Environmental Impact Assessment Report (EIAR) – Volume 2

Chapter 1 – Introduction

CHAPTER 1

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

Port of Waterford Company

Port of Waterford, Belview, Co. Kilkenny

MALONE O'REGAN ENVIRONMENTAL

QUALITY
I.S. EN ISO 9001:2015
NSAI Certified

FIGURES

TABLES

APPENDICES

All appendices referenced in this document are presented in EIAR Volume III

APPENDICES CHAPTER 1

1 INTRODUCTION

1.1 Introduction

Malone O'Regan Environmental ('MOR Environmental') has been commissioned by Port of Waterford Company ('the Applicant') to prepare this Environmental Impact Assessment Report ('EIAR').

This report has been prepared in support of a planning application for port facilities comprising a circa ('ca.') 250-metre ('m') wharf extension to support proposed Offshore Renewable Energy ('ORE') development and general port development, land reclamation, ancillary works and a biodiversity enhancement area ('the Proposed Development').

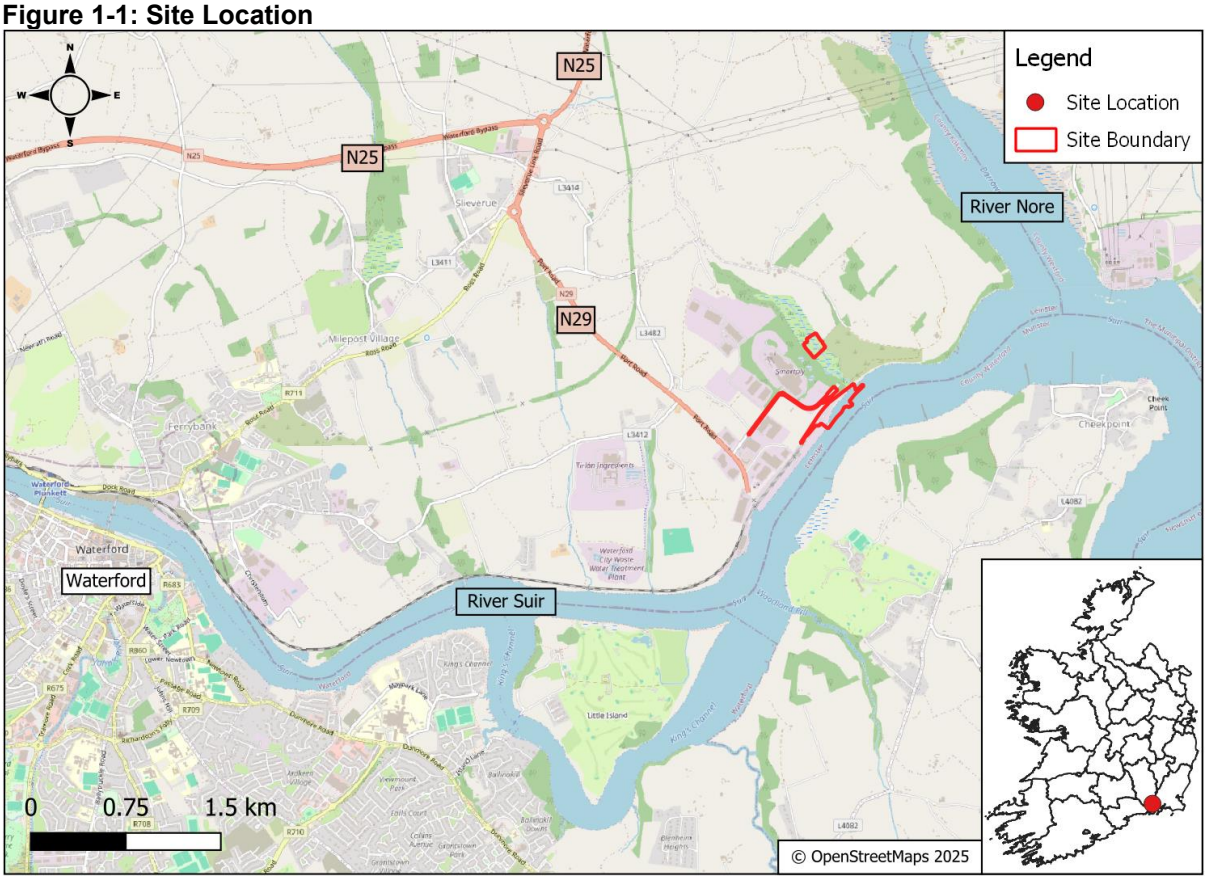
The Proposed Development will be located partly on land and partly in the near-shore area of the coastal planning authority (Kilkenny County Council) at the Port of Waterford, Belview Port, Belview, Co. Kilkenny ('the Site') (ITM OS Reference: 666422; 613637).

The Site has a gross site area of ca. 8 hectares ('ha') and is made up of the following sections:

- ca. 4.9ha of development within the existing Port of Waterford landownership;
- ca. 1.3ha of reclaimed area within the Lower Suir Estuary using reclaimed materials and quarried rock; and,
- ca. 1.8ha of a biodiversity enhancement area located to the northwest of the wharf development.

Figure 1-1 shows the location of the Site, located partly within the townland of Gorteens, Co. Kilkenny, ca. 5.6km northeast of Waterford City.

Figure 1-1: Site Location



This EIAR is structured as follows:

- Volume 1 – Non-Technical Summary;
- Volume 2 – Main Report; and,
- Volume 3 – Appendices with supported technical reports and drawings.

1.2 The Applicant

Port of Waterford, originally known as Waterford Harbour Commissioners, was established more than 200 years ago in 1816. In 1999, the organisation was incorporated as the Port of Waterford Company and now operates in the commercial semi-state sector in Ireland, reporting to the Department of Transport. Since its foundation, the organisation has played a vital role in the development of Waterford City and the region.

In the early 1990s, commercial shipping operations moved to Belview, ca. 8km downstream of Waterford City and closer to the sea. The Port of Waterford now offers facilities for lift-on / lift-off ('LoLo'), bulk and breakbulk and container cargoes.

The current commercial port comprises some 960m of marginal quays at Belview, together with open and covered storage areas and warehouses within a 265ha area of the designated Belview Port Zone, including a partly developed 55ha Industrial Development Agency ('IDA') strategic Foreign Direct Investment ('FDI') industrial land reserve. The Port is backed by a very significant industrial area located on adjoining landbanks and is the base of a very significant, regionally important employment zone.

The Port of Waterford operates in imports / exports with a focus on bulk and breakbulk, liquid bulk, general cargoes, cement, ground granulated blast-furnace slag ('GGBS'), eco-cement production, concrete batching, agricultural products, oriented strand board ('OSB') and container handling through its licenced stevedores and manufacturers. Current bulk activity within the Port is 1.7m tonnes per annum ('TPA'). Total Capacity at the Port with this new development will be 4.0m TPA, which is the volume indication for 2035 in the Port of Waterford Masterplan (see Section 2.3). The Port of Waterford can accommodate large vessels, with ship draughts of up to 9m and lengths of up to 190m. The Port is serviced by the N29 national primary road and by the Rosslare-Limerick Railway line.

The Port of Waterford is a State-owned commercial company responsible for the management and development of the Port. The Port of Waterford is the fourth largest of the State's commercial ports in terms of total tonnage handled, and the fifth largest port when including Rosslare Europort, and the facilities are considered an infrastructure asset of national importance [1]. The Port of Waterford is designated as a Port of National Significance (Tier 2) within the terms of the National Ports Policy [1].

According to the National Ports Policy [1], Tier 2 ports are those that:

- *'are responsible for at least 2.5% of overall tonnage through Irish ports;*
- *have the clear demonstrable potential to handle higher volumes of unitised traffic; and,*
- *have the existing transport links to serve a wider, national marketplace beyond their immediate region.'*

The Port of Waterford is Ireland's closest multi-modal port to mainland Europe and enjoys excellent transport links with Ireland's major cities through both its connection with the national road network and the railway network. The Southern Assembly Regional Spatial and Economic Strategy ('RSES') supports the development of the Port as a major international gateway and its achievement of Tier 1 status [2].

