Environmental Impact Assessment Report (EIAR) – Volume 2

Chapter 4 – Alternatives Considered

CHAPTER 4

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

FIGURES

APPENDICES

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

4 ALTERNATIVES CONSIDERED

4.1 Introduction

The Planning and Development Regulations 2001 (as amended) [1] specifies the information to be contained within an EIAR. Schedule 6 1(d) specifies that an EIAR shall include:

> *'An outline of the main alternatives studied by the developer and an indication of the main reasons for his or her choice taking into account the effects on the environment.'*

The EIA Directive 2014/52/EU [2] requires an EIAR to contain:

> *'A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.'*

The EPA's 2022 Guidelines [3] further state:

> *'The objective is for the developer to present a representative range of the practicable alternatives considered. The alternatives should be described with 'an indication of the main reasons for selecting the chosen option'. It is generally sufficient to provide a broad description of each main alternative and the key issues associated with each, showing how environmental considerations were taken into account in deciding on the selected option. A detailed assessment (or 'mini-EIA') of each alternative is not required.'*

Taking account of the above, the evaluation of alternatives for this project was a key component of this EIA process. Therefore, this chapter documents details on the alternatives to the Proposed Development that were considered, including:

- Alternative locations;
- Alternative sites;
- Alternative designs and layouts; and,
- The 'Do-Nothing' scenario.

4.2 Alternative Locations

In 2019, the first Climate Action Plan ('CAP') outlined the ambition of Ireland generating at least 3.5 gigawatt ('GW') of offshore renewable energy by 2030 [4]. 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*' [5].

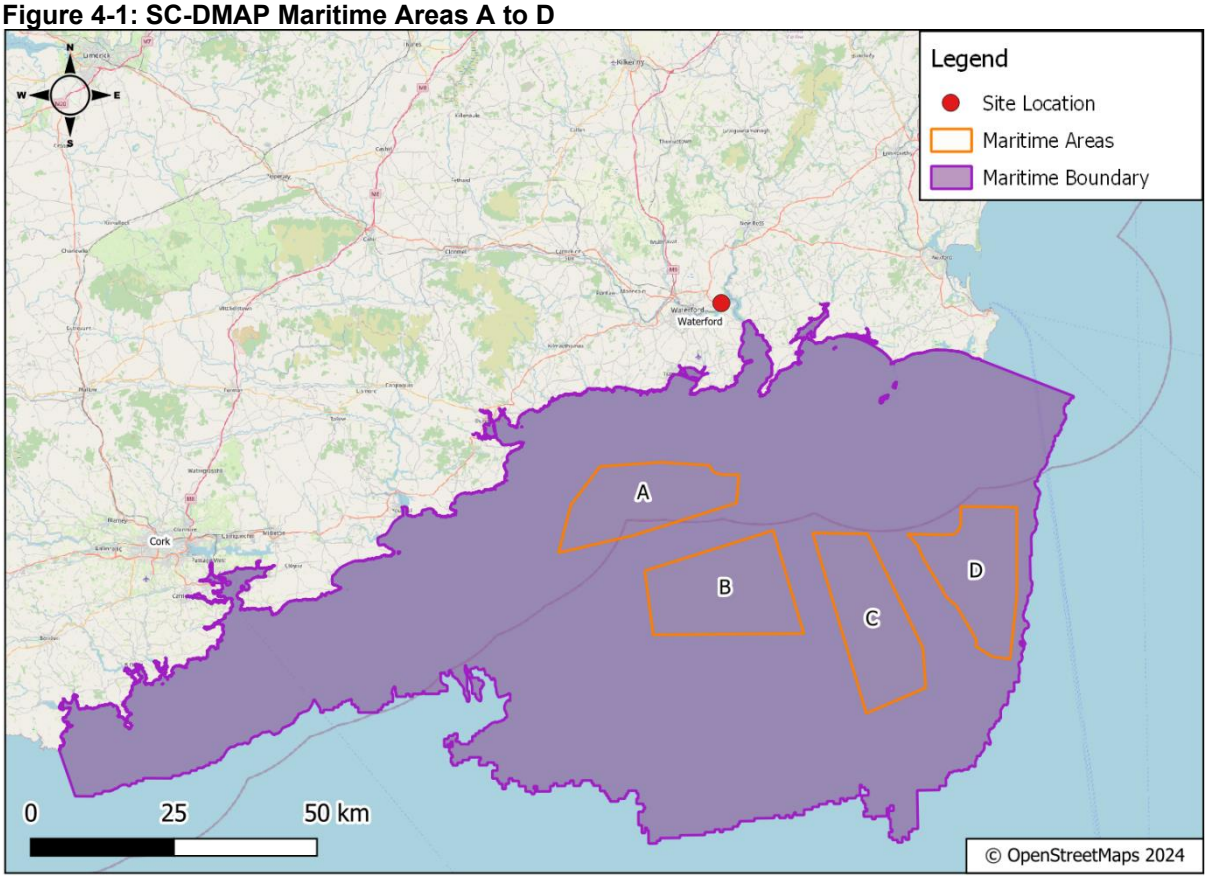
The Department of the Environment, Climate and Communications ('DECC') announced the Designated Maritime Area Plan ('DMAP') Proposal for ORE on 14th July 2023 [6]. The announcement of the DMAP indicated that the first proposed locations for ORE would be off the South Coast of Ireland. Then, on 3rd May 2024, the Draft South Coast Designated Maritime Area Plan for Offshore Renewable Energy ('SC-DMAP') was published for public consultation [7]. The SC-DMAP outlined four proposed locations for offshore wind projects:

