A woman walks alone on the Great South Wall in Dublin, after weather warnings were issued by the National Emergency Co-ordination Centre. Aidan Crawley, The Irish Times 05.11.2021
Source: The Irish Times

2.7 Cultural Heritage and Natural Heritage

The *Dublin Port Masterplan 2040* states DPC's commitment to work with habitat and nature interests to ensure that the full resource which these habitats and areas provide for wildlife and for the wider public in Dublin are managed, controlled and supported. DPC has sought to establish co-operation agreements with nature interests including NGOs, which involves the provision of access, some element of funding and support to these groups. Two examples are given below.

Dublin Bay Birds Project

The first such agreement was reached in 2013 with BirdWatch Ireland (a national NGO) to fund a long-term project, entitled the Dublin Bay Birds Project. The project involves a professional team of ornithologists carrying out a range of survey and monitoring schemes that cover the entire area of Dublin Bay from Dun Laoghaire to Sutton. The project has continued to add considerable value to existing knowledge on the distribution and movements of water birds.

Dublin Bay Biosphere

Biospheres are places where nature and culture connect. They are internationally recognised for their biodiversity yet also actively managed to promote a balanced relationship between people and nature. A Biosphere is a special designation awarded by UNESCO but managed in partnership by communities, NGOs and local and national governments.

DPC actively participates in the management of the North Bull Island Biosphere, which was expanded in 2015 to cover Dublin Bay, reflecting its environmental, economic, cultural and tourism importance. DPC provides support for:

- Conservation: protecting biodiversity and cultural diversity
- Development: fostering a sustainable economy and society for people living and working in the area
- Learning: facilitating education, training and research to support conservation and sustainable development

The implementation of the next phase of the Dublin Port Masterplan continues to focus on achieving proper planning and sustainable development through the continued re-development of existing 'brown field' sites, within the Dublin Port estate for direct Port related facilities, and the transfer of non-critical operations to new facilities located close to Dublin Airport (Dublin Inland Port). DPC confirms that further deepening of Dublin Port navigation channel and fairway to lower than -10.0m CD will not be required. These decisions taken by DPC will significantly reduce the potential environmental impact of the next implementation phase of the Masterplan.

Notwithstanding the approach being adopted by DPC to safeguarding the environment, as described above, there are a number of key environmental issues identified in the Masterplan that DPC is actively addressing:

- The management of the tern colonies located on the existing ESB Dolphin, which is designated a Special Protection Area, and the CDL Dolphin, which is the only colony in Dublin Port that hosts both Common and Arctic Terns. DPC has enhanced the breeding opportunities by providing additional habitat using floating pontoons

Common Tern
Source: John Fox, dublinbirding.ie

- The potential to improve fisheries management within the inner Liffey channel

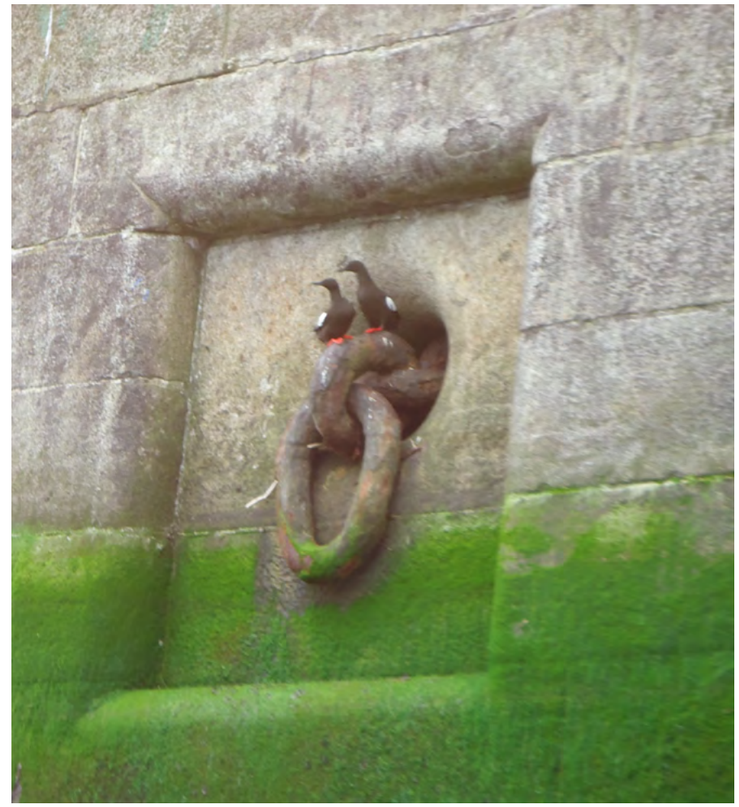
- The potential to enhance biodiversity in line with the *Dublin City Biodiversity Action Plan 2021-2025*. Towards this end, DPC is committed to providing a shared cycle and pedestrian facility that also provides an ecological corridor, referred to as the 'Tolka Greenway', which will extend c. 4km along the northern foreshore of Dublin Port from East Point Business Park to Terminal 5 on the eastern edge of Dublin Port. The Tolka Greenway is bounded by the Tolka Estuary to the north, Dublin Bay to the east and Dublin Port to the south. A similar scheme is also being promoted by DPC along East Wall Road (Liffey-Tolka Project), creating an additional cycle and pedestrian facility and ecological corridor linking the Liffey to the Tolka

The *Dublin Port Masterplan 2040* thereby recognises the richness and diverse nature of the natural heritage that both surrounds and permeates the Dublin Port Estate and sets out DPC's goals to maintain and where possible to enhance the sensitive maritime environment setting of Dublin Port. Equally, DPC wishes to maintain and, where possible, strengthen the Port's cultural heritage by adopting the approach set out in this Conservation Strategy. In the majority of cases, measures contributing to the Port's natural heritage and cultural heritage will complement each other and will be actively promoted.

In a small number of cases, conflict may however arise, such as:

- Balancing the needs of maintaining heritage assets and biodiversity where, for example, opportunistic plants have gained a foothold in old quay walls and verges which have the potential to undermine the integrity of the heritage assets

In such cases, a balanced approach will be adopted to either resolve the conflict informed by the policies of the Conservation Strategy or, if not possible, to minimise potential impact through consultation with the relevant government bodies, Dublin City Council and other key stakeholders.



A pair of Guillemots stationed on one of the nineteenth-century mooring rings, North Wall Quay Extension. Source: ADCO for DPC

2.8 Ownership Statement

The 'Ballast Office' on D'Olier Street is a 1980s pastiche of the ninteenth-century original, which was demolished in 1979. It is, however, a vestige of the footprint of former properties that were the antecedents of Dublin Port Company in the townscape of Georgian Dublin. Other notable remnants include the adjacent Custom House and George's Docks. The nearby Harbour Master's Bar, in the Irish Financial Services Centre, served as the Dublin Port and Docks Board's Harbour Master's Office until it was sold to the State.

The lands currently in the ownership of Dublin Port Company reflect epochs of the Port's evolution and the contrasting histories of the evolution of the North and South Ports (see Dublin Port Estate Map on page 60).

The North Port can be seen as having its genesis in the extension of the North Wall (1836) and the construction of the Alexandra Basin (1886). Its footprint was extended eastwards and northward throughout the twentieth- and early twenty-first-centuries. No additional extension is envisaged. Most of the lands in Dublin Port Company's ownership are leased to private sector operators and port related enterprises.

The Great South Wall, and the 'Wooden Bridge' and the North Bull Wall below the -1 CD level, remain in the ownership of the Dublin Port Company and continue to serve the important engineering function as marine breakwaters they were designed to be.

The lands of the North Port area are dominantly in single ownership. Land ownership on the South Port is much more fragmented, for a variety of historic reasons.

The lands on the northern shore were vested mostly with the Vernon Estate, granted following Oliver Cromwell's incursion into Ireland in the seventeenth century. Clontarf, which was in their ownership, was a minor harbour and later a seaside resort. While impacted by the construction of the North Bull Wall, the development of Clontarf from the late nineteenth century reflects collaboration with Dublin Corporation.

In contrast, land ownership on the south side of Dublin Bay was vested predominantly in the Fitzwilliam Estate, which owned vast tracts of land granted following the Anglo-Norman Conquest in the twelfth century.

The Fitzwilliam Estate was left to the Herbert family of Wilton (also of Anglo-Norman descent) in 1816, following the death of Richard, seventh Viscount Fitzwilliam, and became the Pembroke Estate. Ringsend and Irishtown formed part of their hereditary possessions, as did the lands to the foreshore of Sandymount.

Prior to 1800, the South Port was the dominant point of port activity, centred on Ringsend. The evolution of the Poolbeg Peninsula was progressively advanced by the construction of the 'Ballast Office Wall' as the first stage of the Great South Wall. The Pigeon House, constructed as a hotel for travellers, is living testimony to the historic significance of the South Port.

The evolution of the Peninsula was hastened by the construction of the Grand Canal Docks and the canalisation of the Dodder. The threat of Napoleonic invasion accounts for the remnants above ground of fortifications, a garrison and a related hospital. This complex presents itself as one of a number of significant heritage assets on the peninsula not in the ownership of Dublin Port Company. Others include the Pigeon House and the Poolbeg Power Station and Harbour, all of which, with the fortifications complex, are protected structures.

Records of the Pembroke Estate testify to land reclamation in the foreshore environs of Ringsend and Irishtown. The tradition of glass bottle manufacture in the area, which dates to the nineteenth century, testifies to the availability of sand and the capacity to locally import coal to fuel furnaces.

Historic aerial photographs show that the area occupied by the Irish Glass Bottle Company, until its closure in the 2000s, had yet to be reclaimed from the bay. It is understood that the Pembroke Estate, as proprietors of the intertidal foreshore, were beneficiaries of latter-day developments on lands reclaimed from municipal dumping. The Pembroke Estate also discharged sewage from its vast residential developments into the bay via the Great South Wall.

The early location of utilities infrastructure on the peninsula, without reference to their larger metropolitan context, foreshadowed the fact that it would become a regional utilities hub. Its contemporary character is significantly defined, *inter alia,* by the presence of electricity generating stations of varying vintages, a waste to energy plant, a metropolitan sewerage treatment plant, as well as port-related uses and a nature reserve, formed from municipal waste. This unique asset provides access to citizens to the wonderful Great South Wall, a significant municipal amenity.

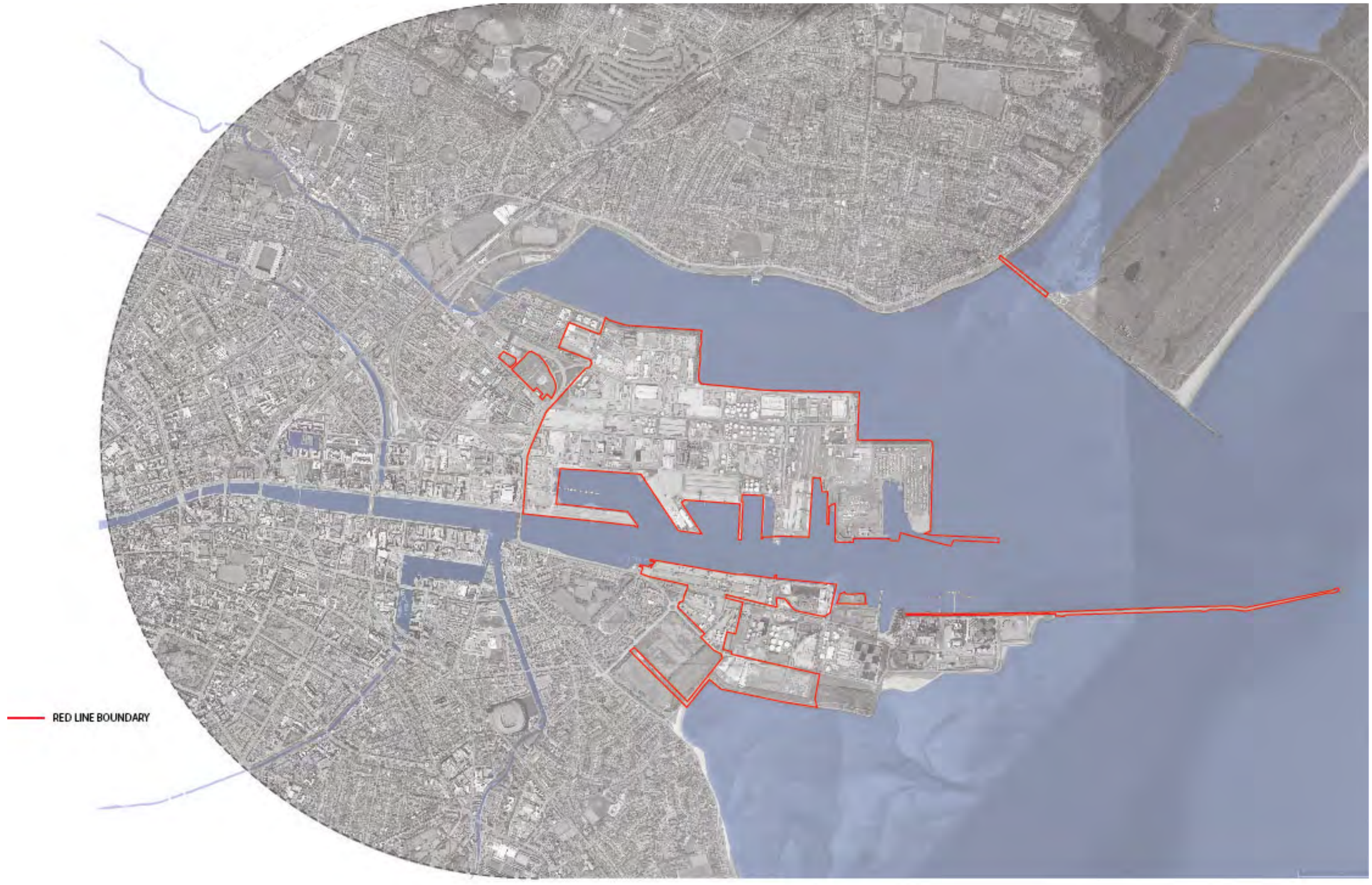
Dublin Port Company is in the process of preparing development proposals (the 3FM Project) for the intensification of uses on its lands in the Poolbeg Peninsula, whose form and character has been shaped by land reclamation and disparate land uses over centuries. A large

