);
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report. European Commission (2017);

- Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions. European Commission (1999);
- Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR). Environmental Protection Agency (2022);

- Guidelines For Ecological Impact Assessment in The UK And Ireland - Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management (2018);

- Guidelines for Environmental Impact Assessment. Institute of Environmental Management and Assessment (IEMA). (2004)

26.3 Baseline Environment

The proposed development will be assessed under each EIAR chapter and consider existing and ongoing operations in the broader area. Consideration will also be given to identify approved projects (or those submitted for planning permission or marine licencing), which may result in a cumulative effect on the proposed development.

In a pre-assessment, the following projects can be identified:

- Existing projects that will potentially use the development's infrastructure
- RNLI Rosslare Harbour Lifeboat Station
- Rosslare Harbour
- Small boat harbour in Rosslare Harbour
- Irish Ferries in Rosslare Europort
- Existing access

It should be noted that this list is not exhaustive and should be reviewed in preparing the EIA. It is worth remembering that the results of this listing have a considerable impact on the other chapters of the EIAR.

26.4 Potential Impacts

According to each discipline, the possible cumulative impacts will be described in each chapter of the EIAR. However, baseline changes can be natural or caused by other anthropic actions, such as upcoming projects. It is likely that some aspects of the baseline will not change (archaeology, for example) while others will (water quality, for example). Where changes are likely, the effects of different stages of the proposed project are evaluated against the possible future receiving environment.

26.5 EIA Report Assessment Methodology

Cumulative effects consider other projects or activities not included in the same consent request. These may be closely related to the project's consent permission and may even be a direct result of the consent decision. These may include side projects such as an electrical power line or an upgrade to a road junction, which could result in significant effects. Cumulative effects refer to adding smaller or significant effects, including effects from other projects, to create larger and more meaningful effects.

While a single activity can result in a minor impact, it can, when combined with other (minor or significant) impacts, result in a cumulative impact that is collectively significant. For example, the effects on traffic due to an individual industrial project may be acceptable, but it may be necessary to assess the cumulative impacts by considering the traffic generated by other permitted or planned projects. It may also be prudent to take into account the likely future environmental burdens arising from land development in the immediate vicinity of the proposed project.

The evaluation of existing projects will be carried out after their identification through field research work and the review of web portals:

Webpage Title	Link:
Ireland's National Planning Application Map Viewer	https://myplan.ie/national-planning-application-map-viewer/
DHLGH's Spatial Information Portal	https://myplan.ie/
WCC's Development Plans and Local Area Plans	https://www.wexfordcoco.ie/planning/development-plans-and-local-area-plans
Wexford County Council Planning Application Database	https://www.wexfordcoco.ie/planning/search-planning-applications
Marine Institute's Marine Ireland	https://www.imdo.ie/Home/site-area/business/maritime-ireland/maritime-ireland#ShipReg
Project Ireland: 2040 Prospects Ireland's Pipeline of Major Infrastructure Projects	https://assets.gov.ie/45625/07afe3b5b99e4afbb4d43da1e121fdcd.pdf
DHLGH Foreshore Licensing Application Database	https://www.gov.ie/en/collection/f2196-foreshore-applications-and-determinations/
Department of Housing EIA	https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=d7d5a3d48f104ecbb206e7e5f84b71f1
EPA Dumping at Sea Database	https://www.epa.ie/our-services/licensing/freshwater--marine/dumping-at-sea-das/

Consultations will be held with relevant regulatory authorities to determine project types, status and potential for cumulative effects to inform the cumulative impacts assessment(s).

26.6 Preliminary Mitigation Measures

Mitigation measures will be outlined under each topic evaluated within the EIA.

26.7 Summary of Cumulative Impacts Scoping Exercise

The scoping exercise concludes that it is relevant to consider Cumulative Impacts when undertaking the EIA. Existing developments and those approved or under approval to be located in adjacent areas to the development should be listed and considered in the cumulative impact assessment of this development. Impacts should be assessed in each EIAR chapter according to each topic and the relevant mitigation measures.

27 Conclusion

This report is the Environmental Impact Assessment (EIA) Scoping Report for the proposed Rosslare Europort Offshore Renewable Energy Hub development. The report has been completed following consideration of an EIA Screening Opinion on the proposed development issued by GDG in May 2022 (Appendix 1). The EIA Screening Opinion determined that the proposed redevelopment is subject to mandatory Environmental Impact Assessment and therefore will require an EIA Report.