- Area A: Tonn Nua – an area of ca. 312.6km^2 located between 12.2-12.4km off the coast of Waterford;
- Area B: Lí Ban – an area of ca. 486km^2 located between 29-49km off the coast of Waterford;

- Area C: Manannán – an area of ca. 342km^2 located between 27-52km off the coast of Wexford; and,
- Area D: Danu – an area of ca. 304km^2 located between 27-52km off the coast of Wexford.

On the 23rd October 2024, the Irish Government approved terms and conditions for the second Offshore Renewable Energy Support Scheme ('ORESS 2'), which will be for the Tonn Na auction site, and it is expected that the auction bidding process will commence in Q4 2025 [8].

Figure 4-1: SC-DMAP Maritime Areas A to D



The SC-DMAP references the Policy Statement on the *Facilitation of Offshore Renewable Energy by Commercial Ports in Ireland,* published in 2021, which outlined that ORE developments will require large-scale port infrastructure for project deployment and small-scale port facilities to provide ongoing operation and maintenance ('O&M') services [9]. In addition, it is an objective of the NMPF to ensure the strategic development of Tier 1 and Tier 2 Ports in Ireland.

Objective PH1 of the SC-DMAP states:

> *The SC-DMAP supports, in accordance with national policy, the alignment of terrestrial planning with marine planning at regional and local level to provide for the sustainable development of port infrastructure that enables the development of ORE within the SC-DMAP area. This support is subject to the carrying out of the requisite statutory environmental assessments at plan and project level (which may include SEA, EIA and/or AA) and the outcome of planning and / or licensing processes as relevant.*

Furthermore, the *Offshore Renewable Energy Future Framework Policy* [10] published in May 2024 states:

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

Therefore, in order to realise the offshore wind objectives set out, ORE infrastructure and development will need to be supported by port facilities.

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

- Three ports considered to be Ports of National Significance (Tier 1): Dublin Port Company, Shannon Foynes Port Company and Port of Cork Company;
- Two ports considered to be Ports of National Significance (Tier 2): the Port of Waterford Company and Rosslare Europort; and,
- Fourteen Ports of Regional Significance (Tier 3), these ports are smaller ports that handle lower volumes of marine traffic.

Given the ORE goals set out by the Government of Ireland, numerous ORE developments will be required, and multiple ports will be required to facilitate these developments. It is considered that Tier 1 and Tier 2 Ports would have the facilities to accommodate the vessels, plant and equipment required for ORE developments.

The Port of Waterford is ideally located to provide critical operations and maintenance support to ORE developments in the SC-DMAP proposed locations; refer to Figure 4-1. The Proposed Development would provide O&M facilities to two ORE developments.

Alternative site locations within the Port of Waterford / Belview Port area were considered in the alternative design section, as discussed below.

4.3 Alternative Sites

The evaluation of different sites for the Proposed Development focused on lands within the Port of Waterford / Belview Port area.