The Port of Waterford is committed to sustainability and reducing its carbon footprint where possible. The Port of Waterford also implements a strict Environmental Policy for managing ship waste, energy usage, managing cargo / projects and utilising new technologies. The Port of Waterford has obtained EcoMerit and ISO 14001 environmental certifications. The Port of Waterford is a member of the European Sea Ports Organisation's ('ESPO') 'EcoPort' Network, which is a marine environmental initiative for the European port sector [3]. The EcoPort's Ports Environmental Review System ('PERS') is the only port-sector-specific environmental management standard that incorporates the general requirements of environmental management standards such as ISO14001 and builds on the policy recommendations of ESPO. Over the last 20 years, PERS have been implemented by 23 ports throughout Europe, including the Port of Waterford. The Port's 2023 PERS Report is available on the Port of Waterford's website [4]. PERS implementation is independently reviewed by the Dutch Accreditation Council, the RVA [3].

The Port of Waterford is also an active partner of the Sustainable Energy Authority of Ireland ('SEAI'), and in addition, the Port is a Business Supporter of the All-Ireland Pollinator Plan and took part in the EU DiadeES Programme - an EU initiative aimed at conserving vulnerable migratory fish species [5].

1.3 Site Context

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

The Site covers an area of ca. 8ha and is located partly on land and partly in the Lower Suir Estuary within the industrial landscape of the Port of Waterford, Belview, Co. Kilkenny (see Figure 1-2). The Site is accessed via local road L7852 off the N29 national road. The Site is bordered to the north and west by a primarily industrial landscape, and within the wider area are the sites of SmartPly Europe, Southeast Port Services Ltd., Target Fertilisers, the wider Belview Port and more. Across the Lower Suir Estuary is Faithlegg, Co. Waterford, an area of one-off residential housing, agricultural lands, forestry and marshlands.

The terrestrial portion of the Site covers the downstream end of the existing Belview Quay, the existing weighbridge, the existing substation, an area along the local road to the downstream access to Belview Quay and existing areas of hardstanding. Within the Site, on the downstream end of the Belview Quay, there is currently a permitted waste facility that handles ferrous metals (Waste Code: 19 12 02) and is registered to McKenzies Metals (Ireland) Ltd. (Permit No: WFP-KK-21-0006-01). This permit will expire in February 2027 and by this time or prior, depending on the timing of the construction of the Proposed Development, this scrap metal facility will be decommissioned in accordance with the requirements of their permit to the satisfaction of Kilkenny County Council.

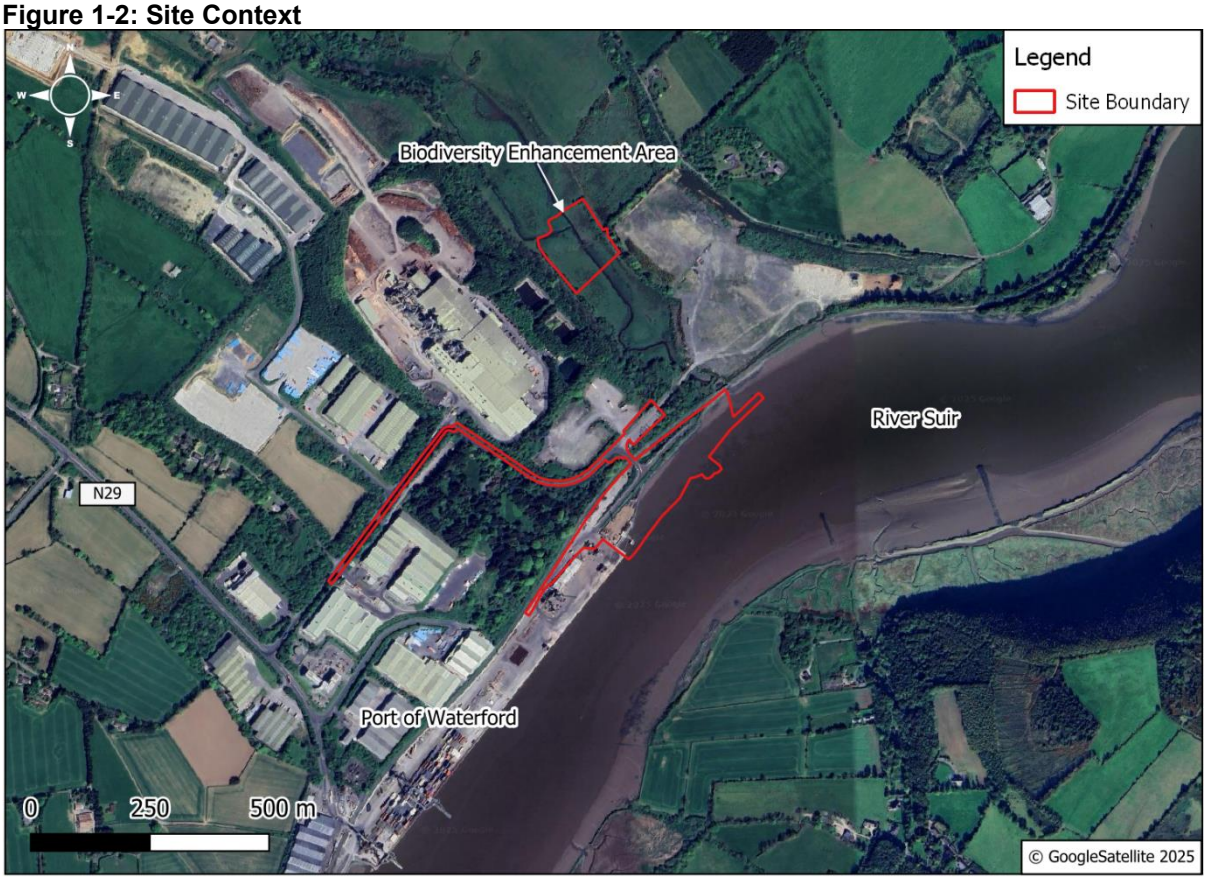
The Site boundary also includes an area identified as a proposed biodiversity enhancement area located north of the proposed wharf extension. This area is currently comprised of a mosaic of agricultural wet grassland and areas of rushes. Cattle regularly utilise this area from the adjacent fields due to the lack of fencing within this area.

The portion of the Site located within the Lower Suir Estuary is considered to be located in the 'Nearshore' as defined in the Marine Area Planning Act 2021 ('MAPA'). The section of the Lower Suir Estuary in which the Site is located is a designated Special Area of Conservation ('SAC'), the Lower River Suir SAC, and flows in a northeasterly direction, where it joins the River Barrow. The River Barrow is ca. 1.8km east of the Site and is designated as the River Barrow and River Nore SAC. The River Barrow flows in a southeasterly direction, eventually discharging into the Waterford Estuary.

The Waterford Estuary, located in southeast Ireland, is a semi-enclosed coastal waterbody open to the sea through an entrance ca. 4.25km wide between Hook Head and Dunmore East. Just inside the mouth of the estuary is Creadan Head, in the lee of which are a series of beaches and tidal flats extending as far north as Passage East. The estuary is tidal for ca. 60km up the estuary, from the entrance at Hook Head, on the Lower Suir Estuary, and ca. 55km on both the Rivers Barrow (to St Mullin's) and Nore (to Inistioge). The water surface area covers ca. 80km², being, for the most part, relatively shallow riverine sections; however, a series of deep pockets occur within the Waterford Estuary.

The Port of Waterford's authority limits extend ca. 6.5km south of a line between Hook Head and Falskirt Rock, encompassing the majority of the Waterford Estuary and extending 15km westward from a centre line of the Killoteran Pill and due northwest to a position in the townland of Licketstown on the Kilkenny side of the Lower Suir Estuary.