Aerial view looking across Ringsend and Hanover Quay, 1952
Source: Dublin Port Archive, Engineer's Department negatives collection

residential development is evolving on the site of the former Irish Glass Bottle Company site. This development is framed within Dublin City Council's Poolbeg West SDZ Planning Scheme. It is envisaged that it will house a population of (approximately) 8,000 people. The SDZ Planning Scheme sees enhanced connectivity to the heart of the residential development by public transport and active travel routes.

The challenge posed to all landowners and stakeholders on the Poolbeg Peninsula and the South Port is centred on reconciling and facilitating public access with the discharge of individual public service and utility remits, besides enabling the development of approaches to the conservation and celebration of individual heritage assets. Hopefully this study may provide the basis for meaningful collaborative dialogue.

In summary, this Conservation Strategy seeks to articulate the objectives for the heritage assets within the Port's ownership, while recognising that the legacy of Dublin Port's history is the shared property of the citizenry and the statutory bodies governing the city, besides utility providers and commercial enterprises.



Dublin Port Estate Map

Chapter 2 Endnotes

1 Colm Lennon, *Dublin Part II, 1610 to 1756*, Irish Historic Towns Atlas No. 19, Royal Irish Academy (Dublin, 2008), Map 5.
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3 For example, H. A. Gilligan, *A History of the Port of Dublin* (Gill and MacMillan, Dublin, 1988); John DeCourcy, *The Liffey in Dublin* (Gill and MacMillan, Dublin, 1996); Michael Branagan, *Dublin Moving East, 1708-1844. How the City Took Over the Sea* (Wordwell, Dublin, 2020); Gerard Daly, 'Capton Bligh in Dublin, 1800-1801', *Dublin Historical Record* 44.1 (1991), pp 20-33.
4 Charles Smith, *Dalkey: society and economy in a small medieval town* (Dublin 1996); Colm Lennon, *Clontarf*, Irish Historic Towns Atlas: Dublin suburbs No. 1 (Dublin 2018), p. 7.
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14 Alan Carthy, 'The treatment of tuberculosis in Ireland from the 1890s to the 1970s, a case study of medical care in Leister', PhD thesis, NUI Maynooth, 2015, pp 167–173.
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16 Melanie McQuade, 'Building C, Spencer Dock, 03E0654' www.excavations.ie
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19 https://en.eurovelo.com/
20 Notably in Paper 5 – The Conundrum of Planning for Long-Term Growth – and in Paper 7 – Options for the Greenfield Development of Additional East Coast Port Capacity.
21 ABR Project – PA0034.
22 MP2 Project – 304888.
23 Roads Project – *Masterplan 2040*, Figure 6, p. 47.
24 Dublin Inland Port - *Masterplan 2040*, Figure 4, p. 43 and Fingal County Council grant of planning permission.
25 Franchise Policy, 2014.

Oyster catcher with a mussel
Source: Shay Connelly, dublinbaybioshpere.ie

3.0

Significance

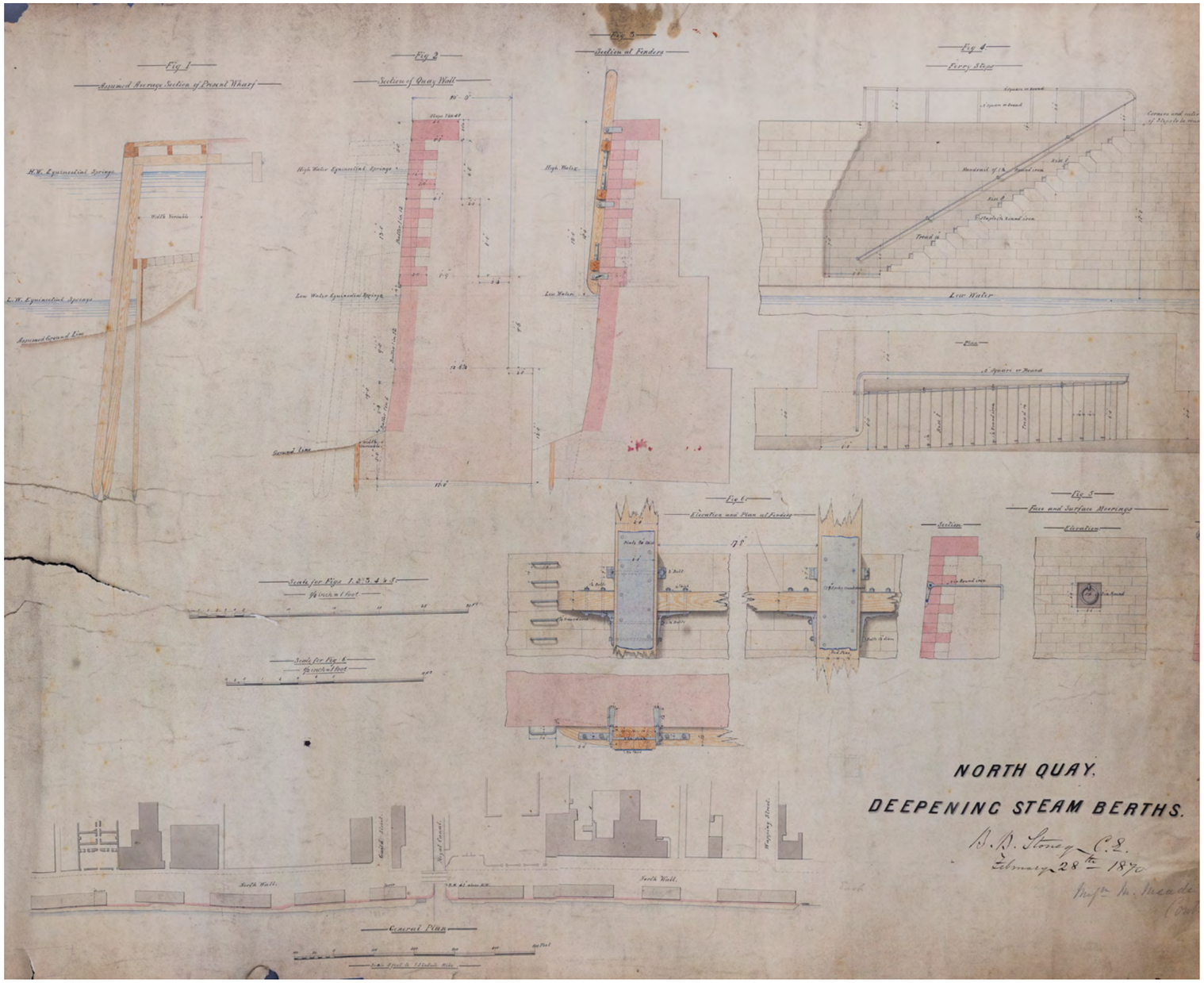
- **Thematic Appraisal**
- **Elemental Appraisal of Significance**

Aerial view of Dublin Port from Ringsend
Source: To be sourced

This chapter addresses the cultural heritage significance of Dublin Port. The significance is considered in two ways. Initially a thematic appraisal is applied that responds to Dublin Port as both a historic and contemporary place of cultural heritage significance, which has developed over time, continues to do so and contains a complex layering of interventions of variable scale, type, purpose and influence.

Following this, an elemental approach is taken, identifying the archaeological and built structures and sites of particular significance within the Conservation Strategy area. Existing tools for assessing significance, e.g. the NIAH appraisal methodology, are used to guide this elemental approach. The elemental section is prefaced with the appraisal of the Conservation Strategy team.

The cultural heritage significance of Dublin Port extends beyond the area currently managed by Dublin Port Company and therefore the assessment extends beyond DPC managed lands.



3.1 Thematic Appraisal

The Conservation Strategy Team sets out sixteen themes below. With the exception of Engineering Innovation, these are described concisely. They echo the context (historic and contemporary) outlined in Chapter 2 and form the basis for which the Threats in Chapter 4 and Policies in Chapter 5 are posited. The expanded elaboration of Engineering Innovation is warranted due to the particular significance of several infrastructural developments in Dublin Port, some of which are assessed as being of international importance.

1. Dublin Port as a deep water port

Dublin has long been a place of sea trade. Formal organisation and development can be traced from the founding of the Ballast Company and Board in 1707 through to today's Dublin Port Company. This continuity and evolution has bestowed on the city a cultural identity as a sea port city. The continuity and growth in trade has been facilitated by innovation, along with economic and political support. As the major port of Ireland and core to the country's financial well-being, Dublin Port's primary role and remit, underpinned by legislation, is economic. The economic prerogative has driven the physical developments, including creating and maintaining deep water berthage throughout the Port's history, and which today provides a rich cultural heritage.

A comparison with a number of historic European deep water ports that remain commercially active suggests that Dublin – for its size – has a significant operational intensity of international significance. Consequently, it is a port of considerable efficiency of land use.

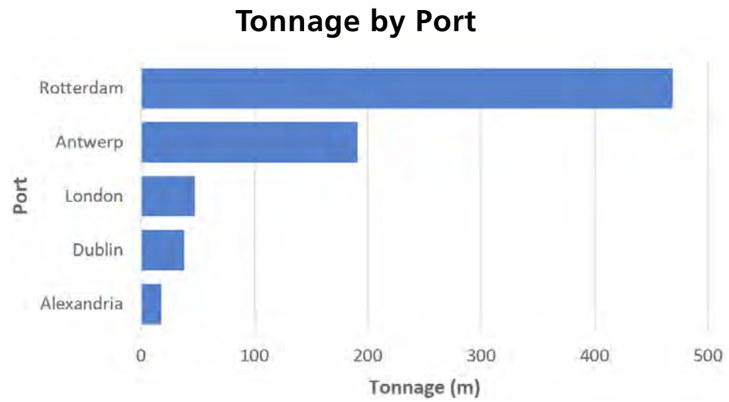
When comparing Dublin with other ports, Rotterdam and Antwerp (the largest and second largest ports in Europe) handle significantly more tonnage than Dublin at present. Even when the *Dublin Port 2040 Masterplan* is complete and the Port is able to handle 73.8 million tonnes per year it may challenge other historic ports such as London and Alexandria but it will not approach those of Rotterdam and Antwerp. However, the indicative charts on this page show the Port of Dublin has a significantly lower area (hectares) available than other ports.