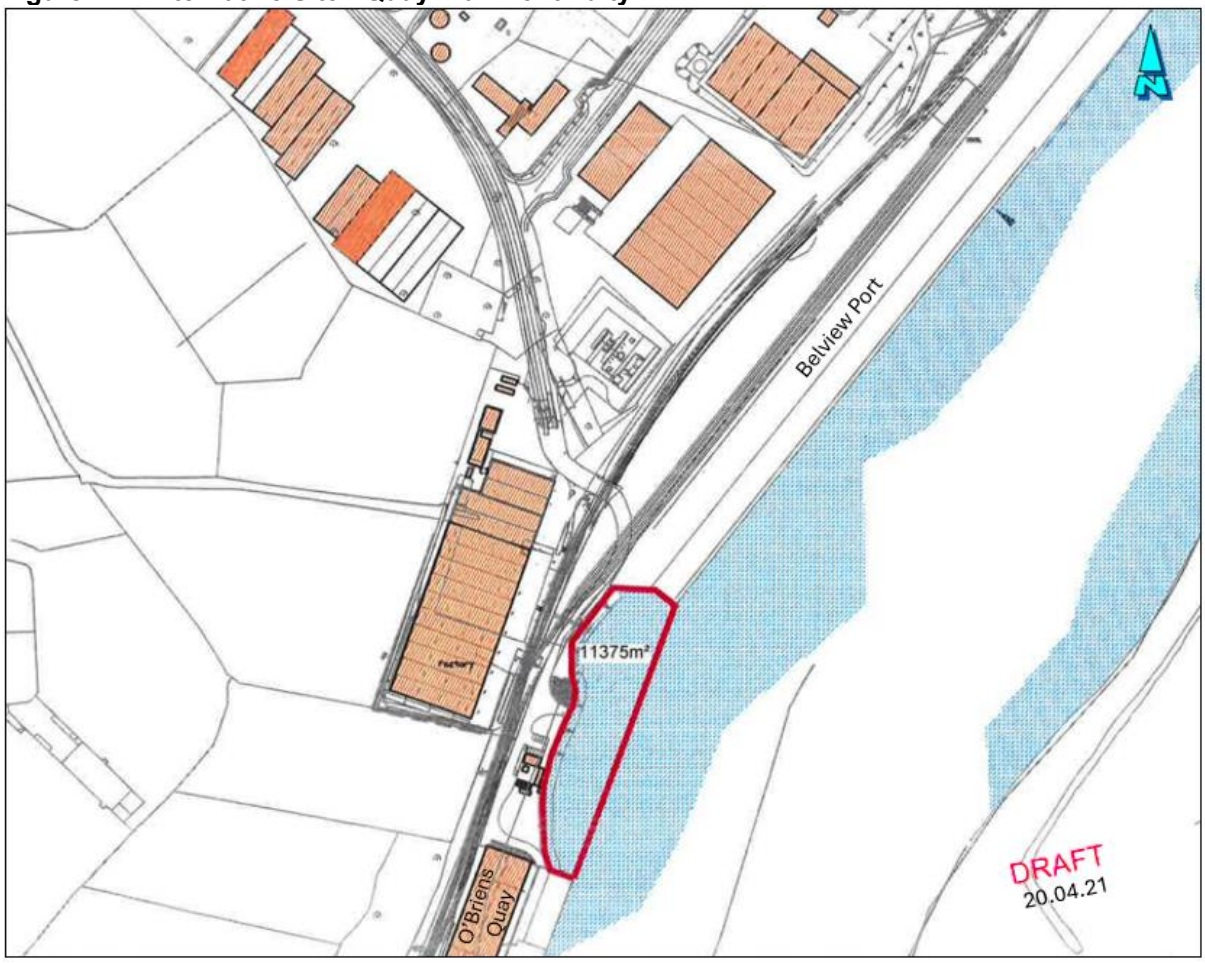
The current Belview Port Zone covers an area of 265ha in size; however, given the requirement for quayside facilities and berthing for vessels, the Proposed Development would have to be located along the Lower Suir Estuary.

There is an existing Belview Quay, ca. 960m in length; however, this quay is currently fully utilised for bulk, general cargoes, container handling and storage. Therefore, to accommodate the necessary quayside ORE facilities, this quay would require an extension.