Figure 1-2: Site Context

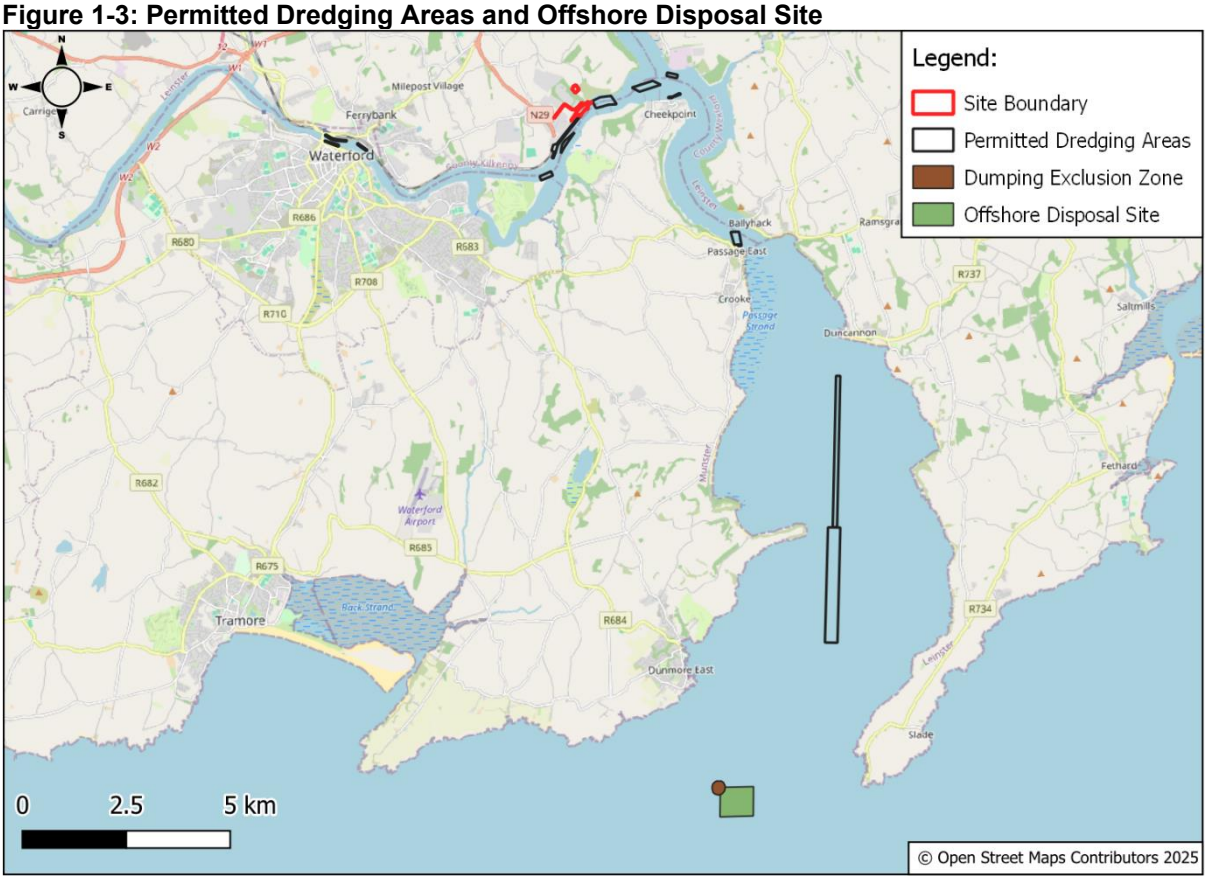


Given that the Port of Waterford is an active Tier 2 port, there is regular navigational traffic through the Waterford Estuary and the Celtic Sea. As such, in order to maintain safe navigational depth within the Waterford Estuary, the Port of Waterford has implemented a maintenance dredging programme under licence and permit for several decades. The Port of Waterford currently undertake maintenance dredging at 16 locations within the Waterford Estuary under the current Foreshore Licence (Licence Reg. No. FS006684) and dispose of the dredged material within the offshore disposal site under the current Dumping at Sea ('DaS') permit (Permit Reg. No. S0012-03); see Figure 1-3. The off-site disposal site has been utilised for dredging activities since 1996 and is located at ca. 2.6km southwest of Hook Head.

The current Foreshore Licence (Licence Reg. No. FS006684) and DaS permit (Permit Reg. No. S0012-03) are both set to expire on the 31st December 2025. Therefore, the Port of Waterford submitted an application to the Environmental Protection Agency ('EPA') for a new

DaS permit on the 9th February 2024 (Permit Reg. No. S0012-05) and has submitted an application for a Maritime Usage Licence ('MUL') to MARA (Ref: LIC230025).

Figure 1-3: Permitted Dredging Areas and Offshore Disposal Site



1.4 Overview of the Proposed Development

The Proposed Development will involve the development of one of the projects outlined in the Port of Waterford Masterplan 2020-2044 [6], which is a framework that outlines essential projects to continue to grow the Port of Waterford. The implementation of its masterplan will ensure that the Port will continue to play a significant role in the economic development of the Southeast and further afield in Ireland.

The Belview Quay extension that was originally outlined in the Masterplan included a 400m quay extension to provide two new berths, including ca. 6ha of land reclamation. However, in 2019, the first Climate Action Plan ('CAP') outlined the ambition of Ireland to generate at least 3.5 gigawatt ('GW') of offshore renewable energy by 2030 [7]. Then, in October 2020, the Department of the Taoiseach published the '*Programme for Government: Our Shared Future',* which set out the goal to hold the first Renewable Electricity Support Scheme ('RESS') auction for offshore wind in 2021 and to prepare a plan to *'set out a path to achieving 5GW capacity in offshore wind by 2030 off Ireland's Eastern and Southern coasts*' [8].

Therefore, as the requirements for offshore renewable energy in the eastern and southern coasts increased, the Belview Quay extension project was amended from the original design outlined in the Masterplan to incorporate facilities to support the offshore renewable energy targets.

The Proposed Development will comprise a 250m extension to the existing wharves at the container / bulk handling terminal at Belview Port that will provide two separate quayside ORE operator supportive facilities, provide additional bulk and container areas, ancillary works and

a biodiversity enhancement area ca. 1.82ha in size. The Proposed Development will require reclaiming ca. 1.3ha of land using reclaimed materials and quarried rock.

The Proposed Development will operate 24 hours a day, 7 days a week, for 365 days per year as per the existing Port of Waterford operational basis. The Proposed Development will directly create up to 100[1] jobs during the Operational Phase.

1.4.1 Background to Statutory Process

An initial consultation request was submitted to An Coimisiún Pleanála ('ACP'), formally known as An Bord Pleanála, for a Strategic Infrastructure Development ('SID') pre-application consultation on the 25th November 2023.

Pre-application consultation meetings were held online with ACP under SID protocols on the 16th February and 22nd June 2023 under Case Reference ACP-315199-22. Meeting notes from these meetings were issued by ACP. During the February 2023 consultation meeting, ACP requested the Applicant to get in contact with the National Parks and Wildlife Service ('NPWS') to discuss the project. The Applicant completed this consultation and presented the response from the NPWS to ACP, which was deemed acceptable.

It was intended to close the consultation and submit a SID application in August 2023. However, the introduction of elements of the Maritime Area Planning Act ('MAPA') 2021 into Part XXI of the Planning & Development Act 2000 (as amended) created some uncertainty around the SID process. This matter was discussed during the SID consultation and is noted in the ACP Record of Meetings.

Having regard to Part XXI, Section 287(1) of the Planning and Development Act 2000 (as amended), a request for consultation was issued to ACP on the 10th January 2024 under Section 287(4)(a) of the Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023. Therefore, a pre-consultation meeting was held online with ACP on the 21st March 2024 under Case Reference ACP-319047-24.

ACP issued an Inspector's Report and a Closure Letter on the 10th May 2024. The Closure Letter issued by ACP outlined a number of prescribed bodies that will be notified of the application for the Proposed Development.

See ACP documentation in Appendix 1-2.

1.5 Additional Consenting Process

The Proposed Development is subject to a Maritime Area Consent ('MAC') from the Maritime Area Regulatory Authority ('MARA').

A pre-application consultation request was issued to MARA on the 28th June 2023, and a pre-application consultation meeting was held online with MARA on the 31st August 2023. The MAC application for the Proposed Development was issued to MARA on the 22nd December 2023.

MARA granted the Port of Waterford a conditional MAC on the 16th June 2025 (Ref: MAC20230001). This MAC includes a lifespan of 60 years. At the requisite time, following the 60-year lifespan, it is anticipated that the Applicant will apply for a new MAC and all other appropriate consents for the nature of the Proposed Development to be continued or repurposed.

[1] Throughout the EIAR, a figure of 100 jobs was used for worst case assessments, where appropriate.

1.6 Environmental Impact Assessment Report ('EIAR')

This EIAR has been prepared in accordance with the requirements of the following legislation and guidance documents:

- The Planning and Development Acts 2000-2024, as amended (Part X, Schedule 5) [9];
- Part II of the first Schedule of the European Communities (Environmental Impact Assessment ('EIA') (Amendment) Regulations, 1999 (S.I. No. 93 of 1999) [10];
- The Local Government Planning and Development Regulations (S.I. No. 600 of 2001) as amended [11];
- European Union ('EU') (Planning and Development) (Environmental Impact Assessment) Regulations 2018 [12];
- EU Guidance on EIA: EIS Review, 2001 [13];
- European Commission 'Guidance on the preparation of the Environmental Impact Assessment Report', 2017 [14];
- EPA 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports', 2022 [15];
- EPA 'Advice notes on current practice in the preparation of Environmental Impact Statements', 2003 [16];
- European Commission 'Interpretation of Definitions of Project categories of Annex I and II of the EIA Directive', 2015 [17];
- Department of Housing, Planning and Location Government 'Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment', 2018 [18]; and,
- European Commission, 'Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions', 1999 [19].