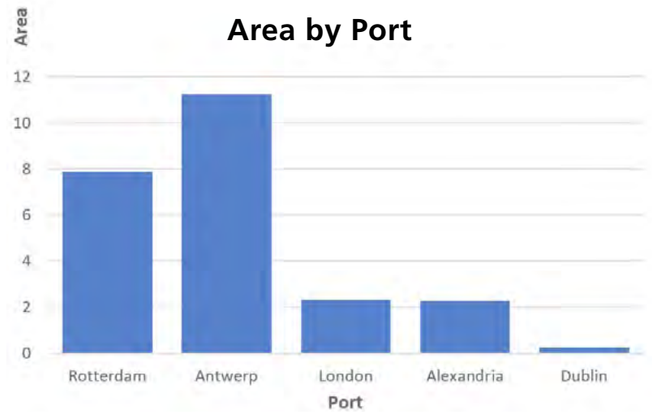
2. Dublin Port as cultural (industrial, maritime, urban) landscape

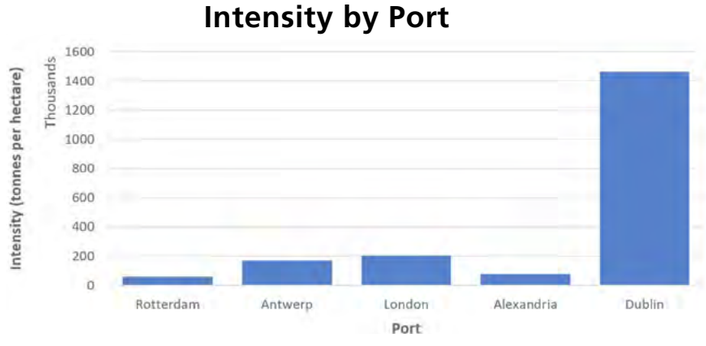
The concept of cultural landscape is now well embedded within international conservation management policy, though less so in Ireland. In 2011 UNESCO published the *Recommendation on the Historic Urban Landscape (HUL)* and, also in 2011, the joint ICOMOS – TICCIH *Principles for the conservation of Industrial Heritage Sites, Structures, Areas and Landscapes (known as the Dublin Principles)* were adopted. These apply an understanding of context to emphasise the systemic interrelation between economic, social, environmental and cultural factors.

The UNESCO Recommendation defines HUL as 'the urban area understood as the result of a historic layering of cultural and natural values and attributes', which includes 'the broader urban context and its geographical setting'. This wider context includes 'the site's topography, geomorphology and natural features, built environment - both historic and contemporary, open spaces, land use patterns and spatial organisation, as well as all other elements of the urban structure, next to social and cultural practices and values, economic processes and the intangible dimensions of heritage'.

Dublin Port, as an historic port, is intrinsically connected to the historic development – physical, economic, political and cultural – of Dublin







The indicative above charts show that even at present Dublin exceeds all other ports by far in terms of intensity (Tonnes per Hectare). Statistical information is included for illustrative purposes and may not be reproduced without the permission of Dublin Port Company

City, an historic port city. Describing Dublin Port's cultural heritage significance as a Historic Urban Landscape/Cultural Landscape, is a way of articulating the multi-dimensional and layered character of the place. It aims to acknowledge combined importance and influence of the many diverse forces that have shaped the place, and continue to do so. These include:

- The geomorphology and hydrology of Dublin Bay; river systems; land, and the dynamic natural heritage this supports.
- The surviving built structures and infrastructures which extend from the early eighteenth century to the twenty-first century and have supported the varied uses and functions. These include: breakwaters; harbours; berths; basins; bridges; slipways; graving docks; warehouses; military/defence structures; power stations; water and waste treatment plants; hospital; hotel, and others.
- The economic role of Dublin Port to city and state. A primary priority that has underpinned development, expansion and change and ensured a physical legacy that extends beyond the physical limits of the Port Estate to include canal systems, rail networks, lighthouses and the Liffey bridges.
- The cultural influences associated with the international movement of peoples and trade: food; language; architecture; fashion.
- The events and histories that have driven the construction, appropriation and adaptation of the built infrastructure: trade; transport; defence; city services and utilities.
- The industries and businesses that have operated within the Port and the communities these have supported.
- The activities and traditional practices that the Port infrastructure has enabled, witnessed in places such as the Half Moon swimming club, the boat clubs, the walkers.
- The hidden heritage – tangible and intangible – including ship wrecks and histories to be uncovered and told.
- As a cultural landscape, this also entails the picturesque, or the aesthetic point of view and how this is experienced and valued.

3. Engineering innovation at Dublin Port

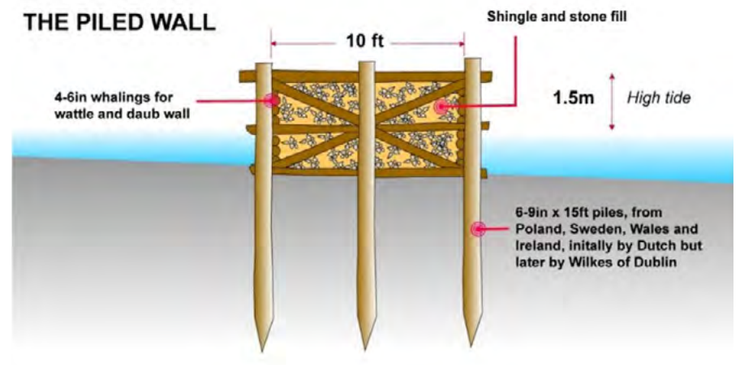
In many ways, the overall physical development of Dublin Port represents a series of successful engineering solutions to what were, perhaps, the most demanding and hostile natural impediments facing the creation of port facilities in either Ireland or Britain. Elsewhere in Ireland, important transatlantic shipping ports such as Kinsale and Youghal experienced precipitous declines because their harbours had silted up by the end of the eighteenth century. The balance of their trade was transferred to the port of Cork which, despite its importance, experienced many problems in facilitating ships of increasingly large burden in its upper harbour well into the nineteenth century. However, compared to Dublin, the difficulties encountered in improving shipping facilities at Belfast, Wexford, Cork and Limerick were relatively minor.

At Dublin, the accumulation of river-borne debris and sea sand within shipping channels could not be remedied by dredging alone. Indeed, the problem of obstructions created by riverine deposition at estuaries in Dublin Port was particularly severe. The material deposited by the rivers Liffey, Tolka and Dodder formed the two large sand banks, the North and South Bulls, which formed constantly shifting and consequently dangerous channels for shipping. For John Rennie the elder, the most important harbour engineer of the nineteenth century, the problems associated with Dublin Bay was 'perhaps one of the most difficult subjects which has ever come under the consideration of the civil engineer'. However, throughout the eighteenth and ninteenth centuries these problems were to be largely resolved through an extraordinary alignment of legislative and institutional success (culminating in the creation of the Dublin Port & Docks Board in 1869), and engineering brilliance.

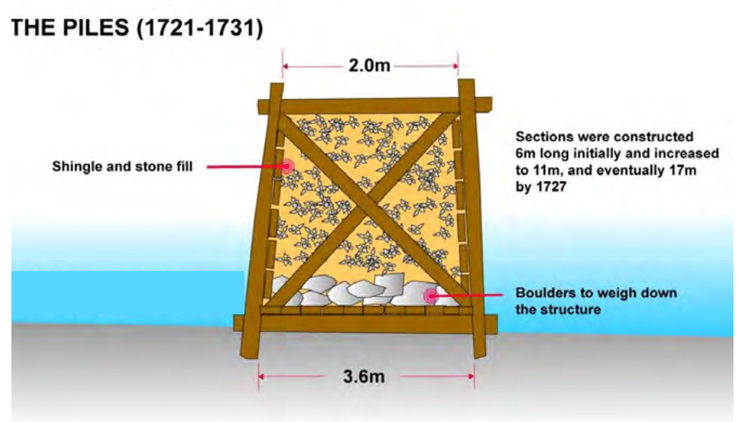
3.1 Development of the Great South Wall 1715-1803 (also known as The Piles (eighteenth century), South Jetty, Dublin Pier, South Mole, Ballast Office Wall, Pigeon House Wall, Poolbeg Lighthouse Wall)

The Piled Wall

The Piled Wall was commissioned in 1715 by the Ballast Office from Corn Exchange Place to Poolbeg. Prior to 1715, the channel entering Dublin Port between the North Bull and the South Bull was kept clear by crude dredging operations. The development of the Great South Wall breakwater is summarised in Chapter 2 (pp 18-19) and the description that follows is based on de Courcy's 1996 *Liffey in Dublin* (see following figures). Construction commenced in 1718 but due to complications during construction, particularly associated with the depth of water, the piled wall was abandoned in 1721.



Construction of piled wall based on contemporary descriptions
Source: Southgate for DPC



Construction of The Piles 1721-1731
Source: Southgate for DPC

The Piles (1721-1731)

A new proposal to prefabricate sections of the wall in Ringsend was also fraught with constant problems, accidents and continual repairs but was completed by 1731. It is not clear where the construction was placed, but it is assumed that this occurred alongside the piled section to the north. Difficulties in mooring the light ship at Poolbeg resulted in the first lighthouse being built in 1767. The Piles project was eventually abandoned by the Ballast Office in 1759 due to storm action after reported rotting, and tidal stress. The construction is based on contemporary descriptions.

Double Stone Wall towards Sandymount (1731-1733)

Since the water was only some 700mm deep, a proposal to continue the wall saw a double stone wall towards Sandymount constructed between 1731 and 1733. This had fallen into disrepair by 1760. Details of the construction are not fully recorded.

Ballast Office Wall (1748 1759)

The area to the west of Pigeon House harbour was open to the sea and the Ballast Office commissioned a new stone wall from Ringsend Point to the end of 'The Piles' at Pigeon House harbour. This is recorded on John Rocque's map of 1757 (see map detail on page 18).

Great South Wall (1761-1792)

In 1759 the Ballast Office decided to continue the double masonry wall from the east abutment at Poolbeg to the recently constructed Ballast Office Wall. The construction was by John Smith of Dublin. Progress was slow and only a length of 500m was complete by 1787. Construction was completed 1792-1795 and the Half Moon battery was constructed in 1793. Records show that the wall was built north of The Piles, which is consistent with the photographs taken following the exposure of The Piles after a severe storm event in 1981.

Proposed Repairs by Captain William Bligh (1801)

A letter dated 12/1/1801 details proposals for the repair of the wall from the lighthouse to the battery, involving raising the wall 1.3m higher than the Ballast Office Wall. Mention is also made of additional rock armour to protect the wall. A length of 1,307m was completed by 1803 and the further 1,347m were commissioned thereafter. By about 1805 the Great South Wall as we know it was complete.

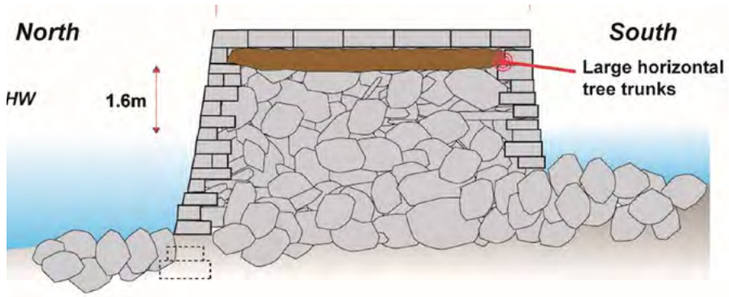
3.2 The North Bull Wall

As described in Chapter 2 (page 20), the building of the Great South Wall began in the early decades of the eighteenth century, but over the long term it was generally acknowledged that the problem of the Dublin Bar would continue to create problems for shipping if not satisfactorily addressed. Captain William Bligh was commissioned in 1800 to make a detailed survey of Dublin Bay with a view to its improvement. In his recommendations, Bligh became one of the first to suggest that a breakwater be constructed on the north side of the Liffey. This, he argued, would create a scouring action in which sand would be washed away from the harbour mouth, by augmenting the flow of the river. Bligh's concept was later proposed, in turn, by Chapman, Cornielle and John Rennie. However, it was not until Francis Giles and George Halpin suggested that a masonry breakwater be constructed from the north shore at Clontarf to a point opposite Poolbeg Lighthouse that action was taken to create what became known as the North Bull Wall. This was completed between 1820 and 1825 and effectively formed an artificial mouth for the river Liffey. The scouring effect created by the wall dramatically reduced the level of the sand bar, while at the same time preventing sand from the North Bull from being deposited in the river channel. Before the construction of the North Bull breakwater, the depth at low water during the spring tides was only 6 ft (1.82m); by 1873, it was 16.5 ft (4.87m).