This EIA Scoping Report describes the approach to be taken in assessing each of the listed environmental topics, including a description of the study area for each topic; a description of the methodology to be used in assessing each topic including the desk-based, survey work and consultation to be undertaken to inform the assessment; as well as outlining the current baseline conditions and the likely impacts which will occur as a result of construction and operation of the proposed scheme.

This EIA Scoping Report has met its principal objectives of:

- Providing a description of the proposed development
- Identifying likely significant impacts which may arise during the construction and operation of the proposed development
- Outlining proposed assessment methodologies for completing the EIA
- Outlining the likely content of the EIAR, and
- Forming a basis of common reference for consultation about the scope and methodology of the EIA

The EIA scoping exercise has identified potentially significant environmental effects that require more detailed examination and analysis in an EIAR as well as those that can be 'scoped out' of an EIA and will assist An Bord Pleanála to determine a scoping opinion regarding the proposed development.

Table 27-1 below and Table 0-1 (Executive Summary) summarises the range of potential environmental effects that have been scoped in or out of the EIA, based on the analysis in the foregoing sections of the report.

Table 27-1 Summary of environmental topic scoping exercise and data required to assess each scoped in topic

Topic	Topic Definition	Scoped In for EIAR	Data requirements
Consultation	Consultation assists in developing the EIA and ensures the EIA process will comply with the Aarhus Convention on Access to Information, Public Participation in Decision-Making, and Access to Justice in Environmental Matters. Consultation provides potential for specific concerns and issues relating to the proposed project to be discussed and accounted for in design and assessment from very early in the process and ensures involvement of the public and stakeholders in the process.	n/a	A full programme of engagement to be undertaken with all relevant statutory bodies, other users of the marine space including fisheries and leisure users, elected representatives, environmental groups, landowners, businesses, existing customers of the port, the offshore wind industry, residents and any other stakeholders identified.
Onshore Soils, Geology, Hydrogeology and Contamination	This topic considers the potential impact of the project on onshore soils and geology and contamination of these.	Yes	Desktop Study, Site Investigation
Marine Geology	This topic considers the potential impact on marine geological and geomorphological features and contamination of these.	Yes	Desktop Study, Site Investigation
Coastal Processes	This topic considers the potential impact of the project on coastal processes (i.e. shallow geology, hydrodynamic and wave regime, seabed sediments, sediment transport, and coastal geomorphology)	Yes	Desktop Study, Site Investigation
Flood Risk	This topic considers the potential impact of the project on flood risk and other flooding-related impacts	Yes	Desktop Study, Site Investigation, Consultation
Biodiversity: Terrestrial Ecology	This topic considers the potential impact of the project on the terrestrial habitats and species within the proposed development area and its immediate and surrounding environs	Yes	Desktop Study, Site Investigation, Consultation
Biodiversity: Benthic Ecology	This topic considers the potential impact of the project on key marine benthic ecology receptors in the vicinity of the proposed development area	Yes	Desktop Study, Site Investigation

Topic	Topic Definition	Scoped In for EIAR	Data requirements
Biodiversity: Fishing and Fish Ecology	This topic considers the potential impact of the project on the fishing industry and key marine fish and shellfish receptors in the vicinity of the proposed development area	Yes	Desktop Study, Consultation, Site Investigation
Biodiversity: Marine Mammals	This topic considers the potential impact of the project on key marine mammal receptors in the vicinity of the proposed development area	Yes	Desktop Study, Marine Mammal Risk Assessment, Site Investigation (visual and acoustic surveys)
Biodiversity: Ornithology	This topic considers the potential impact of the project on key terrestrial and marine ornithology receptors in the vicinity of the proposed development area	Yes	Desktop Study, Site Investigation, Impact Assessment
Cultural Heritage (Onshore Archaeology)	This topic considers cultural heritage impacts associated with the proposed development, inclusive of archaeological and architectural heritage, on cultural heritage assets onshore	Yes	Desktop Study, Site Investigation
Cultural Heritage (Marine Archaeology)	This topic considers cultural heritage impacts associated with the proposed development, inclusive of archaeological and architectural heritage, on marine cultural heritage assets	Yes	Site Investigation
Water Quality	This topic considers the potential impacts of the proposed development on water quality within the marine environment and the risk to water quality in the surrounding environment	Yes	Desktop Study, Site Investigation
Waste Management	This topic considers the potential impacts of the proposed development on waste management	Yes	Desktop Study
Transportation (onshore)	This topic considers the potential impacts of the proposed development on transportation infrastructure, including Rosslare port and roads in the vicinity of the proposed development	Yes	Desktop Study
Air Quality and Climate	This topic considers the potential air quality and climate impacts as a result of the proposed development	Yes	Desktop Study
Noise and Vibration	This topic considers the potential noise and vibration impacts (e.g. from construction and increased traffic) as a result of the proposed development	Yes	Desktop Study, Site Investigation
Navigation and Shipping	This topic considers the potential shipping and navigation impacts as a result of the proposed development	Yes	Consultation, Navigational Risk Assessment