1.6.1 EIA Amending Directive (2014/52/EU)

On 14th April 2014, the EIA Directive (2014/52/EU) ('the EIA Amendment Directive') was adopted by the Council of the EU and amended Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment. Article 2 of the EIA Amendment Directive required all Member States to bring the Directive into force by 16th May 2017.

The EIA Amendment Directive clarified aspects of the preceding Directive 2011/92/EU to bring it into line with intervening European Court of Justice ('ECJ') judgments and introduced additional provisions and procedural options. Therefore, compliance with the EIA Amendment Directive (2014/52/EU) will automatically ensure compliance with Directive 2011/92/EU. In Ireland, the EU (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. 296 of 2018) came into effect on the 1st September 2018 and gave effect to Directive 2011/92/EU as amended by the EIA Amendment Directive.

Article 1 (2)(g) of the Amending EIA Directive provides that an EIA means a process consisting of:

- The preparation of an environmental impact assessment report by the developer;
- The carrying out of a consultation;

- The examination by the competent authority of the information presented in the environmental impact assessment report and any supplementary information provided, where necessary, by the developer and any relevant information received through consultation;
- The reasoned conclusion by the competent authority on the significant effects of the project on the environment, taking into account the results of the examination referred to in point (c) and, where appropriate, its own supplementary examination; and,
- The integration of the competent authority's reasoned conclusion into its decision.

An EIAR document is produced as the key component of the Environmental Impact Assessment ('EIA') process. It provides a description of:

- The baseline environment;
- Identification of the potential effects (if any - both positive and negative) that are predicted to be incurred as a result of the Proposed Development;
- A description of any control and mitigation measures required to avoid, reduce or eliminate such potential effects; and,
- A description of the reasonable alternatives studied by the persons who prepared the EIAR, which are relevant to the Proposed Development and its specific characteristics.

1.6.2 Assessment under Schedule 5 (Mandatory EIA)

The relevant classes of developments that require EIA are set out in Schedule 5 of the Planning and Development Regulations 2001 (as amended) [11]. Schedule 5 transposes Annex I and Annex II of the EU EIA Directive (85/337/ECC as amended) into Irish law under Parts 1 and 2 of the Schedule. There are no new criteria under S.I. No. 296 of 2018.

The Proposed Development falls under Part 1 of Schedule 5, under 8 (b):

> *'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 Development will be a ca. 250m wharf extension that will result in the Belview Quay increasing to over 1000m in length, which will have the capacity to load and unload vessels of over 30,000 deadweight tonnage ('DWT'). The Proposed Development will also have two ORE-capable terminals located within the northern section of the extension.

Therefore, the Proposed Development has a mandatory EIAR requirement.

1.7 Scope of the EIAR

In accordance with EPA Guidelines [15], the following attributes of the receiving environment and their interactions are described within the EIAR:

- Population and Human Health;
- Biodiversity;
- Soils & Geology;
- Water (Hydrology and Hydrogeology);
- Air Quality;

- Climate;
- Terrestrial Noise and Vibration;
- Underwater Noise and Vibration;
- Landscape and Visual;
- Terrestrial Cultural Heritage;
- Underwater Cultural Heritage;
- Material Assets – Traffic and Transport;
- Material Assets – Natural Resources, Energy and Waste; and,
- Material Assets - Water and Wastewater.

1.8 Structure of the EIAR

Table 1-1 below provides a description of the EIAR structure.

Table 1-1: Structure and Description of the EIAR

Title	Description
Volume 1: Non-Technical Summary ('NTS')	
NTS	The NTS contains an overview of the Proposed Development and the principal findings of the Environmental Impact Assessment ('EIAR') in non-technical language.
Volume 2: Main EIAR Report	
Chapter 1-4	Chapters 1-4 provide an introduction to the Proposed Development, describe the Proposed Development, the need for the Proposed Development and the alternatives considered.
Chapters 5-18	Chapters 5-18 comprise the assessment of environmental impacts, together with an evaluation of their significance and a description of any mitigation measures proposed to minimise potential impacts. It also takes into account the interactions between the various attributes. Chapters 5-18 will generally be structured as follows: • A brief introduction to the chapter; • An outline of the methodology employed; • A description of the existing receiving environment ('baseline') relevant to the environmental topic under consideration; • A description of the characteristics and predicted effects of the Proposed Development on the receiving environment, including a description of cumulative effects where relevant; • A description of the reductive or mitigation measures and/or the factors that will reduce or eliminate any significant environmental effects identified; • A description of the residual effect of the Proposed Development. Residual effects are the remaining effects that will occur after the proposed mitigation measures have been taken into consideration; • A description of the interactions with other environmental attributes; • Details of any monitoring required during Site preparation and operations; • Details of any rehabilitation required; and, • Difficulties encountered in undertaking the assessment.

Title	Description
Chapter 19	Chapter 19 summarises the major interactions between environmental impacts on the various factors.
Chapter 20	Chapter 20 outlines the overall Schedule of Commitments agreed by the applicant in the event the planning application is authorised.
Volume 3: Appendices	
Appendices	Relevant A3 drawings and topic-specific supporting documentation are contained within Volume 3 – Appendices.

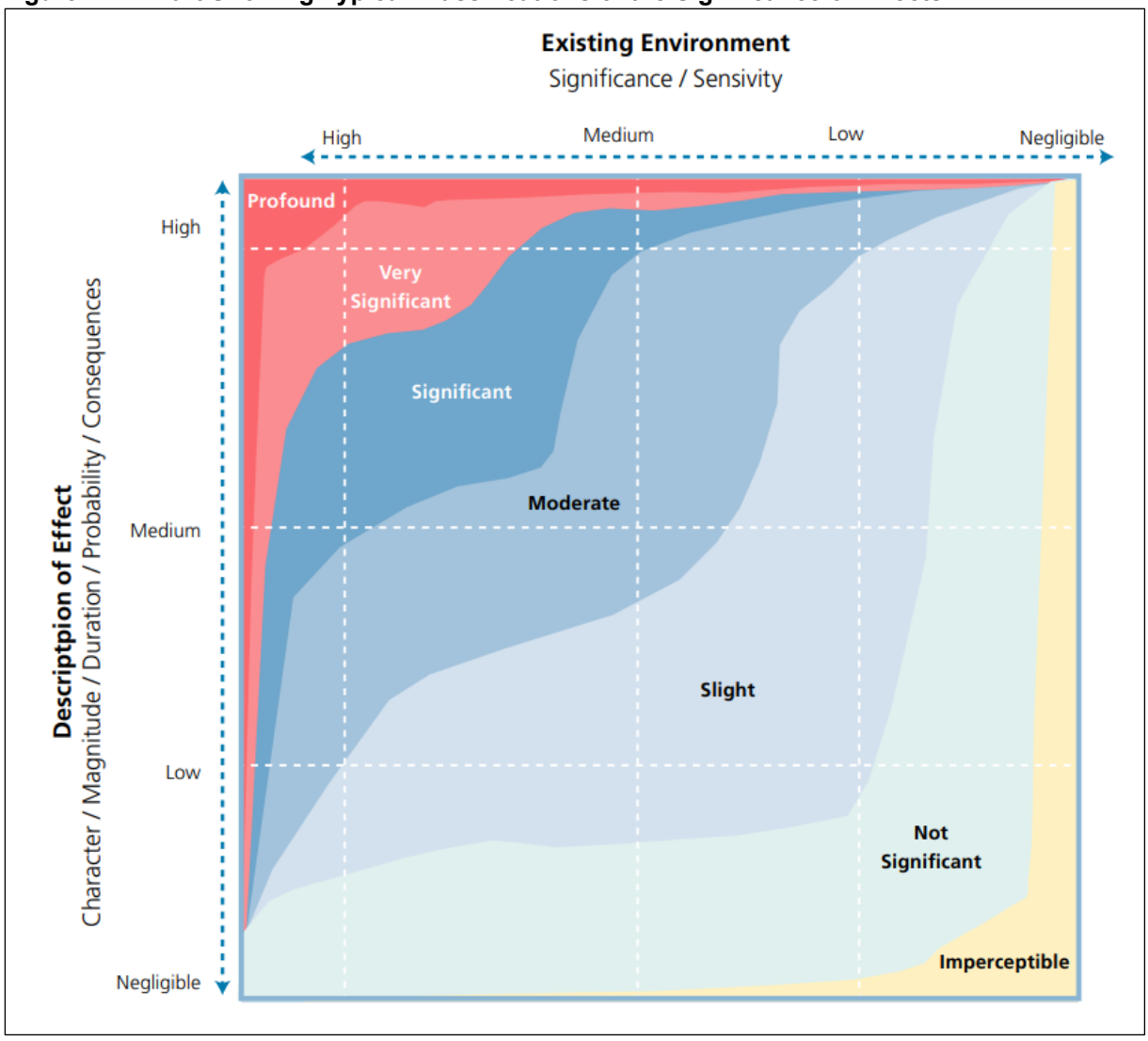
1.9 Methodology

The assessment of effects has been undertaken in accordance with best practice, legislation and guidance notes, as listed in Section 1.6 of this document. The evaluation of significance considers the magnitude of the change and the sensitivity of the resource or receptor. Unless otherwise stated, this approach has been adopted throughout the EIAR.