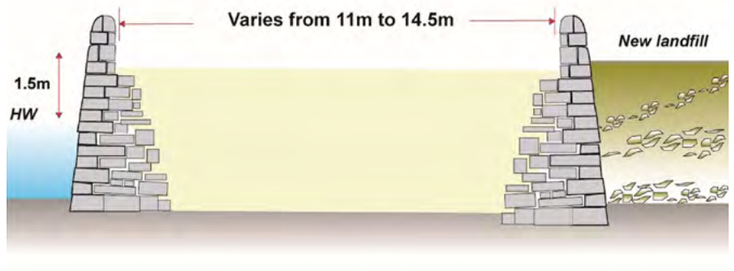
3.3 Developments in the second half of the nineteenth century

In the second half of the nineteenth century almost all of Ireland's main ports experienced considerable expansion. For the most part, there were no real physical constraints to such developments at Dublin, Cork, Belfast and Limerick. However, the costs involved were often prohibitive, and public works loans were rejected for the Dublin Port & Docks Board proposals to build a second graving dock and deepen 1,000ft (304m) of Sir John Rogerson's Quay in 1869. Innovative and ultimately cheaper methods were now required to effect important works.

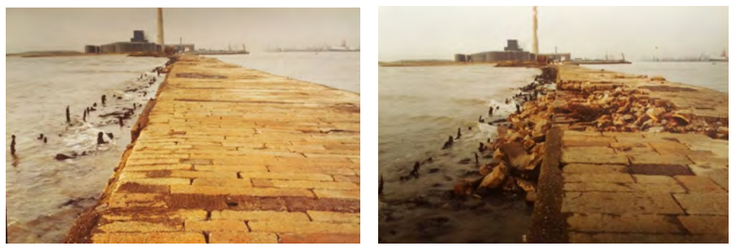
The costs of preparing quay walls below water invariably involved a considerable outlay. Mindful of increasing financial constraints, as early as 1863, the engineer of Dublin Port, Bindon Blood Stoney, had begun to re-evaluate the relative costs of both masonry and concrete for this purpose. Stoney undertook a series of tests which established that concrete was some 50% cheaper, and he proposed



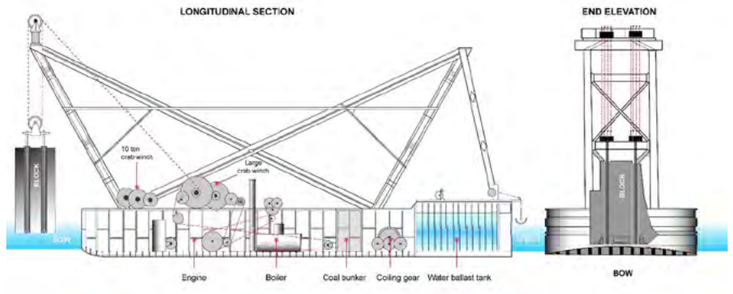
Cross section Between Half-moon battery and Poolbeg lighthouse
Source: Southgate for DPC



Cross section between Pidgeon House precinct and Ringsend (Drawn at exposed section near disused sewerage outfall)
Source: Southgate for DPC

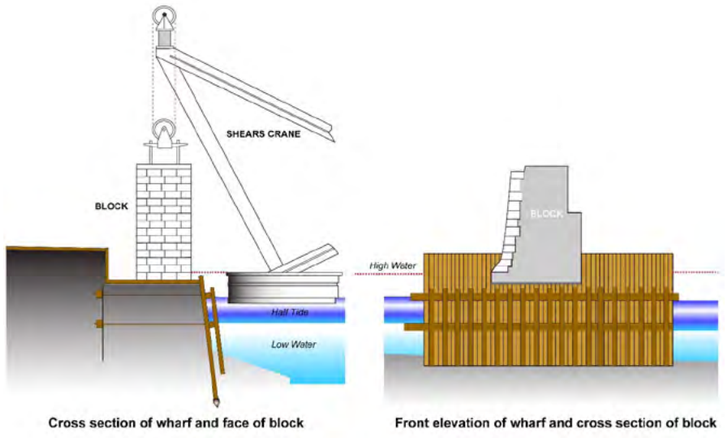


Photographs taken after the storm in 1981 appear to show the construction of 'The Piles', namely the trapezoidal frames. (The earlier piled wall had 3 sets of piles).
Source: Dublin Port Company, Port Engineer



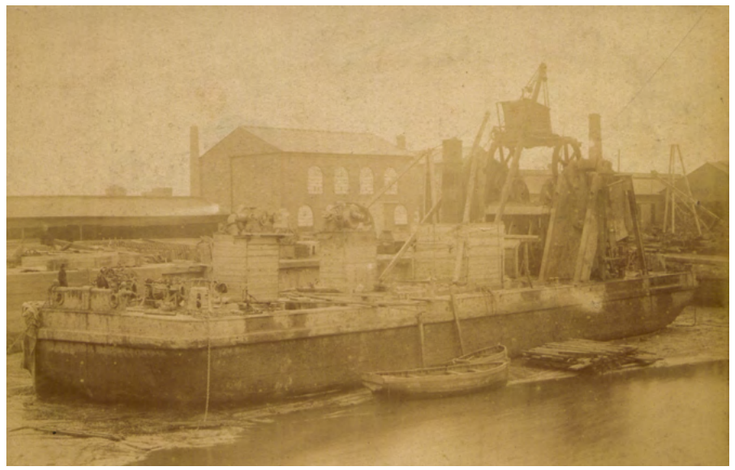
Elevation of the Shears crane

Source: Colin Rynne for DPC



Section of wharf and block

Source: Colin Rynne for DPC



Dredger, 1884

Source: Dublin Port Archive, ref image 00001

to manufacture monolithic blocks of concrete, up to 360 tons in weight, which would be laid on the riverbed as the foundations of quay walls. Nevertheless, although he was already sketching designs for what were to become floating shears and the diving bell in the early 1860s, he was not the first to carry out such a scheme in Ireland. In 1870 James Barton had already begun to lay 100-ton concrete blocks for the below water section of an 800-yard (731.52m) quay wall at Greenore Harbour, at the entrance to Carlingford Lough, constructed to serve the new Dundalk, Newry and Greenore Railway. Yet Stoney's scheme to provide new quay walls on the north side of the estuary of the river-Liffey was much more innovative. The conventional method of laying the foundations of quay walls involved the construction of expensive coffer dams, which were continually pumped dry to facilitate building work. In Stoney's scheme, the foundations for the concrete monoliths were first excavated by a dredger, while the final levelling off work was carried out on the riverbed by men working within a massive diving bell, supplied with compressed air.

By 1882, over 2,000 ft (609.6m) of new quay wall, with a depth of 22 ft (6.70m), had been laid by this means. Engineering innovation in the expansion of Dublin Port continued with Joseph Mallagh's use of reinforced concrete cellular caissons in the construction of Alexandra Quay in 1921. Mallagh's technique was still being used for quay berth construction in Dublin Port up to the 1980s.

The nineteenth-century development of Dublin Port is testament not only to the advance of the civil engineering profession in Ireland but also to institutional guidance and foresight on behalf of the port authorities. Together they facilitated high levels of technological innovation in what was, in European terms, a medium-sized port. Yet the greatest innovations in the development of Dublin Port are those of Bindon Blood Stoney, who revolutionised the application of mass concrete to deep-water berths. His achievements as the port engineer rank with those of Jesse Hartley at Liverpool and John Rennie at Donaghadee and Dun Laoghaire. Indeed, so much of the nineteenth-century port infrastructure has survived because it continued to perform satisfactorily the functions it was originally designed for.

4. City and Port integrated

The development history of Dublin City and Port is a largely intertwined and interconnected history. They share similar spatial origins. As the Port shifted eastwards, the city's centre of civic and economic gravity also shifted east.

Physically and economically, the interplay between City and Port has lent shape to the City. Until relatively recently, the Dublin Port and Docks Authority (in its varied forms and names), has been responsible for the Liffey bridges eastward from Heuston Station. From O'Connell Bridge to the North and South Bull Lighthouses, the built landscape has been greatly influenced by Port development. The massive port and urban expansion facilitated by the sizeable land reclamations and Liffey canalisation of the eighteenth and nineteenth centuries were driven by the often interconnected interests of port and city developers. The Port, including the various trades and businesses operating within its domain, was a sizeable employer within the city and so the daily commutes between home and work required ready permeability. It is only since the latter part of the twentieth century that the spatial separation between Dublin Port and the city has become so distinctive, influenced by the declining number of people working in the Port and the greater security and safety measures brought about by changes in regulations, changes in port operations, and restrictions imposed by other land-owners within the area.

In an island society, Dublin Port has played a profound role as a primary conduit for cultural influences – food, fashion, language, the arts, architecture and more – imported and exported through diverse peoples and cargoes, absorbed and adapted within the City and beyond. Even today, the Port is responsible for approximately 60% of all physical imports to Ireland.

A distinct feature of Dublin Port – when compared with many other European and international large/capital port cities – is the geographic proximity between city centre and port lands. Visually connected, City and Port are constantly present for each other. This is underscored by the long-standing traditional weekend walk from the city centre, along the south quays and Great South Wall to the Poolbeg lighthouse.

The importance of Port City integration is recognised by its inclusion in The Dublin City Development plan 2022-2028, Policy CEE35 (see page 49 above).

5. The electrification of Dublin Port

Under the provisions of the Dublin Port and Dock Act (2 Edward 7) of 1902, the Dublin Port authorities acquired the right to build their own electricity generating station, with which they intended to provide power for a new generation of electric cranes in the Port. Electric cranes operated with greater energy efficiency and could get

through more work per day than steam cranes. Those employed at the port of Glasgow, for example, were shown to work at around 25% of the cost of a standard steam crane. Work on Dublin Port's electricity generating station at the North Wall began in 1903, and this was expanded in 1907 at a cost of £11,546. In 1903 John Purser Griffith, the port engineer, issued tenders for a 100-ton electric crane, which was completed in 1905 and continued in operation until 1987.

Statement of significance: 100-ton crane

The 100-ton crane was an important development for Dublin Port, as prior to its erection, the Port had no crane capable of handling loads of more than 25 tons. In practical terms, this meant that heavy items such as railway locomotives or even heavy steam boilers had to be unloaded at the port of Belfast. The crane itself was built by the Machine Building Company of Nuremberg, Bavaria, and constructed by the company's engineer, Charles Nitsche, under the supervision of Purser Griffith. The electric 100-ton crane was of national significance in its day and was decommissioned in 1987.

The crane was 77ft (23.46m) high and its main foundation required 3,500 tons of concrete and 110 piles. The electric plant required for its operation was provided by Siemens Bros. of London. Further electric cranes were installed in 1906 and 1908 and by 1939 the Port had twenty 4-ton portal cranes, along with five smaller cranes in addition to the original 100-ton crane. In the 1950s, the Port Authority was beginning to replace the older and increasingly obsolete cranes, and acquired thirty-three 4-ton, three 6-ton, and two 10-ton cranes at a cost of £437,000.

The 1902 act had provided the Port Authority with complete control over its electricity supply, but in 1924 it decided to shut down its generating station and to take a supply from Dublin Corporation's Pigeon House generating station. The choice of the Pigeon House, the site of the former packet station between Britain and Ireland, and military fort during the nineteenth century, proved to be highly controversial in its day. However, it did have the advantage of access to Dublin harbour for the disembarkation of coal and access to a supply of water for its steam boilers from Dublin Corporation's main reservoir at Vartry in Co. Wicklow. The Corporation also took on a highly experienced English electrical engineer, Robert Hammond, in 1899, who skilfully countered their many critics and successfully brought the project through to completion in 1903. Hammond sought to 'give Dublin the most up-to-date system of lighting and motor power in existence, keeping in mind economy in the supply to the consumer and cheap cost of production'. The supply for the English city of Leeds – which he claimed had the cheapest electricity in the United Kingdom – was to be the model for Dublin. Dublin was to have a three-phase system, which his critics maintained would not be sufficient for Dublin's needs, even though similar systems employed on the continent had shown this to be a baseless assertion.

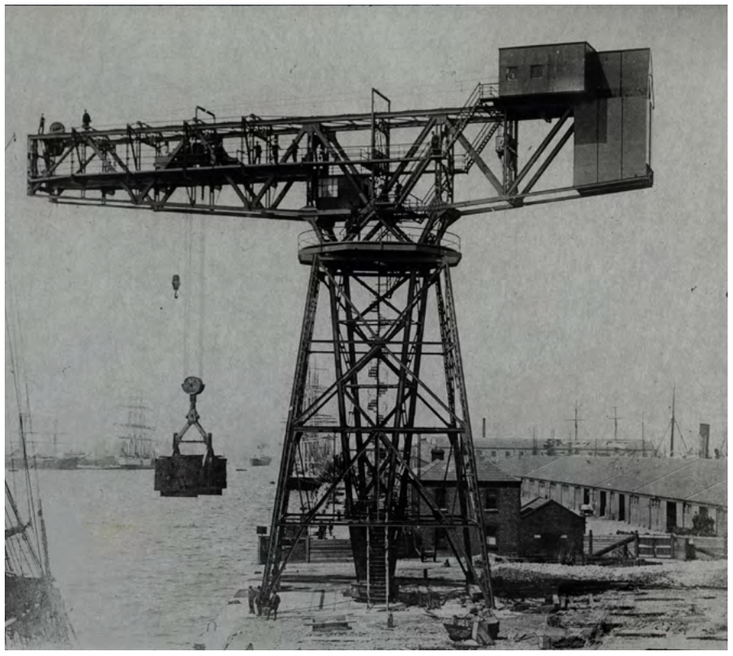
Statement of significance: Pigeon House generating station (not in DPC ownership)

The Pigeon House site was sufficiently removed from the load centre, to require the use of high tension ('high pressure') transmission as recommended by Hammond. The Corporation was obliged to employ the most up to date three-phase, four-wire system of distribution, and hence Dublin became one of the first cities in the world to adopt this system – later to become an international standard. This makes the Pigeon House site of international technical electrical significance.