Topic	Topic Definition	Scoped In for EIAR	Data requirements
Human Health, Population and Socio-economics	This topic considers the potential human health, population and socio-economics impacts (e.g. employment effects, impacts on and access to community facilities, economic investment in the local area, impacts on recreation and amenity and land use interactions) as a result of the proposed development	Yes	Desktop Study, Consultation
Material Assets	This topic considers the potential impacts on material assets (i.e. built services and infrastructure, roads and traffic and waste management) in the vicinity of the proposed development as a result of the proposed development	Yes	Desktop Study, Consultation
Landscape and Visual	This topic considers the potential landscape and visual impacts which may arise as a result of the proposed development	Yes	Desktop Study, Site Investigation and Impact Assessment
Major Disasters and Accidents	This topic considers the potential effects on the environment arising from the vulnerability of the proposed development to risks of major accidents and/or natural disasters which are relevant to the proposed development	No	n/a
Cumulative Impacts	This section considers the potential cumulative impacts of other existing and/or approved works in the vicinity of the proposed development with the proposed development on the receiving environment.	Yes	Desktop Study and Consultation

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Appendix 1 EIA Screening Opinion

1 Introduction

Iarnród Éireann intends to develop facilities for an Offshore Wind Hub at Rosslare Europort in Rosslare Harbour County Wexford, Ireland (hereafter mentioned as the Proposed Project). This Hub which will provide for the storage, assembly and deployment of offshore wind farm infrastructure on the Irish east and south-east coasts will include the reclamation of an area of foreshore directly to the North of the existing Rosslare Europort to facilitate the construction of the new port area. The particulars of the development are discussed further in Chapter 2 of this report.

Iarnród Éireann has commissioned Gavin and Doherty Geosolutions Ltd. (GDG) to undertake Phases 1 & 2 of a four-stage project to develop the Proposed Project including progressing the engineering design and progressing work required to satisfy the requirements of the Environmental Impact Assessment (EIA) Directives and the Birds and Habitats Directives. GDG undertook a pre-feasibility assessment of the project with Iarnród Éireann in 2019 / 2020 to demonstrate the suitability and commercial viability for the facility to act as a main Staging & Installation facility for east coast offshore wind farm construction. Offshore wind development is now also planned for the south coast (East Celtic Sea) in the short term. The proposed project at Rosslare will provide a new offshore wind facility to service this emerging Irish offshore wind market. With a substantial amount of offshore wind activity planned in the Irish Sea and east-Celtic Sea over the next decade, Rosslare is strategically positioned to provide port infrastructure facilities for these projects.

Iarnród Éireann has commissioned GDG to undertake this screening exercise under the EIA Directives (Directive 2014/52/EU which amended Directive 2011/92/EU) to determine the requirement for EIA. The purpose of this document is to provide an outline of the proposed project and assess if an EIA is required in support of an application for planning permission under the recently enacted Maritime Area Planning Act 2021.

An EIA is required only for project types listed in Annexes I and II of the EIA Directive 2011/92/EU as revised by Directive 2014/52/EU (EIA Directive) and/or the corresponding project classes listed in Schedule 5, Parts 1 and 2, of the Planning and Development Regulations 2001 - 2021, as amended. This report includes an assessment as to the applicability of the EIA Directives to the proposed project.

1.1 Methodology

This report documents the process by which the relevance of the EIA Directive with respect to the proposed project has been determined.