1.9.1 Assessment of Effects – Evaluation Criteria

The criteria for determining the significance of impacts and the effects are set out in Figure 1-4 below, taken from the EPA Guidance [15]. Definitions of effect, as outlined by the EPA guidance, are included below. These definitions are used throughout the EIAR. Certain chapters may use additional or alternative terms due to the specific methodology or guidance required within those chapters. Such alternative uses will be stated within the chapter.

Figure 1-4: Chart Showing Typical Classifications of the Significance of Effects



Note: Source [20]

Table 1-2 defines the quality of effect of a Proposed Development on the environment, ranging from positive to negative.

Table 1-2: Quality of Effects

Quality of Effect	Description
Positive Effects	A change which improves the quality of the environment.
Neutral Effects	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
Negative/Adverse Effects	A change which reduces the quality of the environment.

Table 1-3 outlines the definitions of significance of effects, which ranges from imperceptible to profound effects.

Table 1-3: Definitions of Significance of Effects

Classification	Description
Imperceptible	An effect capable of measurement but without significant consequences.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Significant	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
Profound	An effect which obliterates sensitive characteristics.

Table 1-4 describes the terminology used to discuss the extent and context of effect of a Proposed Development on the environment.

Table 1-4: Describing the Extent and Context of Effects

Magnitude	Description
Extent	Describe the size of the area, the number of sites and the proportion of a population affected by an effect.
Context	Describe whether the extent, duration or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?).

Table 1-5 shows how likely an impact is to occur.

Table 1-5: Describing Probability of Effects

Magnitude	Description
Likely	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
Unlikely	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.

Table 1-6 describes the duration of effects. Momentary effects lasting from seconds to minutes will often be less concerning than long-term and permanent effects, depending on their severity.

Table 1-6: Describing Duration of Effects

Magnitude	Description
Momentary	Effects lasting from seconds to minutes.
Brief	Effects lasting less than a day.
Temporary	Effects lasting less than a year.

Magnitude	Description
Short-term	Effects lasting one to seven years.
Medium-term	Effects lasting seven to fifteen years.
Long-term	Effects lasting fifteen to sixty years.
Permanent	Effects lasting over sixty years.
Reversible	Effects that can be undone, for example through remediation or restoration.
Frequency of Effects	Describe how often the effect will occur (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually).

Table 1-7 defines the types of effects that can potentially occur as a result of a Proposed Development.

Table 1-7: Describing Types of Effects

Magnitude	Description
Cumulative Effects	The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant, effects.
'Do-Nothing Effects'	The environment as it would be in the future should the subject project not be carried out.
Indeterminable Effects	When the full consequences of a change in the environment cannot be described.
Irreversible Effects	When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.
Residual Effects	The degree of environmental change that will occur after the proposed mitigation measures have taken effect.
Synergistic Effects	Where the resultant effects are of greater significance than the sum of its constituents.
Indirect Effects (aka secondary or Off-site effects)	Effects on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
'Worst Case' Effects	The effects arising from a project in the case where mitigation measures substantially fail.

The above terminology will be used throughout this report unless superseded by an environmental topic best practice in assessing EIA. Where specialist topics differ from these terms, a topic-specific methodology will be provided within the relevant chapter.

1.9.2 Assessment of Cumulative Effects

Cumulative effects have been considered within the EIAR under each relevant environmental topic in Chapters 5-18. This assessment considers Annex IV(5) Subsection (e)23 of the EIA Directive, as amended, stating that an EIAR should contain:

> *"A description of the likely significant effects of the project on the environment resulting from, inter alia:*

e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use natural resources."

Annex IV(5) also states:

"The description of the likely significant effects on the [environmental] factors should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the project."

The European Commission ('EC') Guidelines on indirect and cumulative impacts [19] include the following definition of cumulative effects:

'The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects.'

1.9.3 Assessment of the Risk of Accidents and Unplanned Events

In accordance with the EPA Guidance [15], the risk of accidents and unplanned events, which may be either caused by or have an impact on the Site, has been assessed in all relevant specialist chapters of this EIAR. A risk-based approach was employed for these assessments, as recommended in the EPA guidance.

1.10 Consultation and Scoping

In accordance with best practice guidelines, extensive non-statutory consultation was undertaken in the preparation of this EIAR.

A copy of the EIAR Consultation document, issued on 19th January 2023, and copies of all the responses received are included in Appendix 1-1 and 1-2, respectively.

Table 1-8 below lists the consultees notified about the Proposed Development, whether a response was received, and the topics of interest raised by the consultee where relevant.

Table 1-8: Consultees and Consultation Responses

Consultee	Response Date	Response Method	Topics Raised
Department of Housing, Local Government & Heritage ('DHLGH')	15/03/2023	Email and Letter	• An underwater archaeology impact assessment ('UAIA') be carried out by a competent and professionally accredited archaeologist; • The findings of the UAIA should be incorporated into the Construction Environmental Management Plan ('CEMP'); and, • Archaeological monitoring should take place during groundworks or any impacts to the riverbed and riverbanks, including any site investigations / geotechnical works by a suitably qualified and experienced underwater archaeologist under licence.
Department of Housing, Local Government & Heritage – National Parks and Wildlife Service ('NPWS')	10/05/2023	Meeting	A meeting was held with the NPWS on the 10th May 2023. During this meeting the NPWS were satisfied with the comprehensive scope of survey work that has been completed, or is ongoing, in support of the planning application and provided complimentary comments on the scope of survey work. The NPWS did not have further comments on the scope of the survey work. The NPWS considered that the project will proceed under Article 6(3) due to the fact that there will be no loss of Annex I habitats for which the Lower River Suir SAC is designated. The scope of assessments included in the planning application and options for biodiversity enhancement were discussed with the NPWS. See meeting notes issued to the NPWS following this meeting in Appendix 1-3.
Department of Agriculture, Food and the Marine ('DAFM')	10/02/2023	Email	• Dunmore East Fishery Harbour Centre ('FHC') is not expected to have significant effects, but assessments should be cognisant of Dunmore East FHC location and operations. • Licensed aquaculture sites should form part of the EIA study or consultation
Department of Transport ('DT')	25/01/2023	Email	• We were requested to send consultation to Marine Survey Office (included as consultee). • Not in a position to provide observation as Marine Survey Office are a prescribed body.
Department of Environment, Climate and Communications ('DCCE')	No response	N/A	N/A
Department of Rural and Community Development ('DRCD')	No response	N/A	N/A

Consultee	Response Date	Response Method	Topics Raised
Department of Enterprise, Trade and Employment ('DETE')	No response	N/A	N/A
Kilkenny County Council ('KCC')	04/04/2023	Email and Letter	• List the directives and legislation that must be complied with; • Consideration for the River Suir SAC in which the Site is located; • Detail the exact activities to be carried out at the Site; • Traffic Impact Assessment to be undertaken and make reference to operational phase activities on the public road network; • Parking assessment to be undertaken; • Outline CEMP to be considered; • Construction Traffic Management Plan ('CTMP') to form part of the considerations; • Flood impact assessment to be undertaken; • Noise impact assessment shall be undertaken; • Assessment of potential impacts from dredging and land reclamation to be undertaken; • Surface water drainage drawings to be prepared and include the necessary information; • Surface Water Management Plan to form part of the assessment; • Water monitoring to be undertaken on the River Suir during and after construction; • A Waste Management Plan shall form part of the planning documentation and shall be prepared in line with relevant guidelines; and, • Details on wastewater for the proposed development shall be provided.
Waterford City and County Council ('WCCC')	No response	N/A	N/A
Wexford County Council ('WCC')	No response	N/A	N/A