An upstream extension to the quay that would link into the existing O'Brien Cement quay was assessed as an alternative site. See Figure 4-2 below. This development was brought forward in the Port of Waterford Masterplan as the 'Quay Wall Continuity', which would involve the construction of a 230m quay [11]. However, this proposal would locate future ORE operators between two active quays, Belview Quay and O'Brien Cement Quay. In addition, the Masterplan outlined that the Quay Wall Continuity would possibly be shared with the owners of O'Brien Cement Quay. Therefore, this would possibly limit the available space for the ORE

facilities and would also hinder the necessary pontoons for the ORE operators. As such, this site was quickly ruled out as an alternative site.

Figure 4-2: Alternative Site - Quay Wall Continuity



4.4 Alternative Designs and Layouts

This section sets out the alternative layouts which were considered. The overall design process was an iterative process between the design team and the EIAR team, as findings from the baseline surveys were considered in the design process. This process was implemented to design out any potentially significant environmental impacts by avoidance in accordance with relevant EIAR guidance.

4.4.1 Site Layout 'A' – 400m Wharf

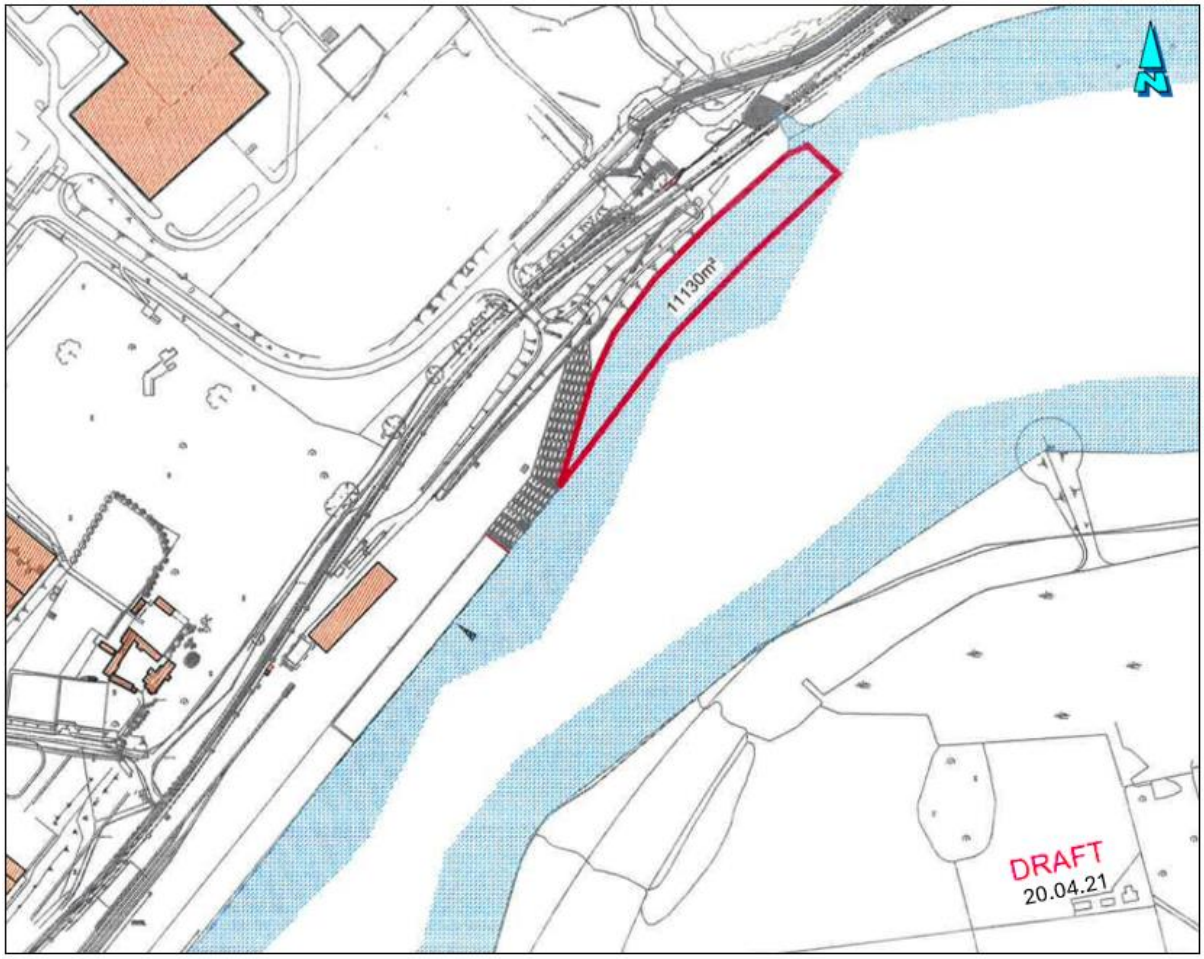
As previously mentioned, the Port of Waterford Masterplan 2020-2044 [11], which outlines essential projects to continue to grow the Port of Waterford, included a 400m Belview Quay extension that would provide two new berths and would include ca. 6ha of land reclamation as illustrated in Figure 4-3.