The Pigeon House site was taken over by the contractors in May 1901, but the demolition of existing buildings and the preparation of foundations delayed the construction of the main chimney until January of 1902. This latter was 186ft high and had a 30ft deep foundation. All of the main buildings, including the chimney, were built with Dublin bricks. Coal was delivered from ships at the adjacent quay to large hoppers and was transported via bucket conveyors to the boiler house. The original generating station was equipped with three-phase alternators built at the Oerlikon plant in Switzerland, which were powered by four Duncan Stewart engines, actuating two sets of 1000kw and two 500kw alternators. The current was transmitted at 5,000 volts AC over a distance of just under 5km, where it was reduced to 200/346 volts, 50 cycles per second in 20 district transformer substations located throughout Dublin City. The total cost of the Pigeon House project was around £265,000.

The development of the Dublin Electrical Generating Station at Poolbeg facilitated the exponential delivery of electricity to Dublin households in the early twentieth century. It was ceded to the ESB on its establishment in 1927, with several phases of expansion until it was decommissioned in the mid-1970s following construction of the Pigeon House oil-fired station on adjacent reclaimed land. Following decommission, the turbines and boilers were removed, in the process damaging the steel structure.

Arroll Cranes at Dublin Port, c.1920
Source: Dublin Port Archive, ref 6229



100-ton electric crane (1905-1987) was of national significance in its day
Source: Dublin Port Archive

Port workers at Dublin Port and Docks Board electrical substation, Crossberth power station c. 1908
Source: Dublin Port Archive, ref 5990

The SS Gale being hauled up Patent Slip No. 2, 13 April 1906
Source: Dublin Port Archive, ref 200212_10133

6. Shipbuilding

By the 1770s, Cork and Dublin were emerging as the principal Irish shipbuilding ports. In 1790 Michael Cardiff and Michael Kehoe's yard on Dublin's City Quay launched a vessel of 500 tons, which was then the largest vessel of any type of to be built in Ireland. But although Dublin was the main shipbuilding port in 1815, within a decade its output was surpassed by Cork. Thereafter, its main shipbuilding yards at Ringsend and Sir John Rogerson's Quay built few large vessels and concentrated mostly on repair work and local markets. The fortunes of the Dublin industry were revived in the 1860s with the creation of modern drydocks on the North Wall, where the firm of Walpole, Webb and Bewley launched their first steamship in 1864. However, they no longer built ocean-going vessels after 1871 and focused, instead, on local markets. A further shipyard was set up in the Alexandra Basin by Ross and Murray that operated, intermittently, between the 1860s and 1931, which manufactured many of the Liffey steam barges for Guinness' brewery.

However, the Dublin shipbuilding industry experienced a steady decline during the nineteenth century and was effectively re-established by Scott and Smellie in 1901, who reopened Bewley's yard on the North Wall. This yard launched its first twin screw ship in 1905 and built the *Helga*, a fisheries cruiser for the Department for Agriculture and Technical Instruction in 1908 (page 23). The firm became the Dublin Dockyard Co. Ltd in 1912 but was caught in the post-WWI slump, closing in 1923. Over its relatively short lifetime, the company had launched over 60 vessels and many canal barges. In 1918 a new firm, Dublin Shipbuilders, was established in a new yard at the east end of Alexandra Quay and was bought by the English firm Vickers in 1923. Nevertheless, during the 1920s and 1930s, the Dublin shipbuilding industry was virtually moribund, with no new ship being launched between 1937 and 1952. The Dublin Dockyard was reopened in 1940 to cater for wartime ship repairs, and in the 1950s a small number of new ships were built, the last being launched from Alexandra Basin in 1969. Thereafter and up to the present day, this yard was involved in ship repairs, with the No. 1 Graving Dock being filled in 2008, and No. 2 Graving Dock being decommissioned in 2017. No.1 Graving Dock will be excavated, restored and reopened as part of Masterplan 2040.

7. Associated infrastructure of movement

Developing around the City and Port is an historic network of movement infrastructure that has left a rich and useful legacy. Primary amongst this infrastructure are the canals (Royal and Grand) and railways.

Canals

The Canals, whose history of construction is summarised in Chapter 2 (page 18), offer connectivity westwards for walkers and cyclists. The connection of the Port to the interior of the country by canals from the late eighteenth century is part of seminal developments from that period. The Grand and Royal Canals have imprinted themselves indelibly on the image of the city and on the character and cultures of the interior of the country, notwithstanding that they were progressively superseded by the emerging railways from the 1840s onwards.

It is a testament to the legacy of that epoch that the terms 'inner canal' or 'between the canals' are popularly in use in describing the historic city, resultant on their connections to Dublin Port. The Grand Canal commenced construction in 1757 and terminated in the Grand Canal Docks/Basin in 1796. In their time, they were the biggest of their kind, and represent an exceptional example of engineering. Today they are at the heart of the so called 'Silicon Docks' which, like much of the matrix of the eighteenth- and nineteenth-century Port, has been progressively redeveloped in the last 35 years, contributing significantly to the Irish economy.

The Royal Canal commenced construction in 1790 and originally terminated in Broadstone (1801), but was later linked to the Port at Spencer Dock in 1817. Both canals, and particularly the Royal Canal, struggled throughout their history to be economically viable. The bankrupted Royal Canal was purchased by the Midland and Great Western Railway Company in 1845.

Both canals provide pedestrian and cycle infrastructure accessing the Port environs, and form key elements in proposed urban pedestrian and cycle networks.

Railways

The Midland and Great Western Railway's route and related lands were extensively used to host the emerging railway, which connected with the Port at the North Wall, in 1864. The Grand Canal did not

offer itself as a rail corridor. However, in 1877, the Great Southern and Western Railway Co. created a link to the Port, via a bridge crossing over the Liffey, north of Kingsbridge (now Heuston Station), then through a tunnel in the Phoenix Park, to circle the emerging Victorian City, passing through cuttings in Cabra, and ultimately joining with the M.G.W.R. Co. line at Glasnevin, and thence on to the North Wall.

Prior to the regeneration of the so called 'Docklands', the legacy of the rail connections to the Port were readily evident, particularly in the environs of the North Wall. The current regenerated Spencer Dock was an extensive array of railway sidings owned by CIE/Iarnród Éireann until the late 1990s.

Other survivals of that epoch survive in part or in whole, notably the former terminus of the London and North-western Railway Company on North Wall Quay, and its related Hotel, recently restored.

Another notable remnant of the era is the Point Depot. This was built as a terminus for the Midland and Great Western Railway Co. in 1878. It is now subsumed into the landmark 3 Arena and is at the heart of the so-called Point Village, which faces the western boundary of today's Dublin Port Estate. The Point is also the terminus of the Luas Red Line since 2009, providing the public with access to the Western Gateway of the Port, and to the DPC offices at Port Centre – a structure of twentieth-century architectural heritage – and the planned Odlums Flour Mill project on Alexandra Road.

Rail connections to the heart of the contemporary Port are long established, via Alexandra Road. The expansion and development of rail freight is seen as being integral to the future of Dublin Port's operations.

Pedestrian and cycle movement – Greenways

The historic movement infrastructure – canals, campshires and berths, breakwaters, former railway lines – have always functioned as routes for pedestrians and cyclists. Today, reimagined and enhanced to provide greenways, they offer opportunities to connect the Port internally and with its hinterland, for both recreational and essential (e.g. travel to work) journeys. Dublin Port through its Masterplan 2040 has identified innovative locations for a greenway along its perimeter to connect the city with the passenger terminals and local communities.

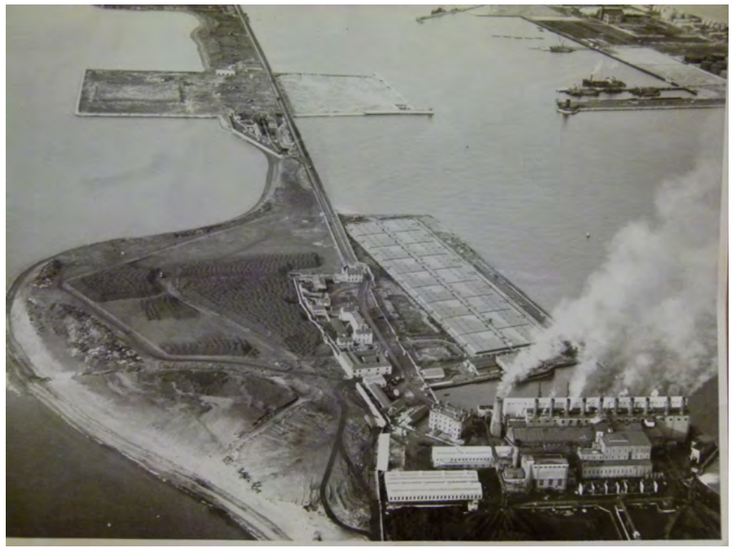
8. Utilities hub (energy, power, waste)

Interspersed within the Port area, most especially concentrated on the South Port lands, are a number of public utilities that operate at the national, regional and municipal scale. Collectively they comprise a form of utilities hub and cast a significant influence on how this area is perceived and used. They located here on the back of the area's relative disconnection from the built-up city centre and residential areas yet being sufficiently close to usefully serve the city's needs, the ready access to berthage and water and the ensuing cluster benefits of adjacencies.

The origins of this hub can be dated to the late nineteenth century. In 1897 when the army vacated Pigeon House Fort, the site was sold to Dublin Corporation, which, between 1897 and 1906 constructed Dublin's first municipal sewerage scheme, with a large outfall works at the Pigeon House site (page 19). The Rathmines and Pembroke sewerage scheme, built between 1878 and 1881 had previously run a main sewer line through the site – presumably by agreement with the army – to its outfall point at the penstock house at White Bank on the South Wall. The Corporation works, however, were a much larger undertaking and an extensive outfall works facility was built into the existing Pigeon House Harbour. The treatment plant has been developed and expanded many times to cater for the needs of the Dublin Region since 1906. Now under the management of Irish Water, it is undergoing a further upgrade to address population growth and stricter environmental controls.

Dublin Corporation expanded this municipal utilities function in 1902 with the construction of the Pigeon House Electricity Generating Station within the former Fort complex. It responded to a growing demand for electricity in the city and a need to regularise a new emerging industry that until then had been led by a plethora of unregulated private companies looking to profit from the electricity innovations of the nineteenth century. The ESB further developed and expanded the power station after taking it over in 1927 and subsequently further expanding into the adjacent reclaimed lands as the Poolbeg Power Station.

The Dublin Waste to Energy (Covanta) plant that lies alongside the wastewater treatment plant within the 'utilities' hub is included as another power generating station (currently operated by Synergy).



1950s aerial photograph of Dublin Electricity Generating Station within still substantially intact Pigeon House Fort, with outfall tanks constructed within the Pigeon House Harbour
Source: ESB Archives

Pigeon House Harbour, view from above
Source: Dublin Port Archive, ref 0519

Poolbeg Peninsula, view from Sandymount. The bathing place in the foreground (Merrion Pier and Baths) was formerly connected to Strand Road by means of a lightly braced steel structure with a timber deck
Source: ADCO for DPC

Dockers, c. 1890s. Photograph by Ephraim MacDowel
Source:The Royal Society of Antiquaries of Ireland

Dublin Port and Docks Board labourers at North Wall, 1911
Source: Dublin Port Archive, ref 5986

So too the National Oil Reserves Agency (NORA), which is one of two SEVESO sites on Poolbeg that exert restrictions on other uses permissible within specific distances from these sites.