Consultee	Response Date	Response Method	Topics Raised
Health Service Executive ('HSE')	01/03/2023 & 02/03/2023	Email and Letter	• List of EIAR topics and key guidance provided; • Assessment of noise and vibration for all sensitive locations; • Airborne dust control and mitigation measures should be included in the CEMP; • EIAR should include Public Consultation, Population and Human Health, Water (Hydrology and Hydrogeology), Land and Soils, Air, Dust and Odour, Climate Change and Opportunity for Health Gain, Noise and Vibration, Waste Management, Ancillary Facilities, Cumulative Impacts Public Consultation, Traffic and Waste; and, • HSE South Emergency Management Consultation Response recommended emergency response measures.
Fáilte Ireland	13/02/2023	Email and Letter	• Generic Guidelines for the Treatment of Tourism in an EIA.
Gas Networks Ireland	30/01/2023	Email	• No comment. • The closest gas pipeline is ca. 1.3km from the Site.
Geological Survey of Ireland ('GSI')	28/02/2023	Email and Letter	• GSI encourage the use of their database for the consideration of geoheritage (there are no County Geological Sites within the vicinity of the Site), groundwater (there is one aquifer underlaying the Site), geological mapping, geohazards, natural resources (minerals / aggregates), marine and coastal unit (INFOMAR), coastal vulnerability index and geotechnical database resources. • GSI reference programmes and guidelines that issue advice and maps, particularly for the protection of groundwater. • Requests a copy of reports detailing any site investigations to be carried out.

Consultee	Response Date	Response Method	Topics Raised

Inland Fisheries Ireland ('IFI')	01/03/2023	Email, Letter and Meeting	• Consultation meeting was held with the IFI on the 1st February 2023 to discuss the ongoing Port of Waterford projects, including the navigational maintenance dredging 2026-2033 application and the Proposed Development.
			• The IFI consultation response raised the following topics:
			  ○ Baseline ecological assessments of freshwater, estuarine or marine habitats potentially affected by the Proposed Development;
			  ○ Assessment of potential adverse effects on all relevant aquatic species, including fish;
			• Assessment of impacts on the construction objectives of the Barrow - Nore SAC, including lamprey and Atlantic salmon;
			  ○ Assessment of cumulative effects;
			• Proposed mitigation measures to prevent deleterious matter from adjacent waters;
			• No interference with the bed, gradient, profile or alignment of watercourses without the written agreement of IFI and a site-specific method statement provided to IFI;
			  ○ Requested CEMP and Surface Water Management Plan ('SWMP') be included in the planning application; and,
			  ○ Referenced resources to be used for fish ecological status and data.

Irish Aviation Authority ('IAA')	31/01/2023	Letter	No comment. Recommended to get in contact with Waterford Airport.
Waterford Airport	25/04/2023	Email	• The new quay extension will have no material effect on aviation. • Consideration to be given if construction entails the use of cranes; otherwise, 30 days prior to crane operations, an assessment to ensure the height of the crane operations have no effect on flight paths will need to be issued to the Airport.
Transport Infrastructure Ireland ('TII')	10/02/2023	Email	• Consult with Local Authority / National Roads Design Office with regards to future and existing road schemes; ○ Concerned on the impacts to the National road network (and junctions with National Roads) M9, N25, N29; • Assess visual impacts from existing National Roads;

Consultee	Response Date	Response Method	Topics Raised

			• Regard any EIARs and all conditions and modifications imposed by ACP regarding road schemes in the area (cumulative impacts);
			• Consider TII Publications;
			• Consider Environmental Assessment and Construction Guidelines;
			• Consider the Environmental Noise Regulations;
			• Traffic & Transport Assessment should be carried out;
			  ○ Consult TII publications to determine whether Road Safety Audit is required;
			  ○ EIAR should identify methods / techniques for work traversing / in proximity of the national road network; and,
			  ○ Identify haul routes and fully assess the network traversed.

Uisce Éireann ('UÉ')	20/01/2023	Email and Letter	• EIA should consider potential impacts to drinking water sources, surface water and contributing catchment of water sources;
			• Backfilled materials should include a waste sampling strategy to ensure the material is inert;
			• Mitigation should be proposed to protect water sources;
			  ○ A Confirmation of Feasibility should be sought from UÉ;
			  ○ Identify all upgrades to water service infrastructure and impacts UÉ assets;
			• Assess potential impacts on the assimilative capacity of receiving waters in relation to UÉ discharge outfalls; and,
			  ○ Mitigation measures in relation to ensuring a zero risk to any Uisce Eireann drinking water sources (Surface water and groundwater).

Bord Iascaigh Mhara ('BIM')	No response to Consultation Document	Meeting	Consultation meeting was held with the BIM on the 1st February 2023 to discuss the ongoing Port of Waterford projects including the navigational maintenance dredging 2026-2033 application and the Proposed Development.
Office of Public Works ('OPW')	No response	N/A	N/A
Electricity Supply Board ('ESB')	No response	N/A	N/A

Consultee	Response Date	Response Method	Topics Raised
Environmental Protection Agency ('EPA')	No response	N/A	N/A
Iarnród Eireann	No response	N/A	N/A
Marine Institute	No response	N/A	N/A
Sea Fisheries Protection Authority	No response	N/A	N/A
Marine Survey Office	No response	N/A	N/A
Teagasc	No response	N/A	N/A
The Heritage Council	No response	N/A	N/A
Coastwatch Europe	No response	N/A	N/A
Sustainable Energy Authority of Ireland ('SEAI')	No response	N/A	N/A
Waterways Ireland	No response	N/A	N/A
An Taisce	No response	N/A	N/A
Irish Wildlife Trust	No response	N/A	N/A
BirdWatch Ireland	No response	N/A	N/A

1.10.1 Public Consultation Events and Meetings

Public Consultation Event

In addition to the non-statutory consultation undertaken with the prescribed bodies and groups listed in Table 1-8, a public consultation event was held at the Port of Waterford Offices at Marine Point, Belview, Waterford X91 W0XW on the 20th February 2023. This event was publicly advertised in the Munster Express on the 7th February 2023 in both English and Irish (see Appendix 1-4).

The public consultation event was attended by ca. 30 members of the public. Information posters were prepared in advance and set out to be reviewed by attendees. In addition, members of the design team were present to discuss the Proposed Development and answer queries.

The topics raised during the consultation event included:

- Recommended locations for additional viewpoint locations for photomontages;
- Requests for a lighting impact assessment to be undertaken;
- Requests for additional baseline noise surveying to be undertaken; and,
- Requests for a detailed traffic impact assessment to be undertaken.

These concerns were taken on board and incorporated into the scoping of the assessments undertaken in support of the Proposed Development.

Cheekpoint and Faithlegg Development Group Consultation Meeting

A meeting was held on the 3rd May 2023 with the Cheekpoint and Faithlegg Development Group, the Design Team and Port of Waterford Representatives. This meeting was held in order to discuss the Proposed Development. The topics raised during the consultation meeting included:

- Requests for a lighting plan; and,
- Requests for incorporation of biodiversity enhancements, where possible.

These concerns were taken on board and incorporated into the scoping of the assessments undertaken in support of the Proposed Development.

Cllr Jody Power Consultation Meeting

A meeting was held on the 3rd May 2023 with the Green Party Cllr Jody Power, the Design Team and Port of Waterford Representatives. This meeting was held in order to discuss the Proposed Development.

Chamber of Business After Hours Event

The Port of Waterford held the 'Chamber Business After Hours at Port of Waterford' on the 20th June 2024. This event invited the Waterford business community to tour the activity port side, gain insights into the latest success at the Port and discuss the Port's upcoming business developments, including the Proposed Development.

During this event, CEO David Sinnott outlined the need for the Proposed Development to the attendees, and the President of Waterford Chamber of Commerce, Niall Harrington, stated: "*Waterford Port is progressing with the expansion and development of the port and port-related activity…Waterford Chamber sees the business potential of the Port of Waterford, whereby off-shore wind production in the Celtic Seas could transform the Port into the equivalent of what Aberdeen is to North Sea oil*."

1.11 Project Team

The in-house MOR Environmental project team included the following competent professionals.