However, as the requirements for offshore renewable energy in the eastern and southern coasts increased, the Belview Quay extension project was amended to incorporate ORE-capable facilities.

Furthermore, the 400m design was considered unsuitable given the fact that the navigational channel bends to follow the Lower Suir Estuary. Therefore, to achieve safe navigational depths to the downstream 140m of the quay, extensive dredging would be required to remove the soft overlying material. In addition, this design would cross over the confluence of the Luffany

Stream, which would require an appropriate culvert to ensure no changes occur to the water levels and access into the watercourse for local biodiversity is not changed.

Figure 4-3: Site Layout 'A'- 400m Layout

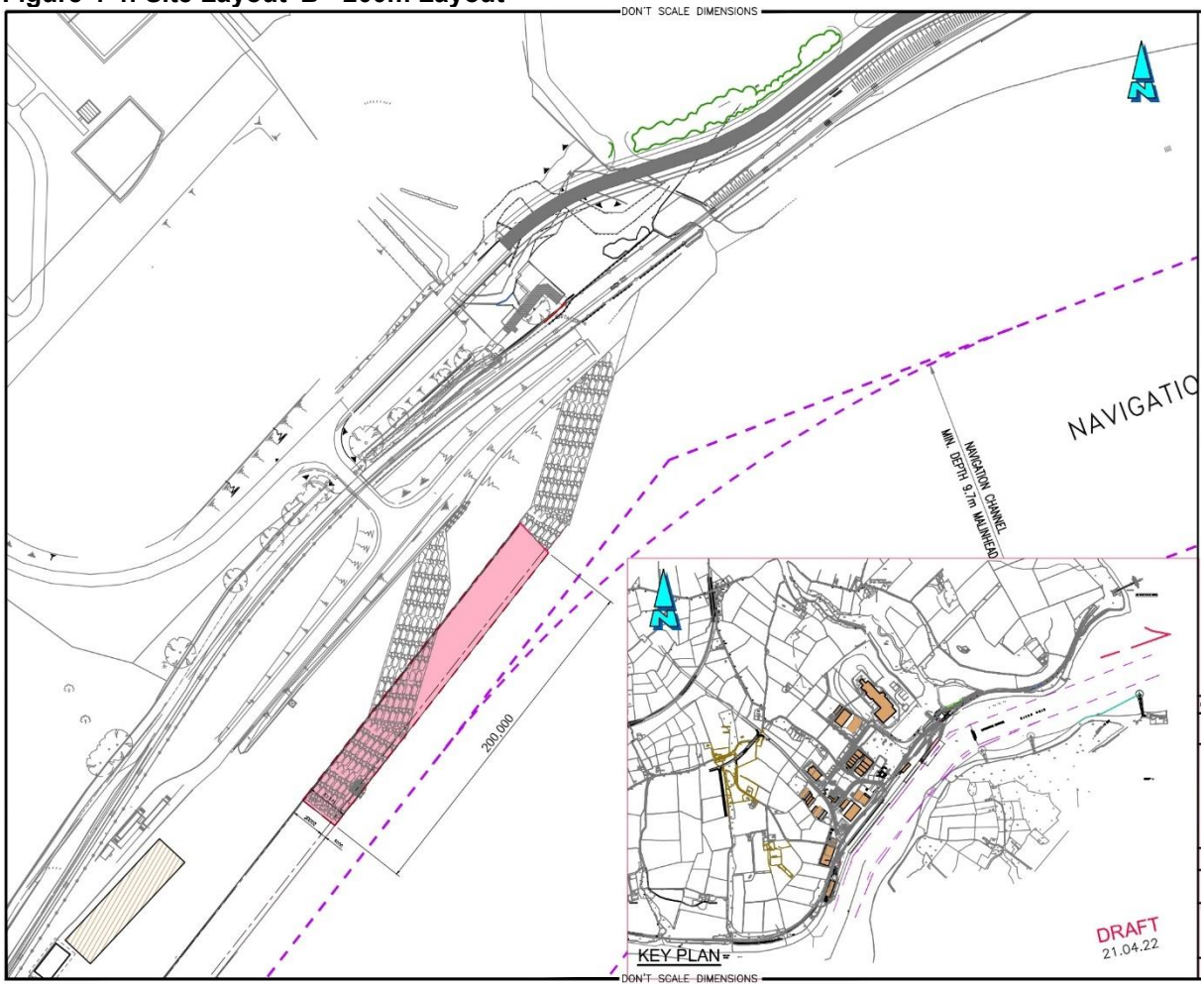


4.4.2 Site Layout 'B' – 200m Wharf

Figure 4-4 below illustrates the Site Layout 'B', which was designed to include a 200m wharf extension. This design was ruled out as it would constrain the space available for two ORE operators and would not provide sufficient additional space for the Port of Waterford to undertake port-related activities.

Therefore, it was considered that the optimal wharf length would be 250m.

Figure 4-4: Site Layout 'B'- 200m Layout



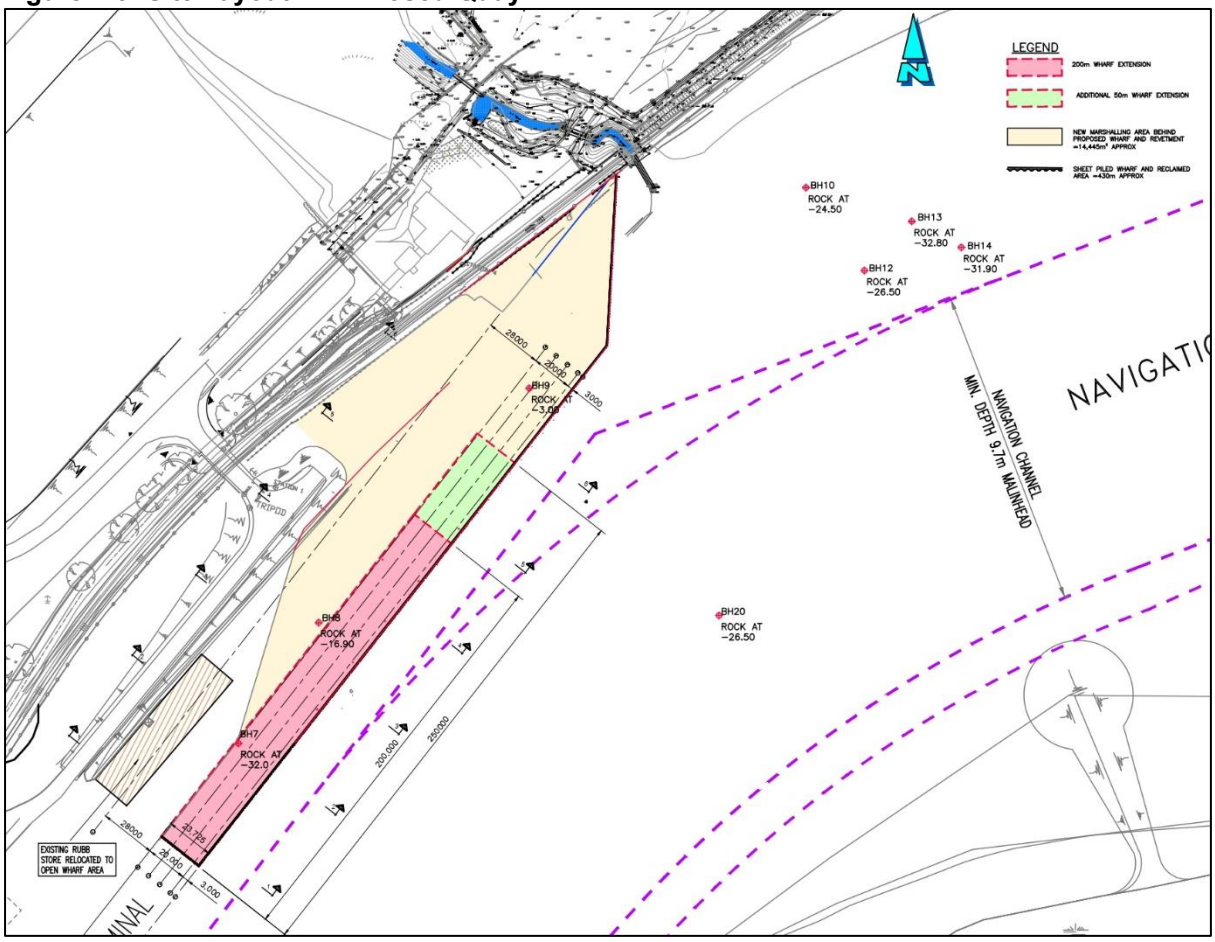
4.4.3 Site Layout 'C' – Closed Quay Design