The contribution made by the utilities hub to the overall cultural heritage significance of Dublin Port is not straightforward. As physical interventions, they have disrupted the integrity of earlier layers of significance. They exert a restrictive influence on the legibility and accessibility of parts of Poolbeg that carry the highest cultural heritage values. They also represent an era (still active) of fossil fuel dependency and environmental degradation. Their development and operation has taken place in an *ad hoc* manner as individual developments, without any guiding masterplan.

Notwithstanding these factors, they do have industrial heritage significance, to varying degrees, and more specifically for the following notable aspects:

- Provision of early Municipal and National Infrastructure, critical to the economic development of Dublin and wider area.
- The Dublin Electricity Generating Station is understood to be the first urban use of three-phase power in the world.
- The role of the ESB as a key part of the new Irish State and the place of the Poolbeg power generation in this.
- As individual developments, they demonstrate technical innovation and high-quality implementation. These contribute to the overall cultural landscape of Dublin Port and contain some distinctive structures that are part of the City's fabric – the former Dublin Electrical Generating Station (a protected structure); the 1970s ESB Pigeon House power station and their iconic chimneys, a landmark of Dublin City and Bay; the Covanta Waste to Energy plant.
- Collectively this Hub, as a site of energy production and waste management, represents the human impact on the city and its environment.

Where the anticipated eventual transformation of these utilities to cleaner and zero carbon renewable energy technologies goes hand-to-hand with opportunities to recover and make accessible the cultural heritage assets alongside measures to safeguard and enhance the natural heritage ecosystems, then the values that Dublin Port's Utilities Hub will transmit can align with the cultural heritage objectives set out in the Plan (as presented in Chapter 5 Policies).

9. Dublin Port as place of work

The rise and fall of employment within Dublin Port follows the evolution of its physical growth and subsequent contraction in line with the increasing mechanisation of Port operations, and the relocation of many traditional Port activities and businesses. So, while in the nineteenth and early twentieth centuries, Dublin Port was a significant source of direct employment, particularly male, in the City, this has gradually diminished since.

Most working men were employed as labourers and carters on the docks and railways. A lot of this work was highly irregular and casual. Sailing ships often spent weeks in port, so their cargoes were discharged at a leisurely pace. Owners of more expensive steamers were keen to discharge and load ships as quickly as possible, so they hired large numbers by the day, or even by the hour. There was a strong seafaring tradition among docklands families that survives until the present.

Many other jobs in the Docklands were dependent on the Port. Coal merchants were scattered along the quays, particularly south of the Liffey, and carters brought coal to homes throughout the city. In 1900 a large house would use a ton of coal a month. There were few jobs for women, though some earned a living from dealing or domestic service in more prosperous parts of the city.

Working conditions in the Docklands were tough; injuries were common. There were often two or three men available for every job, so older men found it difficult to get work. Wages were often paid in public houses, and some dockers had to bribe a stevedore in order to be hired. Personal contacts were also essential, so most dockland workers were natives of the area. The harsh working conditions gave rise to many industrial disputes, the most famous being the 1913 Lockout led by trade union leader James Larkin.

Most of the factories in the area depended on the Port. Ringsend was a traditional centre for boat building, focused on construction for the local fishing fleet.[1] The Ballast Board was optimistic that Dublin could become a major centre for shipbuilding and repair. The business folded after World War I. In 1870 there were five glassworks in Ringsend. Glass manufacture used large quantities of imported coal. One glass firm made bottles for Guinness stout. The Irish Glass Bottle Co. opened in the 1930s, and closed in 2002.

Live cattle, the main agricultural export, provided few jobs except for drovers and handlers. However, Goulding's fertiliser company and the Dublin and Wicklow Manure Company in the North Wall supplied Irish farmers with artificial manures, which were manufactured from imported materials. Until the Famine of the 1840s, most bread was made from Irish-grown wheat, but imports of wheat rose rapidly from that time and several large flourmills opened in the Docklands. A large building firm, T and C Martin, opened a joinery plant, using imported timber, and before 1900 there was a sugar refinery in the south Docklands, which processed imported cane sugar. There were plans to open an oil refinery in the 1930s, but the plans were abandoned when World War II broke out, though a large proportion of Ireland's oil and petrol is distributed from Dublin Port. After World War II the number of jobs in the Docklands fell with the growth of container traffic and the switch from rail to road. Coal became a less important source of fuel, so there were fewer coal men. Many of the older factories closed down.

Another important employer was the British Army with its Fort at Pigeon House. The military presence in Dublin exerted quite an influence on society.

The communities of former dock workers, pilots, fishermen and their families remain a fundamental link to this very important, intangible dimension of the Port's cultural heritage. They are a direct connection to the skills, systems and productive feats and outputs of the Port workers. They are the holders and best narrators of daily life, rituals and events that characterise Dublin Port, north and south of the Liffey. Their stories – personal and collective – carry important insight into real and perceived experiences across ages, genders, ethnicities and religious backgrounds, financial security, and beyond.

10. Dublin Port as city amenity

Dublin Port historically has been part of the City's amenity. Its historic infrastructure has provided the access routes from the city centre to Dublin Bay for many citizens.

To walk the entire Great South Wall from the Dodder estuary to the Poolbeg Lighthouse out and back is a walk of approximately 15km. Prior to the twentieth-century reclamations either side of the Great South Wall, the experience of walking way out into the Bay along a narrow promenade of this length, with an interlude mid-way through the Fort, must have been quite dramatic. The latter land reclamation that forms Irishtown Nature Park has expanded this amenity, connecting the Port with the residential communities of Sandymount, Ringsend/Irishtown and further afield through the DART and bus routes.

The Great South Wall also hosts the Half Moon Swimming club – a longstanding place for sea swimming at the site of the Napoleonic-era gun battery. It has also been a launch and location for boat clubs. Both these activities continue to enjoy growing use from local communities and beyond. The North Bull Wall echoes the same tradition and community use, with its suite of changing rooms that extend along much of its length, constructed by Dublin Corporation in the 1930s as part of good urban planning initiatives, and probably designed by Herbert Simms, housing architect.

North Wall Quay provided a direct link to the city as well as working areas and terminated at 'The Point' – a name arising from the junction of North Wall Quay and East Wall and remaining in the Dublin lexicon of well-known place names.

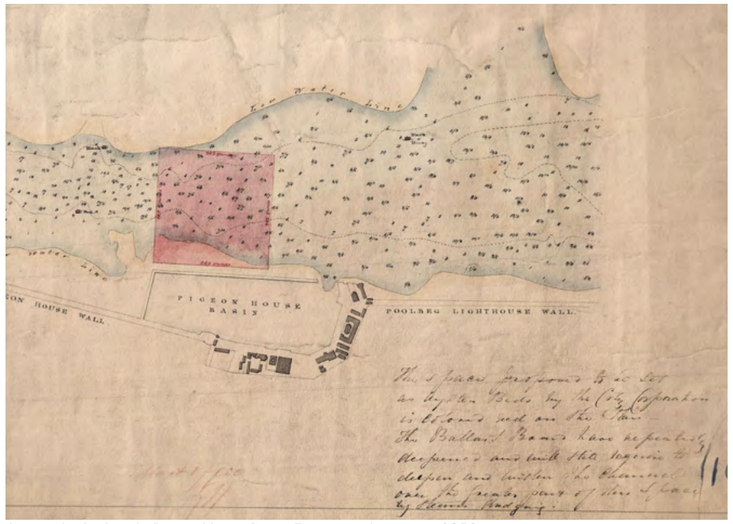
The historic East Wall, which extends from North Wall Quay to the Tolka Estuary at Ballybough Bridge, was a liminal point where sea and land met, where the city ended, and where the Bay could be viewed safely. The southern length of the sea wall became a walled western boundary to Alexandra Basin in the late nineteenth century, and is now the western boundary to the northern Port lands. The transformation of this to a linear park and greenway is a current special development project to link Liffey and Tolka as part of a wider Port greenway network (The Liffey-Tolka Project). Such is the significance of the historic Port infrastructure for future amenity benefit.

Fishing is another traditional and ancillary activity that exploited the Port's breakwater infrastructure. It remains popular, notably at Poolbeg Lighthouse.

11. Military

The military presence at Poolbeg is perhaps less commonly appreciated than other aspects of its history. However, this is an important part of the story and, on close looking (as described in Chapter 2), its legacy can still be read in the physical fabric. There are several structures standing, others are covered by vegetation, while other elements may well survive below ground, in particular the enclosing wall to the south of the Fort, which can be seen on many of the historic photographs right up to the mid-twentieth century.

Taking the plunge on a windy day from the Half Moon Swimming & Water Polo Club, the South Bull Wall Dublin. Dara MacDonnaill, The Irish Times 05.07.2020
Source: The Irish Times



Area to be let beside Pigeon House Basin. Engineers drawing, c. 1850
Source: Dublin Port Archive, ref 1190

Archaeologist entering the water at Poolbeg
Source: ADCO for DPC

It was an important military base for the British Army, considered the critical escape route from Dublin. It forms part of a notable collection of nineteenth-century military structures within the Dublin area and along the Leinster coast. Added to the architectural and engineering legacy of this is the influence of the military on social and cultural life in nineteenth-century Dublin.

While the British Army had left Pigeon House Fort by 1897, the Irish Defence Forces used the site as a post during the World War II Emergency period. Some of the defensive modifications survive from this period, although in precarious condition.

Recent research indicates that a substantial record survives of the Pigeon House Fort within the Irish and British Army Archives collectively. The archives provide a comprehensive resource with which to better understand this particular period of the Pigeon House Precinct and its place in the cultural landscape of Dublin and its Port.

Several historic paintings also portray the Fort, some of which appear to show the continued use of the Great South Wall as a promenade. Further insight into the relationship between the citizens and the military during this period, how one affected the other, may unfold through careful study of the archives and wider connection with the city's history.

12. Hidden/buried heritage – underwater

There are several recorded underwater sites of real and potential heritage interest. Buried and hidden, their stories, surviving physical fabric and contents possess the potential to connect beyond Dublin, making links to past trading routes, or connect directly with notable historic events.

The number of known shipwreck sites in the vicinity of the Port is relatively small compared to the number of recorded shipwreck events that occurred since the records began to be made systematically from the mid-1700s. The archaeological monitoring that has taken place during the ABR project has recovered more than 300 objects, the majority of which are ships' timbers that represent an important assemblage and will inform a rich narrative into the history of wrecking events and marine loss on the approaches to Dublin, as vessels tried their luck in crossing the Dublin Bar. The discovery of one new shipwreck was made during the monitoring operation. Known as the 'Millstone Wreck' because of what was found on the vessel, it lies outside the breakwaters on the northern slope of the navigation channel and is the remains of a timber vessel, a coastal trader. Its cargo included a number of millstones, analysis of which has revealed the millstones to be an Old Red Sandstone that most likely came from a tidal quarry in Waterford Harbour at Harrylock, Co. Wexford.[2] The vessel's date remains undefined but it is most likely from the eighteenth century and it foundered on the Dublin Bar. Today the base of the vessel remains intact on the seabed and is securely buried under the covering sands of the Approach Channel's slope. Dublin Port Company monitors the condition of the vessel on an annual basis, to ensure that it remains in a stable and secure condition.

The navigation aids constructed by the Port to assist in safe passage are part of the same narrative, and Dublin Port's leading lights that are placed at regular intervals along both sides of the Approach Channel include several older elements, along with more recently designed buoys.

13. Culture-Nature

The heritage of Dublin Port is both cultural and natural. The prevailing mechanisms for identifying, protecting and managing significant heritage in Ireland has tended to separate the cultural and natural from each other. In reality, however, there are few, if any, purely natural sites in Ireland where cultural (human) action is not evident, and many cultural sites are intrinsically linked to nature. The immediate impact of a cultural site such as Dublin Port on visitors hinges on the way it fits into its natural bay setting. This goes hand-to-hand with the realisation that natural sites are frequently marked by longstanding cultural connections.

The concept behind Culture-Nature (cultural heritage – natural heritage), aims to bridge the divides and differences between these and to address their commonalities.

It also seeks to identify possible shared opportunities through considered heritage conservation strategies. It is a concept advanced in recent years by conservation bodies such as UNESCO, ICOMOS and IUCN. Indeed, the UNESCO Dublin Bay Biosphere is defined as a place where nature and culture meet.

In considering the heritage significance of Dublin Port, this theme aims to briefly articulate the overlapping cultural and natural heritage aspects of the Port lands by describing a number of examples.