This report has been prepared in accordance with the following guidance:

1. Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment, from the Department of Housing, Planning, Community and Local Government (August 2018)
2. OPR Practice Note PN02 Environmental Impact Assessment Screening, from the Office of the Planning Regulator (June 2021)
3. Environmental Impact Assessment of Projects, Guidance on Screening (Directive 2011/92/EU as amended by 2014/52/EU), from the European Commission (2017)

1.2 Structure of the Report

This report is structured into the following chapters, to include information relating to the proposed site investigation activities. Specifically, the chapters describe or comprise the following elements:

- Chapter 1 (this chapter): Introduction
- Chapter 2: Project Description
- Chapter 3: EIA Screening

2 Project Description

Iarnród Éireann intends to develop port infrastructure, within an area of the marine to be reclaimed as part of the development at Rosslare Harbour, to support the development of offshore wind farms on the Irish east and south-east coasts. The proposed project area lies adjacent to and immediately to the north of the existing Rosslare Europort.

2.1 Area for Development

The proposed project area is situated partially within and partially adjoining the landward area of Rosslare Harbour in County Wexford (Figure 2-1). The total development area provides for c. 20 ha of storage and operational activity. The proposed project consists of the following:

- Reclamation of c. 20 ha including an existing small boat harbour for the development of a storage and assembly area,
- Quay walls,
- A replacement small harbour with separate access and car park,
- Access from the proposed new Rosslare Europort Access Road to the north side of the new facility (where the replacement small board harbour will be located),
- Ancillary onshore works, and
- Rock armour revetments partially surrounding the reclaimed area and providing the boundary protection for the proposed small boat harbour.

Once developed the entire area will fall within the Wexford County Council nearshore area under the Maritime Area Planning Act 2021 (once the relevant sections of the Act are commenced in 2023).

Figure 2-1 Location of Rosslare Europort in relation to Celtic and Irish Seas and overview of project (Source: GDG, 2022)

It is planned to apply for planning permission under the Maritime Area Planning Act 2021 once the relevant sections of the Act have been commenced. The planning application will be made to An Bord Pleanála as Iarnród Éireann considers that the nature and purpose of the proposed project constitutes Other Development in the Maritime Area under MAP.

2.2 Proposed Activities within the Development (once constructed)

The proposed project will include facilities for the following:

- Provision of a Crew Transfer Vessel (CTV) berth with freeboard suitable for CTV operations, likely to be a bespoke pontoon system.
- A storage and assembly area for wind turbine components of circa 50 acres (equivalent to circa 20 hectares) developed on reclaimed land adjacent to the existing lands.
- Rock armour revetments facing the reclamation area, designed to minimise impact to the existing wave climate and local hydrodynamic regime
- A dedicated double quay wall to service offshore wind projects tying into the reclaimed area, likely to be tubular steel pile and sheet piled construction with dredged backfill.
- Dredging works (approach chancel and quayside) to accommodate a suitable draught for offshore vessels anticipated at the proposed berth to include; delivery vessels, installation vessels, multi-purpose cargo vessels and support vessels.
- Relocation of the existing small boat harbour and provision of enhanced provision for local boatowners.
- Construction of new management offices on the landside.

2.3 Types of Vessels to be Accommodated Within the Facility

2.3.1 Crew Transfer Vessels

Crew Transfer Vessels (CTV vessels) used in the operation and maintenance of offshore wind farms are small vessels. An example is the Dalby Ribble (26m length) (Figure 2-2). They are specialist vessels built for efficiency in transferring offshore wind farm operations and maintenance crew to offshore wind farms on a daily basis. Two or more vessels may be used to service a wind farm. They are usually aluminium catamarans and can accommodate in the region of 12 passengers. They will have a shallow draft and may be able to transport some components for repairs to site and may be built to accommodate this. In such instances they would typically have a max load capacity for components/equipment of 30t.

Figure 2-2: Dalby Ribble (4coffshore.com)[7]

2.3.2 Wind Farm Installation Vessels

Wind farm installation vessels are much larger than CTVs. An example is the Van Oord Aeolus which measures 139.40m in length, has a dead weight tonnage of 11,990t, a gross tonnage of 19,848t and a net tonnage of 5,955t. Built for strength and stability over speed. The Aeolus includes a 4 leg jack up system of 81m in height with a diameter of 4.5m. Self-propelling and classified by DNVGL as self-elevating it entered operation in 2014 undergoing modification in 2018. This vessel was used to install the 77 9.5MW turbines in the Borssele III & IV Wind Farms off the Dutch coast in 2020 and is typical of the type of vessel that may be used to install wind turbine sin the Irish and Celtic Seas. With a draft of 8.6m it is one of the deeper draft vessels currently in use for offshore wind farm installation and could be accommodated within the Rosslare Offshore Wind Facility.