Site Layout 'C' was developed to include a closed quay design in which a solid-faced quay would be atop a continuous vertical wall structure, and the land behind the sheet-piled wall is fully infilled. See Figure 4-5 below.

The existing wharf within Belview Port has an 'open' design in which the quay is located on piles, and as such, the area is not fully enclosed, allowing water to pass under this section. Therefore, the closed quay design was ruled out as it would limit the available area for otters, birds and fish to commute under the existing wharf.

Therefore, it was considered that an open quay design would be optimal for the Proposed Development, as it would be a continuation of the existing quay and would allow for commuting species to move through the Port unimpeded.

Figure 4-5: Site Layout 'C' – Closed Quay



4.5 Selection of the Proposed Development

The Proposed Development is presented in Appendix 3-1.

The Port of Waterford is located in an optimal location to provide support to ORE developments located within the Celtic Sea.

This layout option includes two ORE operator facilities and additional space for the ongoing port operations that will not impact the existing commuting route beneath the existing wharf, will not cross over the confluence of the Luffany Stream, will not require extensive maintenance and dredging and will minimise the amount of land to be reclaimed.

The access road to the Site will utilise the existing Port of Waterford access. An efficient road layout has been incorporated into the design to include a new roundabout within the Port to maintain sufficient traffic movement.

The layout of the ORE facilities will maximise energy efficiency in the buildings, and the buildings' orientation allows for the inclusion of solar PV panels.

4.6 Alternative Uses Including the 'Do Nothing' Alternative

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

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

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

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

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

REFERENCES

[1] Department of Housing, Local Government and Heritage, “Planning and Development Regulations 2001-2024,” Government of Ireland, 2001.

[2] European Union, “Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the Assessment of the effects of certain public and private projects on the environment,” European Union, 2014.

[3] EPA, “Guidelines on the information to be contained in Environmental Impact Assessment Reports,” Environmental Protection Agency, Dublin, 2022.

[4] Government of Ireland, “Climate Action Plan 2019: To Tackle Climate Breakdown,” 2019.

[5] Department of the Taoiseach, “Programme for Government: Our Shared Future,” 2020.

[6] Government of Ireland, “Designated Maritime Area Plan (DMAP) Proposal for Offshore Renewable Energy,” Department of the Environment, Climate and Communications, 14 07 2023. [Online]. Available: https://www.gov.ie/en/publication/36d9a-designated-maritime-area-plan-dmap-proposal-for-offshore-renewable-energy/.

[7] Government of Ireland, “Public Consultation on the Draft South Coast Designated Maritime Area Plan for Offshore Renewable Energy (SC-DMAP),” Department of the Environment, Climate and Communications, 03 05 2024. [Online]. Available: https://www.gov.ie/en/consultation/72a5c-south-coast-designated-maritime-area-plan-for-offshore-renewable-energy/?referrer=https://www.gov.ie/southcoastdmap/. [Accessed 2025].

[8] Department of the Environment, Climate and Communications, “Government approves terms and conditions of Ireland’s second offshore wind auction,” 05 11 2024. [Online]. Available: https://www.gov.ie/en/press-release/2f028-government-approves-terms-and-conditions-of-irelands-second-offshore-wind-auction/. [Accessed 2025].

[9] Government of Ireland, “Whole of Government Circular Economy Strategy 2022-2023: Living More, Using Less,” The Stationary Office, Dublin, 2021.

[10] Department of Environment, Climate and Communications, “Future Framework for Offshore Renewable Energy: Policy Statement,” Government of Ireland, 2024.

[11] Port of Waterford, “Port of Waterford Masterplan 2020 - 2044,” Port of Waterford, Waterford, 2019.