The innovation and engineering excellence applied to the great southern and northern breakwaters (Great South Wall, Ballast Office Wall, North Bull Wall) is intrinsically connected to the particular physical – hydrological, geomorphological, etc – conditions prevailing in Dublin Bay. The shallow and shifting sandbars make human voyage across the water treacherous. The (cultural) solution resulted in the breakwaters which, themselves, subsequently further shaped the physical environment – the deposited silt created Bull Island, an accidental nature reserve that is still in formation, a culture-nature phenomenon.

The now obsolete mooring dolphins at the termination of jetties extending from Pigeon House Harbour have become home to the Arctic Terns, which circumnavigate the globe each year as they follow summer across both hemispheres. Recently otters have been observed accessing the dolphins.

Irishtown Nature Park is an exemplar of how flora and fauna have found home on ground formed of construction rubble from municipal building projects of the 1970s. This park also provides a local pathway between historic coastal settlements and the cultural and recreational amenities of and around the Great South Wall.

The natural environment of Dublin Port is living and subject to ongoing evolution. The cultural environment also continues to develop – a human construct responding to its physical context, as well as economic and social forces. Together they create a form of cultural landscape of considerable heritage significance and potential. This cultural landscape can be further characterised by its industrial, maritime, military and urban histories which over time, and continuing, present us with a significant combined heritage of tangible, intangible and natural dimensions – in names, activities, stories, buildings, structures and other material assets above and below ground/water, as well as bird and other wildlife, flora, dynamic seabed, river estuary, aquatic life and more.

14. Source and site of creative work expression

Dublin Port has been and continues to be both site and source of creative work across all art forms.

These include, in the visual arts: William Ashfords' important landscape paintings of the eighteenth century, Peter Pearson's impressionistic paintings of the twentieth, Cliona Harmey's poignant and immediate Dublin Ships of 2015, Dermod O'Brien's paintings of the port landscape from the early twentieth century, while Maurice McGonagle and Harry Kernoff depicted the everyday reality of dockland life in the mid-twentieth century.

In literature, drama, film, music, the Port has inspired Joyce, Eavan Boland, Anu, O'Casey, Starboard Home 2019.

In the l990s, the Port was home to studios of several leading artists including Dorothy Cross, Jesse Jones and Felicity Clear, while Sylvia Loeffler's 'deep immersion' series was in 2017.

Currently Dublin Port Company is planning the development of a new artist campus as part of the Odlums site masterplan, in conjunction with the Arts Council. In addition to initiating the process of transforming this important heritage site into a cultural quarter, it will respond to current need for space, of appropriate quality, for the making of art.

15. The view

Many accounts record the scenic beauty of Dublin Bay. John Rocque, the French surveyor and entrepreneur, whose seminal survey of Dublin City and Environs was published in 1757, wrote 'the situation of Dublin is very agreeable and commodious; being a sea-port, it hath a magnificent harbour, through which a surprising number of vessels are continuously passing up the river'. It was frequently and often favourably compared with the Bay of Naples throughout the eighteenth century. Another account from 1775 stated: 'The entrance into the harbour of Dublin is one of the most beautiful in Europe; though inferior to the bay of Naples merely from the terrific grandeur of Mount Vesuvius, which there forms a most striking object.'

This consideration of the visual, aesthetic experience of viewing Dublin Bay, the Port (harbour) and the City, from a number of vantage points, including that of the moving viewer across water, is an important signifier of cultural heritage value. The experience includes considerations of scenic beauty, combining nature and human (cultural) intervention, as well as associative and emotional meanings. The passage of time is another dimension conveyed, including the accumulations of development and change, and the excitement and shock that the visual juxtaposition of stark time-frames can evoke.

Maurice McGonagle, Dublin Docks (1900-1979)
Source: Whytes Auction Archive

Dublin Docks, Harry Kernoff (1900-1974), Dublin Docks
Source: Adams Auction Archive

Recent academic research on the James Malton view of Dublin, using the 'Marine School, Dublin. Looking Up the Liffey' as example, has observed the degree to which the eighteenth-century Malton 'has radically extended the picturesque beyond architectural design to picturesque city-making itself'. This research questioned the extent to which the Wide Streets Commissioners were concerned with the picturesque in their urban designs. Certainly city-making at the time did extend beyond the mere laying out of streets, squares and plots to accommodate new buildings, and making an impressive architectural landscape along the river and coast mattered.

The degree to which today's views have been creatively shaped by a guiding hand of civic design (planning) is questionable, though the planning processes allow for this. It is possible, however, to identify a number of important elements and visual relationships that contribute qualitatively to its visual and cultural heritage value:

- The strong horizontal register of the two Bull walls terminated by vertical lighthouses of distinctive colour.
- This horizontal line along the water is reinforced by the solid granite materiality and the continuity of form and material throughout the Liffey quay walls.
- A generally low skyline giving a coherent datum around the bay which is illuminated at night – the famous 'string of pearls' or 'rosary beads'.
- Punctuating this mostly even trim are several larger structures of note – the Pigeon House chimneys further distinguished by the red stripes and their slightly differing dimensions; the more recent Waste to Energy building with its zoomorphic form and reflective finishes that lend it a mutability under varying light; the glass and steel undulating form of Landsdowne Road (Aviva) Stadium – another light-catcher.
- Around and along the entrance to the Port there is an increase in scale and intensity, the result of an informal juxtaposition of varying forms, materials and structures, all associative with Port industry and related infrastructures – from circular tanks to high and colourful walls of containers; to the relatively large buildings associated with early and later Pigeon House power stations and the concrete brutalism of the wastewater treatment plant; to the impressive and stately art deco cluster of former Merchants Warehousing Company buildings (R&H Hall and former Odlums Mills), to the modernist three-dimensional Port Company Headquarters, and peppered throughout by cranes, gantries, floating lightbouys and other infrastructure of day to day port activity.
- At a more close-up level, the visual landscape is given nuance and interest by the frequent appearance of older structures, such as the small redbrick building that was built in 1922 as an electricity substation at the junction of East Wall Road and Alexandra Road, and is rehabilitated today by Dublin Port Company as a small event centre; The Substation. In varying condition, these communicate a history of use and, on closer inspection, reveal distinctive remnants of fortification, defence and ultilities.

16. Documentary/oral- archival resource (inventory)

Dublin Port possesses a remarkably rich documentary archive of primary source material.[5] It consists of a paper collection of 700 acid free boxes, 60 charts, 78,000 photographs, 600 historical registers and 30,000 engineering drawings, along with a large reference library.

The material dates from the establishment of the Ballast Board in 1707 and constitutes one of the state's nationally significant collections. It contains a vast wealth of information not just on the Port itself but the wider City context and extended to other areas where Dublin Port and its forebears held jurisdiction/development influence.

The archive contains survey maps, proposals, drawings for unexecuted proposals, donations, as well as built records, along with detailed annotated drawings recording dates and costs of certain developments.

Added to this invaluable physical collection, Dublin Port has been adding other archival sources – oral, film, photographic and written – which provide a further record of the Port. This record captures some of the aspects of intangible cultural heritage which can be more fragile, or ephemeral, than the built/physical heritage.

Collectively, the Dublin Port Archive is a treasure trove for current and future historians; for those trying to understand the Port as it exists today; those seeking to research its multi-varied past, and those communities who have contributed to it, and, in so doing, to the cultural heritage significance of Dublin Port.

Dublin Port by Dermod O' Brien Painting
Source: Dublin Port Archives

Chapter 3 Endnotes

1 Cormac Lowth, *Ringsend sailing trawlers, with some history of boat building in Ringsend* (Peggy Bawn Press, Dublin 2022).

2 Niall Colfer, 'Millstone quarries of the Hook Peninsula, County Wexford', in Aalen, F.H.A., Whelan, K., Stout, M. (eds), The Atlas of the Irish Rural Land scape, 2nd Edition (Cork University Press, 2011).

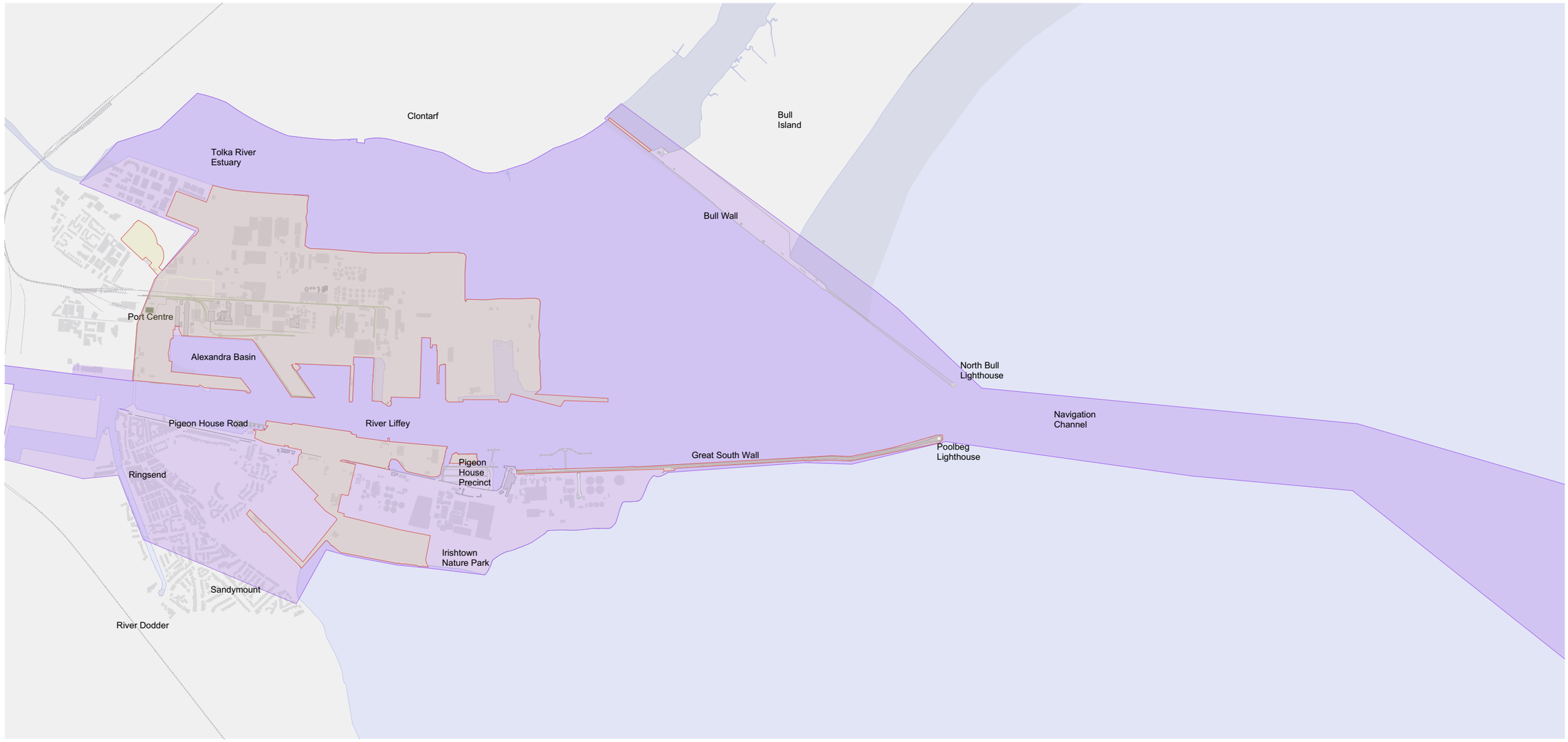
'Solidarity: The Dockers of Dublin Port' by The Little Museum of Dublin
Source: Dublin Port Archive

3.2 Elemental Appraisal of Significance: Built Heritage; Archaeology; Industrial Heritage

Dublin Bay
Source: www.dublinbaybiosphere.ie/

Conservation Strategy Study Area

This map identifies the area of focus of the Conservation Strategy in particular with regard to the Policies set out in Chapter 5. The map identifies the area in Dublin Port Company ownership and extends beyond this to include areas under separate ownership and management.

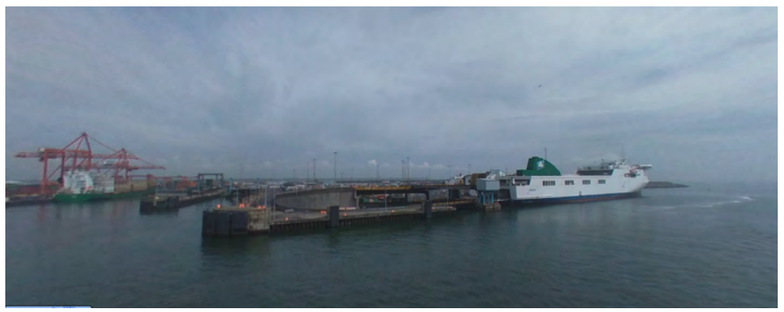


3.2.1 DUBLIN PORT AS HISTORIC , CULTURAL, INDUSTRIAL, MARITIME LANDSCAPE
Dublin Bay - River Liffey - River Tolka

The maps in this section aim to highlight the intertwined relationship between the Port and the City that spans centuries. The Dublin Port area (bay, rivers and related infrastructure) is shown as an entity that sits within a larger cultural, industrial, maritime and urban setting which has a strong connection to the historic city and connecting tissue network of rail work and canals.