7 https://www.4coffshore.com/support/an-introduction-to-crew-transfer-vessels-aid2.html

Other vessels which may be used to install wind farms in the Irish and Celtic Seas and which may be accommodated at the proposed Rosslare Offshore Wind Hub Facility include the following:

- Boskalis Bokalift 1
- Deme
    - Innovation
    - Sea Challenger
    - Sea Installer
- Jan de Nul Voltaire

All of these vessels have similar net tonnages to the Van Oord Aeolus.

3 EIA Screening

3.1 Application for Planning Permission

The application for planning permission will be made under the Maritime Area Planning Act 2021 (MAP) and will comply with legislation pertaining to EIA under MAP. MAP requires a development to comply with the European Union's EIA Directives, Schedule 5 of The Planning and Development Regulations 2001 and MAP itself. Relevant extracts from the legislation are set out in the following sections of this report.

3.2 Overview of Relevant EU and Irish Legislation

The first step within the EIA process is Screening. Screening for a Proposed Project is undertaken with consideration of the relevant legislation and guidance which in this instance is:

- Guidance on EIA Screening (European Commission, 2017)
- Guidelines on the information to be contained in Environmental Impact Assessment Reports. (EPA, 2022)
- Interpretation of definitions of project categories of annex I and II of the EIA Directive (European Commission, 2015);
- Maritime Area Planning Act 2021
- Planning and Development Acts, 2000 to 2021;
- Planning and Development Regulations, 2001 to 2018;

3.3 Approach to EIA Screening

The Office of the Planning Regulator issued a practice note, OPR Practice Note PN02, detailing the EIA Screening needed for development proposals (Office of the Planning Regulator, 2021). While the Practice Note aims to provide guidance for compliance with planning legislation, it provides useful guidance for EIA Screening used within other consent regimes.

The Practice Note recommends a step-by-step approach to EIA Screening, as follows:

Step 1: Understanding the Approach

The first step is composed of the following tests:

a) Is the proposed development a project as per the EIA Directive?

   If not, then the proposed development is not subject of EIA Directive, no screening is required, and no EIA is required.

b) Is the project listed in Schedule 5 Part 1 or does it meet or exceed the thresholds in Part 2 of the Planning and Development Regulations, SI 600 of 2001, as amended?

   If it does, no screening is required and EIA is mandatory.

c) Is the project sub threshold?

If it is, then the project must proceed to Step 2, as preliminary examination is required.

Step 2: Preliminary Examination & Conclusion

This step consists of a preliminary examination of, at least, the nature, size, **or** location of the development, considering:

- **Nature** of the development including production of waste and pollutants
- **Size** of the development
- **Location** of the development including proximity to ecologically sensitive sites and the potential to affect other environmental sensitivities in the area

Step 2 will have one of three outcomes:

a) There is no real likelihood of a significant effect on the environment and no further action is required. The reasons for this conclusion will be stated.

b) There is significant doubt as to the effects on the environment; the project must proceed to Step 3, as a formal screening determination is required.

c) There is a real likelihood of a significant effect on the environment and an EIA is required.

Step 3: Formal Screening Determination

In this step, a Screening exercise must be carried out in order to determine if the proposal is likely to have significant effects on the environment. In making the determination, the planning authority must have regard to Schedule 7 criteria, Schedule 7A information, results of other relevant EU assessments, the location of sensitive ecological sites, or heritage or conservation designations. Mitigation measures may be considered.

The Screening Determination must state the outcome and the main reasons and considerations for such outcome, with reference to the relevant criteria listed in Schedule 7 of the Regulations and Mitigation, if relevant.

3.4 EIA directives

Article 2(1) of the EIA Directive[8] states:

"Member States shall adopt all measures necessary to ensure that, before development consent is given, projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects on the environment. Those projects are defined in Article 4."

Article 4(1) addresses projects falling under Annex I of the directive and Article 4(2) addresses projects falling under Annex II.

Article 4(1) requires that *"…projects listed in Annex I shall be made subject to an assessment…"*. EIA is therefore mandatory for the project types listed in Annex I.

Article 4(2) requires that Member States must determine for Annex II project types whether EIA is required, through:

c) a case-by-case assessment, or

d) thresholds or criteria set by the member State

Of particular relevance to this EIA Screening Assessment is the project category related to port development listed under Annex I Part 8. Annex I Part 8(1)(b) of the EIA Directive requires an EIA for the following development:

Trading ports, piers for loading and unloading connected to land and outside ports (excluding ferry piers) which can take vessels of over 1,350 tonnes. The Proposed Project includes vessels over 1,350 tonnes. This weight limit is the maximum amount of weight that a ship can support (inclusive of passengers, fuel, goods, etc).