Table 1-9: MOR Environmental In-House Project Team

Name and Qualification	Project Role	Completed Assessments in Chapter(s)	Relevant Experience
Kevin O'Regan, BAgrSci, MSc	Project Director	All Chapters of the EIAR	25+ years' experience in Planning Applications and Environmental Impact Assessment
Amelia Keane, BSc, MSc, CIEEM Full Member	Project Manager	All Chapters of the EIAR	6+ years' experience in environmental consultancy, with expertise in Planning Applications and Ecology.
Klara Kovacic, MEng, MSc, DIB, Full member IEMA, Chartered Environmentalist	Senior Associate Director, Air, Climate & Sustainability	Chapter 9: Air Quality Chapter 10: Climate Chapter 19: Interactions	15+ years' experience in Air Dispersion Modelling and Air Quality Assessments, 10+ years' experience related to GHG emissions assessments and accounting, 10+ years' experience specific to Environmental Impact Assessments
Kenneth Goodwin, BSc, Full Member IOA, Full member AACI, IEMA Practitioner	Associate Director, Acoustics	Chapter 11: Terrestrial Acoustics (Noise and Vibration) Chapter 12: Underwater Acoustics (Noise and Vibration)	15+ years' experience in environmental acoustic assessment, monitoring and modelling, working on EIAR, and specialist noise impact assessment in Ireland and the UK.
Dyfrig Hubble, BSc, MSc, CIEEM Full Member	Associate Director, Ecology	Chapter 6: Biodiversity	18+ years' experience in undertaking ecological consultancy services and Ecological Impact Assessments.
Laura McGrath, BSc, MEng, MSc, Chartered geologist (P.Geol) through the IGI, Member and Treasurer of the IAH (Irish Group)	Senior Consultant, Hydrogeologist	Chapter 8: Water	9+ years' experience in hydrogeological assessments and contaminated lands.
Mark Day BEng,	Principal Consultant	Chapter 7: Land, Soils and Geology	15+ years' experience in contaminated land, waste management, site remediation, and environmental monitoring.
Ruth Crumpton BA, MSc	Environmental Consultant	Chapter 5: Population and Human Health	10+ years' experience in environmental assessments in Ireland and the UK.

Name and Qualification	Project Role	Completed Assessments in Chapter(s)	Relevant Experience
		Chapter 17: Material Assets - Material Resources, Energy and Waste Chapter 18: Material Assets – Water Supply and Wastewater	

In addition to the MOR Environmental project team, the team included the following consultants.

Table 1-10: External Consultants and Contributors on Project Team

Name and Qualifications	Competent Person for:	Relevant Experience
Eimear Sharkey, BE CEng MIEI FConsEI	Civil / Structural Engineering Aspects of the Proposed Development, including Servicing of the Site and Relevant Drawings Chapter 3: Proposed Development	Director of Malone O'Regan Consulting Engineers, 30+ years' experience in Civil Engineering & Project Management, with specialisation in marine projects.
Darran Quaile, B.A., (MOD), MRUP, MIPI	Chapter 2: Planning Context and Need for the Proposed Development	Darran is a director of SCA Planning Consultants and has over 18 years of experience as a planner.
Eddie McCormack, BSc, PhD	Benthic ecology assessment presented in Chapter 6: Biodiversity and stand-alone report	Eddie is a taxonomist with over 20 years' experience. His taxonomic experience is wide-ranging and includes Crustacea, Polychaetes, Mollusca, Echinoderms and other minor taxa of subtidal macrofauna. Eddie specialises in marine and freshwater invertebrate taxonomy, subtidal and intertidal sampling, and has provided input into many EIARs.
Dr. Martin O'Farrell, BSc, PhD, Institute of Fisheries Management Member, Freshwater Biological Association of the U.K. Life Member, ESB Ireland Scientific Advisory Group Member	Peer review of fisheries assessment presented in Chapter 6: Biodiversity.	Dr Martin O'Farrell of T/A Aztec Management Consultants has over 40+ years of experience. Martin has an extensive number of publications (peer-reviewed and conference proceedings). Martin is an experienced fisheries consultant who has provided input into numerous applications.
Dr. Tom Gittings, BS, PhD, CIEEM Full Member	Peer review of wetland bird survey methodology presented in Chapter 6: Biodiversity and Appendix 6-2.	Dr. Tom Gittings has over 25 years of experience in ecology with specialisations in entomology and ornithology. Tom lectures on EIA, Appropriate Assessments and bird surveying at UCC and UCD. Tom has experience in a wide range of applications and coordinates the Irish Wetland Bird Surveys (I-WeBS) for Cork Harbour.
Paul McShane, BEng (Hons), Civil & Structural Engineering	Flood Impact Assessment presented in Chapter 8: Water	25 years' experience in hydrological analysis & assessment, 1D-2D fluvial & pluvial hydraulic flood modelling, preparation of Stage 1/2 & Stage 3 Site Specific Flood Risk Assessments for industrial, commercial, residential and infrastructure projects &

Name and Qualifications	Competent Person for:	Relevant Experience
		provision of expert witness services in relation to hydrological and flood-related matters.
Richard Barker, BSc, H. Dip Env Eng, MSc,	Chapter 13: Landscape and Visual Assessment	Chartered Landscape Architect with 23 years of professional experience, including 5 years as a Town Planner and the past 18 years as a landscape designer and landscape and visual assessment specialist.
Dr. Maurice Hurley, M.A. and Ph.D. degrees in Archaeology and a professional diploma in EIA and Strategic Environmental Assessment (SEA) Management.	Chapter 14: Terrestrial Cultural Heritage	Dr. Hurley has over 40 years of relevant experience. He specialises in Environmental Impact Studies and Site Assessments, including pioneering work on large-scale infrastructural projects, large-scale excavations, publications, and urban infrastructure. Maurice has been involved in many EIS projects, compiling the Archaeological and Cultural Heritage sections for the planning process along with Archaeological testing.
Dr. Niall Brady, MA, PhD, FSA	Chapter 15: Underwater Cultural Heritage	Dr Niall Brady has over 24 years of relevant experience at the Archaeological Diving Company Ltd. Niall has numerous publications on Cultural Heritage and underwater archaeology and has been involved in many EIS projects.
Richard Frisby, BE & MEngSc, Chartered Engineer	Chapter 16: Materials Assets - Traffic	15+ years' experience with Roadplan

1.12 Abbreviations and Definitions

The following abbreviations and definitions may be used throughout this document.

Table 1-11: List of Abbreviations and Definitions

Abbreviation	Explanation
µg	Microgram
µPa	micropascal
1SW	One-Sea-Winter
AA	Appropriate Assessment
AACI	Association of Acoustic Consultants of Ireland
AADT	Annual Average Daily Traffic
ABPmer	ABP Marine Environmental Research
ACP	An Coimisún Pleanála
AD	Anno Domini
ADCO	Archaeological Diving Company Ltd.
AH	Amenity and Heritage features
AOD	Above Ordnance Datum

Abbreviation	Explanation
AQS	Air Quality Standard (S.I. No. 244 of 1987)
ARCADY	Assessment of Roundabout Capacity and Delay
ASI	Archaeological Survey of Ireland
BAP	Biodiversity Action Plan
BAT	Best Available Technique
BC	Before Christ
BIM	Bord Iascaigh Mhara
BoCCI	Birdwatch Ireland on the Birds of Conservation Concern in Ireland
BOD	Biochemical Oxygen Demand
BRE	Building Research Establishment
BS	British Standard
BUAs	Built Up Areas
C&D	Construction and Demolition
ca.	Circa
CAFE	Clean Air for Europe (European Directive 2008/50/EC)
CAP	Climate Action Plan
CDP	County Development Plan
CEMP	Construction Environmental Management Plan
CFB	Central Fisheries Board
CH_4	Methane
CIMP	Construction and Installation Management Plan
CIRIA	Construction Industry Research and Information Association
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
CP	Centres of Population
CRWMP	Construction Resource and Waste Management Plan
cSACs	Candidate Special Areas of Conservation
CSO	Central Statistics Office
CTV	Crew Transfer Vessels
CWS	Cooling Water System
DAFM	Department of Agriculture, Food and the Marine
DAHG(I)	Department of Arts, Heritage, Gaeltacht (and the Islands)
DaS	Dumping at Sea
dB	Decibel
dB(A)	A-weighted decibels