City and Port - 18th Century

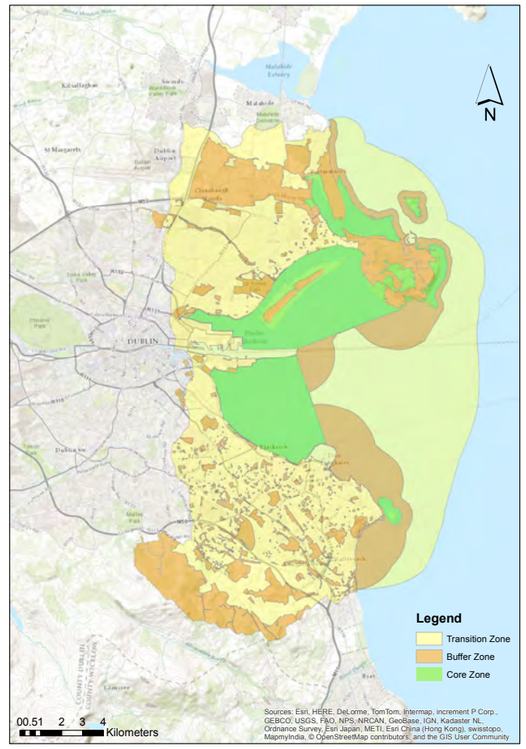
A map of the Harbour of Dublin from Essex Bridge to the Barr, 1704
Source: Dublin Port Archive



North Dublin Port reclaimed lands
Source: Google Maps

City and Port - 21st Century

City and Port - Today (2022)



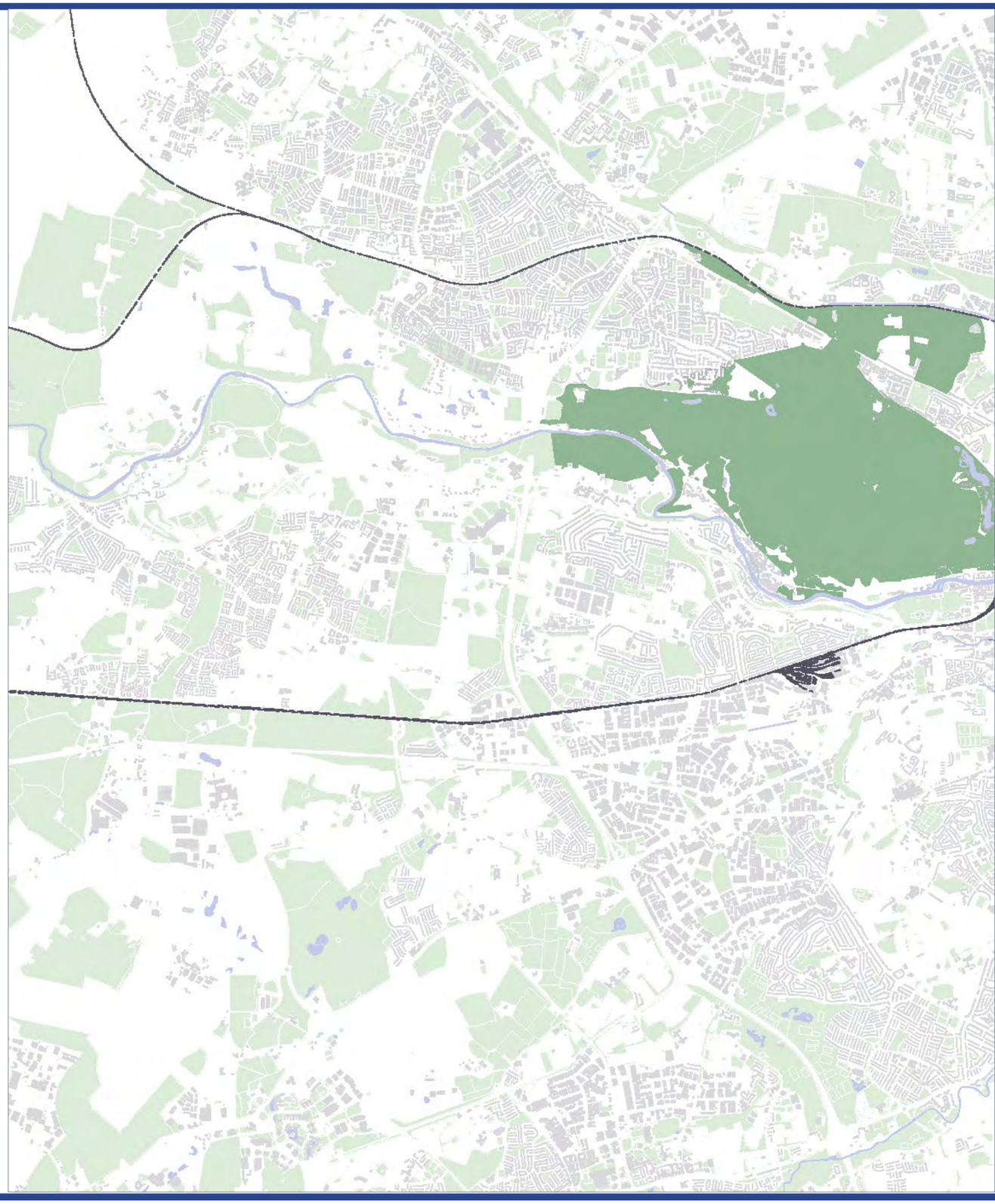
Dublin Bay Biosphere zoning - Biospheres are places where nature and culture connect.They are internationally recognised for their biological diversity yet also actively manage to promote a balanced relationship between people and nature.A biosphere is a special designation awarded by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) but managed in partnership by communities, NGOs and local and national governments. The biosphere designation brings no new regulations; its aims are achieved by people working together.

Source: www.dublinbaybiosphere.ie/

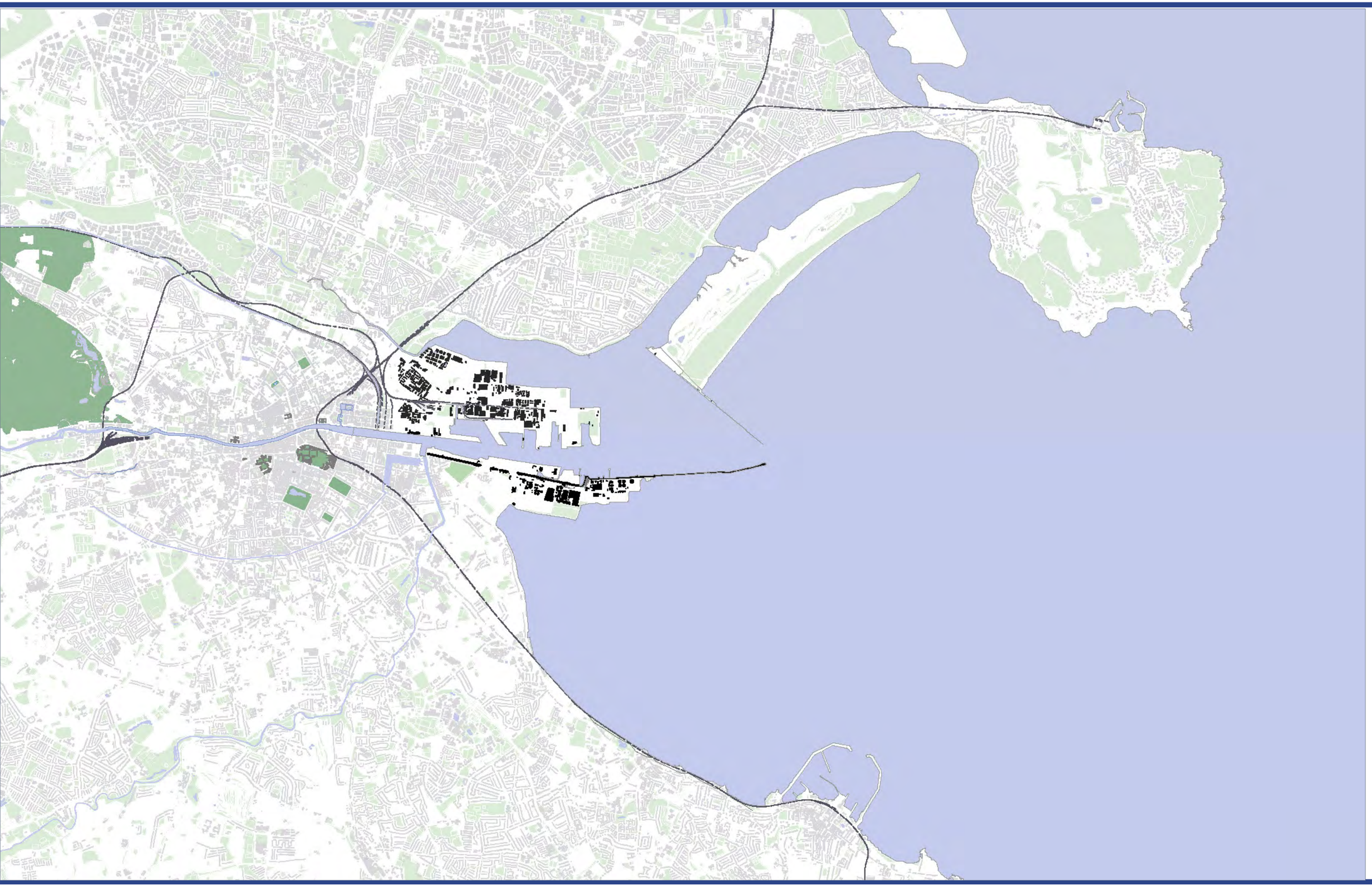
Plan and chart of the River Anna Liffey Northside from Carlisle Bridge to the Bailey Lighthouse and Howth,
Francis Giles, 1818-1819

Source: Dublin Port Archive


PLAN AND CHART
OF THE
RIVER ANNA LIFFEY
AND NORTH SIDE OF
DUBLIN BAY
FROM CARLISLE BRIDGE TO THE
BAILEY LIGHT HOUSE
AND
HOWTH
BALBOYLE
SUTTON
HOWTH
HILL of HOWTH
NORTH
BAR



Today - 2024
Dublin Port and the City



3.2.2 CULTURAL HERITAGE SIGNIFICANCE MAP
Dublin Port and Adjacent Lands

When considering the archaeological elements within the wider Port area, consideration is given to those features and structures that are buried under the existing ground surface and under water, as well as those structures that stand above ground. As described in Chapter 2.2, the Sites and Monuments Record (SMR) and its associated Record of Monuments and Places (RMP) presents a national register of known sites that are understood to date for the most part to the period prior to c. 1750 AD, and the Historic Shipwreck Inventory presents a record of recorded and known shipwreck locations. These registers and inventory carry statutory protection to the sites listed. The standing features overlap with other disciplines and specifically built heritage that includes the National Inventory of Architectural Heritage (NIAH) and Dublin City's Industrial Heritage Record (DCIHR). Not all of these sites carry statutory protection and those that do are also listed in the Record of Protected Structures (RPS) maintained by DCC, Fingal CC and Dun Laoghaire Rathdown CC. The corpus of sites so recorded is presented in Section 3.4, which seeks to show their locations clearly by means of a series of maps and associated tables.

In addition, there are those sites and features that occur which are not recorded in the official registers and lists, in part because the registers are continually being updated, and because certain places and sites will only be identified when excavation exposes them. The Conservation Strategy includes a flavour of these new discoveries but does not claim to provide a full listing and recognises that such corpora of new information is a task for future research.

In order to present the wider Port area coherently, and building on the descriptive information present in Chapter 2, the Conservation Strategy has divided it into several areas, and the maps and supporting information is presented accordingly; namely:

- The Liffey Estuary, Tolka Estuary and Navigation Channel
- North Bull Wall and Bull Island
- North Port Lands, Alexandra Basin
- North Port Lands, infill post-1929
- South Port Lands, the Great South Wall and Pigeon House Precinct

Map Highlighting Dublin Port lands and key to the study area maps that are presented on the following pages

Map Highlighting overview of navigation channel study area