3.5 Schedule 5 of the Planning and Development Regulations

Part 1 of Schedule 5 of the Planning and Development Regulations 2001, as amended (Planning Regulations) lists the project types for which EIA is mandatory, transposing Annex I of the EIA Directive.

Part 2 lists project types for which EIA is mandatory if a specified threshold is exceeded. For all other project types listed in Part 2, corresponding to Annex II, which do not exceed a threshold or for which no threshold is set, a screening analysis and determination are required on a case-by-case basis.

An EIA is also required for projects which do not exceed the threshold, but where the Minister determines that the proposed project will be likely to have significant effects on the environment.

[8] Environmental Impact Assessment (EIA) Directive (Council Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 2014/52/EU)

A mandatory EIA is required for developments or projects that are a classification specified by Annex I of the EIA Directive, as amended or by Schedule 5 of the Planning and Development Regulations 2001, as amended. Schedule 5 classes greatly range.

The following project classes in Part 1, are relevant to the Proposed Project:

- Schedule 5, Part 1 Class 8 (b):

Trading ports, piers for loading and unloading connected to land and outside ports (excluding ferry piers) which can take vessels of over 1,350 tonnes.

3.6 Screening for Mandatory EIA

3.6.1 Does the proposed project meet the definition of a project under the EIA Directives?

The first step in the screening process is to determine if the proposed project can be defined as a project. As per the Practice Note issued by the Office of the Planning Regulator (PN02) on EIA Screening, for the purposes of the EIA Directives, 'project' means either:

1. the execution of construction works or of other installations or schemes, or
2. other interventions in the natural surroundings and landscape including the extraction of mineral resources.

The proposed project satisfies both of these c (refer to Section 2 of this report for a description of the project), therefore the proposed project is a 'project' to which the EIA Directives may apply.

3.6.2 Part 1 of Schedule 5

Does the project fall under a class or classes of project under Part 1 of Schedule 5 of the Planning and Development Regulations 2001 which list the project categories for which an Environmental Impact Assessment is mandatory?

As stated in Section 3.3.2 the following project classes in Part 1, are relevant to the Proposed Project:

- Schedule 5, Part 1 Class 8.(b):

"Trading ports, piers for loading and unloading connected to land and outside ports (excluding ferry piers) which can take vessels of over 1,350 tonnes."

The proposed project will be designed and constructed to facilitate the installation and subsequent operation and maintenance off offshore wind farms in the Irish and Celtic Seas. The types of vessels that will be used for offshore wind farm installation far exceed this threshold (see examples provided in Section 2.2.1) and therefore the proposed project is of a type listed under Schedule 5, Part 1 Class 8.(b). Therefore, the proposed project is of a class of project which is subject to a mandatory EIA.

3.7 Conclusion of the Screening for EIA

The proposed project is of the following class listed under Schedule 5 of the Planning and Development Regulations 2001:

- Schedule 5 Part 1 8.(b) Trading ports, piers for loading and unloading connected to land and outside ports (excluding ferry piers) which can take vessels of over 1,350 tonnes.

Therefore, the proposed project is subject to mandatory EIA. Any application for planning permission must therefore be accompanied by an EIA Report and the application for planning permission must undergo an EIA of the impacts of the proposed project on the receiving environment.

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Offices

Dublin (Head Office)
Gavin & Doherty Geosolutions
Unit A2, Nutgrove Office Park
Rathfarnham
Dublin 14, D14 X627
Phone: +353 1 207 1000

Cork
Gavin & Doherty Geosolutions
Unit 4E, Northpoint House,
North Point Business Park
Cork, T23 AT2P
Phone: +353 21 237 3434

London
Gavin & Doherty Geosolutions (UK) Limited
85 Great Portland Street, First Floor
London
W1W 7LT
Tel: +44 2034682455

Edinburgh
Gavin & Doherty Geosolutions (UK) Limited
21 Young Street
Edinburgh
Scotland, EH2 4HU
Phone: +44 1 313 444 605

Belfast
Gavin & Doherty Geosolutions (UK) Limited
Scottish Provident Building
7 Donegall Square West
Belfast, BT1 6JH
Phone: +44 289 091 8845

GDG
GAVIN & DOHERTY
GEOSOLUTIONS

Website: www.gdgeo.com
Email: info@gdgeo.com