Abbreviation	Explanation
DBW	Daytime Bat Walkover
DCCE	Department of Environmemt, Climate and Communications
DESNZ	Department for Energy Security and Net Zero
DETE	Department of Enterprise, Trade and Employment
DHLGH	Department of Housing, Local Government & Heritage
DMAP	Designated Maritime Area Plan
DMP	Dust Management Plan
DRA	Dust Risk Assessment
DRCD	Department of Rural and Community Development
DT	Department of Transport
EC	European Commission
ECA	Emission Control Area
EcIA	Ecological Impact Assessment Report
ECJ	European Court of Justice
ECJRC	European Commission Joint Research Centre
ECoW	Ecological Clerk of Works
ED	Electoral Division
EEC	European Economic Community
EFFIS	European Forest Fire Information System
EGCS	Exhaust Gas Cleaning System
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
ELV	Extra Low Voltage
ELVs	Emission Limit Values
EMFI	Estuarine Multi-metric Fish Index
END	Environmental Noise Directive
ENRs	Ecological Noise Receptors
EOP	Environmental Operating Plan
EPA	Environmental Protection Agency
EPHA	European Public Health Association
EQR	Ecological Quality Ratio
ESB	Electricity Supply Board
ESPO	European Sea Ports Organisation
Etc.	Et cetera
EU	European Union
EWWSS	East Waterford Water Supply Scheme

Abbreviation	Explanation
FBFP	Ferrybank-Belview Framework Plan
FDI	Foreign Direct Investment
FRA	Flood Risk Assessment
g/kWh	Grams per kilowatt-hour
GES	Good Environmental Status
GHG	Greenhouse Gas
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GNI	Gas Networks Ireland
GSI	Geological Survey of Ireland
GW	gigawatt
H_2S	Hydrogen Sulphide
ha	Hectare
HDV	Heavy-duty Vehicle
HGV	Heavy Goods Vehicle
hl	Hectolitre
hr	Hour
HSE	Health Service Executive
HVO	Hydrotreated Vegtable Oil
IAA	Irish Aviation Authority
IAIA	International Association for Impact Assessment
IAQM	Institute of Air Quality Management
IAS	Invasive Alien Species
ICF	Irish Concrete Federation
IDA	Industrial Development Agency
IE	Industrial Emissions
IEMA	Institute of Environmental Management and Assessmnet
IFI	Inland Fisheries Ireland
IGI	Institute of Geologists Ireland
INSN	Irish National Seismic Network
IOA	Institute of Acoustics
IPCC	Intergovernmental Panel on Climate Change
IPHI	Institute of Public Health Ireland
IWDG	Irish Whale and Dolphin Group
I-WeBS	Irish Wetland Bird Survey
KCC	Kilkenny County Council
KCCDP	Kilkenny City and County Development Plan

Abbreviation	Explanation
KCDP	Kilkenny County Development Plan
kg	Kilogram
km	Kilometre
kph	Kilometre per hour
KV	Key Views
kVA	Kilovolt-ampere
kWh	Kilowatt per hour
l	Litre
L_{A90}	The A- weighted 90th percentile statistical result from a sound measurement.
L_{Aeq}	A-weighted equivalent continuous level
LAP	Local Area Plan
LCAs	Landscape Character Areas
LCTs	Landscape Character Types
LCU	Landscape Character Units
LEA	Local Electoral Area
LED	Light Emitting Diode
LGV	Light Goods Vehicle
LIA	Landscape Impact Assessment
LoLo	Lift-on / Lift-off
LPG	Liquid Petroleum Gas
LV	Low voltage
LVIA	Landscape and Visual Impact Assessment
m	Metre
M&E	Mechanical and Electrical
m^2	Square metre
m^3	Cubic metre
MAC	Maritime Area Consent
MAPA	Marine Area Planning Act
MARA	Maritime Area Regulatory Authority
MARPOL	International Convention for the Prevention of Pollution from Ships
MASP	Metropolitan Area Strategic Plan
mg	Milligram
min	Minute
mm	Millimetre
MMO	Marine Mammal Observer
mOD	Metres above Ordnance Datum (Malin Head)

Abbreviation	Explanation
MPCPC	Maximum Permitted Carbon Performance Coefficient
MPPS	Marine Planning Policy Statement
MR	Major Routes
MSP	Maritime Spatial Planning
MSW	Multi-Sea-Winter
MUL	Maritime Usage Liecence
MW	Megawatts
N/A	Not Applicable
NAPCP	National Air Pollution Control Plan
NBAP	National Biodiversity Action Plan
NBDC	National Biodiversity Data Centre
NDP	National Development Plan
NHA	Natural Heritage Area
NHWP	National Hazardous Waste Action Plan
NIAH	National Inventory of Architectural Heritage
NIS	Natura Impact Statement
NM	Noise Monitoring
NMBAQC	National Marine Biological Analytical Quality Control Scheme
NMI	National Museum of Ireland
NMPF	National Marine Planning Framework
NMS	National Monuments Service
No.	Number
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
NPF	National Planning Framework
NPWS	National Parks & Wildlife Service
NRA	National Roads Authority
NSAI	National Standards Authority of Ireland
NSL	Noise Sensitive Location
NSR	Noise Sensitive Receptor
NSS	National Spatial Strategy
NTS	Non-Technical Summary
O&M	Operation and Maintenance
OCA	Other Marine Carnivores in Air
OCB	Overall Count Boundary
OCW	Other Marine Carnivores in Water

Abbreviation	Explanation
OD	Ordnance Datum
OPW	Office of Public Works
ORE	Offshore Renewable Energy
ORESS 2	(2nd) Offshore Renewable Energy Support Scheme
OS	Ordnance Survey
OSB	Oriented Strand Board
P.E.	Population Equivalent
PAC	Pre-application Consultation
PC	Predicted Concentrations
pCEMP	Preliminary Construction Environmental Management Plan
PDA	Planning & Development Act
PERS	Ports Environmental Review System
PFI	Port Facilities and Industry
PICADY	Priority Intersection Capacity and Delay
PM	Particulate matter
pNHA	Proposed Natural Heritage Area
POW	Port of Waterford
PPV	Peak Particle Velocity
PTS	Permanent Threshold Shift
PV	Photovoltaic
RBDs	River Basin Districts
RBMP	River Basin Management Plan
RCP	Representative Concentration Pathway
RESS	Renewable Electricity Support Scheme
RFC	Ratio to Flow Capacity
RFI	Request for Further Information
RHM	Register of Historic Monuments
RMP	Record of Monuments and Places
RPA	Root Protection Area
RPS	Record of Protected Structures
RSES	Regional Spatial and Economic Strategy
RSES	Regional Spatial and Economic Strategy for the Southern Region
RWMP	Resource and Waste Management Plan
s	Second
S.I.	Statutory Instrument
SAC	Special Area of Conservation

Abbreviation	Explanation
SAPS	Small Area Population Statistics
SAs	Small (Population) Areas
SC-DMAP	South Coast Designated Maritime Area Plan
SEA	Strategic Environmental Assessment
SEAI	Sustainable Energy Authority of Ireland
SFPA	Sea-Fisheries Protection Authority
SFRA	Strategic Flood Risk Assessment
SID	Strategic Infrastructure Development
SLM	Sound Level Meters
SM4	Wildlife Acoustics Song Meter 4
SMR	Sites and Monuments Record
SNH	Scottish Natural Heritage
SO_2	Sulphur dioxide
SOPs	Standard Operating Procedures
SOV	Service Operations Vessel
SOx	Sulphur Oxides
SPA	Special Protection Area
SPZs	Source Protection Zones
SR/SV	Designated Scenic Routes and Views
SRA	Southern Regional Assemby
SSC	Suspended Solid Concentrations
SSE	Shore-Side Electricity Supply
SSFRA	Site-Specific Flood Risk Assessment
SUDS	Sustainable Urban Drainage Systems
t	Tonne
TFI	Transport For Ireland
TII	Transport Infrastructure Ireland
TPA	tonnes per annum
TTS	Temporary Threshold Shift
TWh	Terawatt-hour
UE	Uisce Éireann
UWWTP	Urban Wastewater Treatment Plant
VIA	Visual Impact Assessment
VPCB	Vantage Point Count Boundary
VRP	Viewshed Reference Points
WAC	Waste Acceptance Criteria

Abbreviation	Explanation
WCCC	Waterford City and County Council
WCCC	Wexford County Council
WCD	Water Compatible Development
WFD	Water Framework Directive
WMP	Waste Management Plan
WWTP	Wastewater Treatment Plant
yr	Year
ZAP	Zone of Archaeological Protection
ZOCs	Zones of Contribution
ZTV	Zone of Theoretical Visibility

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